

BACKGROUND PAPER

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Reduction

RESILIENT RECOVERY: AN IMPERATIVE FOR RESILIENT DEVELOPMENT

(DRAFT)

Global Facility for Disaster Reduction and Recovery (GFDRR)

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About the Authors and Contributors

*This paper has been prepared by **GFDRR's Sustainable Recovery (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 and build-back-better in various recovery initiatives around the world.*

TITLE	AUTHOR(S)
Disaster as opportunity? Building back better in Aceh, Myanmar and Haiti	ODI /HPG Working Paper, Lilianne Fan
Building it Back Better to reduce risks after multiple disaster events	Graeme Newton, Queensland Reconstruction Authority (Queensland, Australia)
The private sector approach of business continuity management helps demonstrate the benefits of institutionalization	Alessandro Caillat
Institutionalizing PDNA system and recovery planning in Kyrgyz Republic	Tolkun Jukusheva and Ko Takeuchi
REKOMPAK Updates: 2 year review of Rebuilding Indonesia's Communities After Disasters	Iwan Gunawan et al., The World Bank
Post-Disaster Recovery: A tool for Sustainable Development	Director of SAARC Santosh Kumar
Pre-disaster recovery planning in Central America, concepts, advances and the way forward	CEPRENAC, IRP and UNDP
Learning from Disasters: A case study of risk-sensitive disaster recovery and rehabilitation in Gujarat	Pramod K. Mishra

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Executive Summary

Introduction, Scope and Methodology

- 1. The Global Assessment Report on Disaster Risk Reduction (GAR) monitors and spotlights world progress, trends and challenges in the disaster risk reduction (DRR) arena. It is an instrument to monitor and document progress made and issues encountered by signatory countries towards the implementation of the DRR priorities and actions agreed under the 2005 Hyogo Framework of Action (HFA).*
- 2. This paper reports progress and documents good practices from around the world both towards the integration of DRR in disaster recovery as well as the crucial role of recovery in promoting and institutionalizing longer term DRR in government systems. In essence, this report discusses both why DRR or building-back-better (BBB) is crucial for sustainable recovery and why resilient recovery is an imperative for resilient development.*
- 3. The findings and recommendations of this paper are based on detailed qualitative and quantitative analyses of recovery experiences around the world, drawn from facts and figures gleaned from a myriad of sources. These sources provide a multi-dimensional snapshot of the progress being made in integrating DRR in recovery programs and in institutionalizing recovery management practices in advance of disasters.*

Key Findings from Quantitative Analysis of Country Self Assessments under HFA Monitor

- 4. UN ISDR¹ 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”. It is evident from a cursory analysis of progress made by signatory countries in the five priority areas for action that changing laws and policies is less challenging than changing development patterns.*
- 5. By scoring themselves just over 3.0, governments admit that an institutional commitment exists to integrating DRR in recovery, but that achievements are neither comprehensive nor substantial. Governments have reported little overall improvement in their ability to integrate DRR in recovery since 2007, as is obvious by flat score of 3.0 to 3.1 over the course of six years of self-assessment by countries. Thirty-four countries reported to ISDR for each of the three time periods in respect of the subject indicator that measures integration of DRR into recovery. This group perhaps coincidentally assesses its performance on integrating DRR in recovery as relatively higher on average, compared to less-frequently reporting countries.*
- 6. Expectedly, financial limitations were most frequently identified as an impediment. Roughly a third of the reporting countries listed financing as a primary limitation on their ability to integrate disaster resilience into reconstruction efforts. Financial constraints were closely*

¹ ISDR, Implementation of the Hyogo Framework for Action, SUMMARY OF REPORTS 2007–2013.

followed by expertise constraints, which about a quarter of the countries analyzed identified as an impediment.

7. *While it is unreasonable to expect that financial and expertise constraints can be entirely solved by a well-structured reconstruction process, a planned, sequenced and prioritized process can help alleviate these challenges. Such a framework-led approach can help properly allocate and target financing throughout the recovery process. Ensuring financial predictability can prove to be a key factor to successfully incorporating risk reduction into recovery activities.*

Inferences from Qualitative Analysis of Anecdotal Evidence and Country Case Studies

8. *Recent global experience suggests that there can be the following four progressive levels of achievement in respect of the integration of DRR in disaster recovery: (a) integration of DRR in recovery needs assessments; (b) sustained commitment and continued focus on DRR in recovery planning; (c) actual incorporation of DRR in the design and implementation of recovery, and; (d) translation of the gains of resilient recovery into resilient development.*
9. *Contemporary PDNAs led by national governments and facilitated by the international community increasingly include more detailed diagnostics of pre-existing DRR institutional and policy frameworks in post disaster countries. PDNAs also increasingly articulate and establish building back better factors and DRR requirements in cross sector recovery strategies and needs quantifications. Anecdotal evidence from various countries suggests that the recommendations of PDNAs have been successfully implemented primarily only when followed up with sustained and systematic recovery planning efforts or national recovery frameworks to operationalize the DRR related provisions of such assessments. The recommendations of PDNAs can, however, also easily fall to the wayside when countries perceive themselves to be incapable of following their advice or cannot follow through on such recommendations in the subsequent phases of recovery planning and implementation.*
10. *An Overseas Development Institute (ODI) report, closely examining the sector, found that without a strategic focus, the humanitarian community quickly reduced BBB to questions about building standards and the technical design of shelter 'solutions'. A similar lack of clarity on Building Back Better may have somewhat undermined the aim of DRR in the reconstruction in various countries. An ongoing analysis by GFDRR and EERI seems to indicate that BBB as a simple policy admonition may have lacked both specificity and coherence.*
11. *There are many historical and contemporary examples that demonstrate how post disaster countries have variously incorporated BBB and DRR considerations in the design and implementation of recovery programs. This particular agenda got a boost in the aftermath of the colossal damages and loss of human life caused by the Asian Tsunami of 2004. Pakistan, operating through a robust reconstruction framework and an empowered central agency, the Earthquake Reconstruction and Rehabilitation Authority (ERRA), was able to substantially implement DRR objectives in its 2005 earthquake recovery.*

12. *The 2001 Gujarat earthquake recovery and reconstruction program is a good example of how a virtuous cycle between the integration of DRR and the institutionalization of resilient recovery can be established. Similarly, Indonesia's 2004 post-Tsunami Community-based Settlement Rehabilitation and Reconstruction Project (CSRRP), also known as REKOMPAK has grown from a housing reconstruction project to Government program, and gradually into development practice.*
13. *In Mexico, the government is helping small businesses to prepare for disasters so their services are available to support recovery through Business Continuity Management (BCM). 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. Following the 2011 Great East Japan Earthquake, business continuity arrangements were attributed as being an essential component to the resilient recovery of the financial sector.*

Successful Strategic Approaches and Good Practices for Building Post Disaster Resilience

14. *The growing incidence of both recurring and high-impact disasters in recent years has made countries think differently and place greater emphasis on building longer term disaster resilience, rather than merely achieving efficient disaster recovery. Recovery and reconstruction are increasingly viewed as an essential part of a strategic continuum for building longer term disaster resilience that is intrinsically linked to, and feeds into, ongoing preparedness and risk reduction work in normal developmental processes.*
15. *In these countries, initial post disaster needs assessments led by national governments and international development partners provided a strategic platform and financial impetus for building immediate and longer term disaster resilience. This helped these countries in realizing the potential of resilient recovery as a means to resilient development.*
 - a. ***Well-Coordinated and Resilient Recovery*** - by mobilizing resources around a central strategic vision, recovery plan/framework and strong institutional arrangements.
 - b. ***Promoting Resilient Development*** - by setting a precedent for disaster resilient reconstruction, and effectively using and sustaining the recovery continuum and institutions for guiding and catalyzing the disaster risk reduction agenda.
16. *For example, Pakistan introduced programs on systematic risk assessments and community-based disaster risk management in areas affected by the 2005 earthquake and soon scaled up these efforts at the national level under the auspices of the then newly created National Disaster Management Authority. Similarly, the U.S. National Disaster Recovery Framework (NDRF) promotes the incorporation of "sustainability practices" into recovery processes. The NDRF focuses on the restoration, redevelopment and revitalization of the health, social, economic, natural and environmental fabric of the community and on building "a more resilient Nation."*
17. *Regional initiatives can also provide a mechanism for institutionalizing resilient recovery in national systems. Disasters rarely respect national boundaries. Capitalizing on this, 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 DRR in recovery. Central America furnishes a good example of how regional agreements on disaster management can serve as a mechanism for introducing framework-led recovery into national strategies. Regional-level initiatives have underscored this relationship between DRR and planning for reconstruction.

Policy Challenges towards Promoting Resilient Development through the Recovery Process

- 18. In recent times, there appears to be an increasing trend of the emergence of significant time-gaps, stakeholder attention deficit, and declining resource commitments across the supposedly seamless continuum of national and international post disaster responses. Much recovery momentum seems to have been lost across the post disaster assessment, recovery planning and implementation phases of disaster response. Many other extraneous factors beyond the immediate control of national and international recovery stakeholders factor in to shaping the outcomes and impacts generated from post disaster engagements.*
- 19. While opportunities for mainstreaming longer term resilience are perhaps the ripest in the aftermath of a big disaster, countries have not always been able to capitalize fully on these opportunities. A particularly important precondition for recovery to guide and lead to resilient development is for the recovery itself to work and be adequately implemented.*
- 20. While governments around the world have made notable progress in some priority areas of DRR under HFA 2005, progress on the resilient recovery indicator since 2007 has been minimal, as generally pointed out by country self-assessments. While a general explanation of this might be that most recovery programs do not provide enabling environment for any sizeable disaster risk reduction, it also now is a generally accepted fact that recovery somehow received little attention and priority in the HFA 2005.*
- 21. The language of the current resilient recovery indicator can be considerably improved upon in HFA-2, since it is currently inadequately worded, and based on a set of questions that are in some cases irrelevant to resilient recovery. This is perhaps not surprising, given the lack of an agreed-upon definition of resilient recovery and a corresponding set of results indicators.*

Policy Recommendations

- 22. **Building greater financial resilience and predictability within government to manage and respond to natural disasters:** National governments need to incorporate disaster risk management in developmental planning, particularly for land use regulation, urban planning and public and private sector construction standard-setting.*
- 23. **Enhancement of national and international recovery preparedness and institutionalization:** Making disaster recovery more efficient and systematic will require strengthening country systems to support post recovery operations, beginning with the conduct of post disaster needs assessments.*

24. **Development of national and international policy standards for informing and guiding disaster recovery strategies:** *The emergence of a more conducive national and international policy environment for recovery strategy-formulation, planning and implementation holds the key to building recovery-led resilience building. Governments may consider developing national policy standards for guiding post disaster recovery, by consolidating past country experiences, existing legal provisions and contemporary international practices.*
25. **Formalized strategic and resource commitments towards recovery planning, implementation and performance management:** *There is an urgent need for counteracting an emerging national and international tendency of making 'halfway commitments' to disaster recovery, which are sometimes restricted to only the conduct of post disaster assessments, rather than leading to criteria-based prioritization, planning and implementation of recovery. The latter requires sustained post-PDNA national ownership and development cooperation for maintaining traction and momentum on recovery, rather than letting it fall through the cracks.*
26. **Maintaining a strategic and institutional continuum between preparedness, recovery and prevention:** *Disaster recovery has often suffered on account of: (a) the inherent shortcomings of institutions and governance structures in treating recovery as a 'developmental urgency'; (b) the typical lack of coordination or strategic harmony across various national and subnational tiers of government, and; (c) lack of sustained attention and resources for its fuller and effective implementation.*
27. **Ex-Post Development of National Recovery Frameworks can help ensure DRR in recovery:** *Recovery offers a unique window of opportunity to reduce risk: people are more aware of risk, politicians are more motivated, and the funds are often available. Such recovery frameworks will help bring multiple stakeholders and their competing or diverging priorities to one common and inclusive platform for recovery strategy development, planning and project development. Such frameworks need to provide non-prescriptive and adaptable guidance on: (a) Institutional Frameworks for Recovery; (b) Recovery Policy and Planning; (c) Recovery Financing, and; (d) Recovery Management and Monitoring.*
28. **Ex-Ante Institutionalization of Recovery to Ensure Integration of DRR:** *Governments struggle to deliver good recovery because they are not ready for disasters. Knowing disasters are almost inevitable, governments can put in place policies, standards, and institutional arrangement for managing recovery before a disaster strikes. Disaster readiness makes integration of DRR in recovery possible. Only well-executed recovery guarantees resilient recovery. Establishing institutional arrangements, policies, and financing sources for recovery before the disaster allows governments to avoid the post-disaster political pressures and confusion of roles that so often produce sub-optimal recovery. However making a commitment to institutionalization is not easy. It requires financial support and political will to divert resources to institutionalize disaster preparedness. Inertia can hamper efforts to introduce recovery-related legislation and implementation plans.*
29. **Development of Knowledge Products and Tools:** *HFA-2 must promote the institutionalization of recovery with DRR stakeholders as a means to more resilient recovery. Agencies should*

showcase international good practices and translate them into guidelines and procedures. The new self-assessment should encourage and reward institutionalization, and to better define and measure outcomes such as resilient recovery and "Build Back Better." In addition, international agencies should also work with governments to develop actionable and measurable indicators to monitor progress of implementation and achievement of recovery goals related to both specific recovery programs, such as DRR, and to pre-recovery planning frameworks.

Introduction

1. *The Global Assessment Report on Disaster Risk Reduction (GAR) monitors and spotlights world progress, trends and challenges in the disaster risk reduction (DRR) arena. It is an instrument to monitor and document progress made and issues encountered by signatory countries towards the implementation of the DRR priorities and actions agreed under the 2005 Hyogo Framework of Action (HFA).* Every two years it refocuses world attention on how disaster risk affects social and economic development, and attempts to canvass and consolidate political and economic support for DRR. The GAR also offers comprehensive review and analysis of the natural hazards that affect humanity while providing strategic policy guidance on DRR to countries and the international community. The production of GAR is coordinated by the United Nations International Strategy for Disaster Reduction (UNISDR), 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

2. *This paper reports progress and documents good practices from around the world both towards the integration of DRR in disaster recovery as well as the crucial role of recovery in promoting and institutionalizing longer term DRR in government systems.* Every two years, more than one hundred participating governments assess their progress in achieving these DRR indicators, and these assessments are analyzed in the GAR. This paper specifically analyzes progress made by signatory countries towards Core Indicator 5 under Priority for Action 4, that is, “Disaster risk reduction measures are integrated into post-disaster recovery and rehabilitation processes.” It provides a diagnostic analysis of the issues and challenges regularly encountered by countries towards achieving “DRR in and through disaster recovery.” In conclusion, the paper also makes policy recommendations and offers some solutions towards both integrating DRR into recovery as well as using recovery as a means to long term DRR.

3. *In essence, this report discusses both why DRR or building-back-better (BBB) is crucial for sustainable recovery and why resilient recovery is an imperative for resilient development.* To this effect, the report identifies trends and approaches towards reducing risk in disaster recovery in various countries. It showcases good practices as well as articulates issues and impediments towards integration of DRR in recovery. In conclusion, the report proposes the adoption and eventual institutionalization of a systematic framework-led approach to disaster recovery as a means for encouraging and ensuring DRR in post-disaster recovery. It also provides a sense of a revised framework of indicators that is needed in the next round of the HFA to be able to more systematically measure progress made by governments towards the adoption and institutionalization of such national recovery frameworks.

Methodology

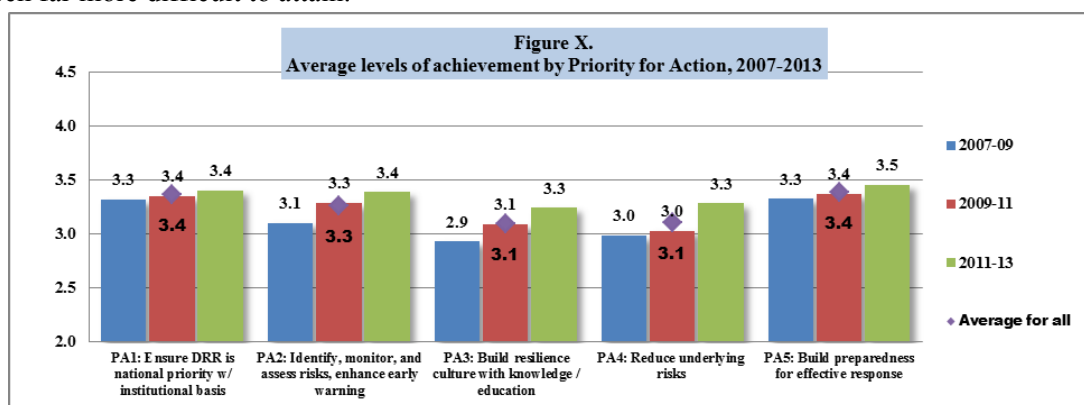
4. *The findings and recommendations of this paper are based on detailed qualitative and quantitative analyses of recovery experiences around the world, drawn from facts and figures gleaned from a myriad of sources.* These sources can be categorized as follows: (a) quantitative government self-assessments on HFA Core Indicator (CI) 4.5 as reported in HFA progress reports and the HFA Monitor over the years. Approximately one hundred countries submitted self-assessment reports to the HFA, and the data for CI

4.5 from these reports were carefully analyzed; (b) various country recovery and thematic case studies prepared under the Recovery Framework Guide² development process; (c) technical papers contributed by a range of stakeholders and partners associated with disaster recovery around the world, and; (d) a GFDRR internal diagnostic of the resilience-building measures recommended and impacts created by a selection of Post-Disaster Needs Assessments over the years. In this respect, a representative sample of twenty PDNAs was analyzed for the incorporation of DRR measures in recovery planning.

5. *These sources provide a multi-dimensional snapshot of the progress being made in integrating DRR in recovery programs and in institutionalizing recovery management practices in advance of disasters.* While the quantitative data analysis is revealing and appears systematic, it hides a wealth of information about the real innovations taking place on the ground. The technical inputs received from various entities and qualitative analyses, on the other hand, augment the quantitative analysis by providing examples from specific projects and interventions. These range from recovery policy reforms in the Kyrgyz Republic to the Betterment Fund in Queensland that allows local government to compete for matching funds for retrofitting and risk reduction.

Quantitative Analysis of Country Progress (2007-13) on Integrating DRR into Recovery

6. *UN ISDR³ 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”. ISDR recognizes that progress on DRR has been greater on policy actions and planning currently rather than the actual implementation of measures to reduce the underlying risk factors. The country self-assessment scores reported in the HFA Monitor (see chart below) also confirm that progress on HFA indicators that involve the incorporation of DRR into implementation policies has been comparatively slow. Progress in implementing reforms that change human settlement patterns or social and economic investment activities has been far more difficult to attain.*



² The **Disaster Recovery Framework Guide** represents a joint and ongoing EU-UNDP-WB (GFDRR) initiative for consolidating global good practices and lessons learnt on disaster recovery into a flexible guide, punctuated by country recovery case studies, which post disaster governments can refer to and utilize for disaster recovery planning.

³ ISDR, Implementation of the Hyogo Framework for Action, SUMMARY OF REPORTS 2007–2013.

7. *It is evident from a cursory analysis of progress made by signatory countries in the five priority areas for action that changing laws and policies is less challenging than changing development patterns.* This also seems to hold true for the subject indicator CI 4.5 that measures progress on the integration of DRR measures into post disaster recovery and rehabilitation processes. Some of the lowest scores reported by governments in the 2011-2013 time period are those associated with Priority for Action 4 (PA4), “Reduce the underlying risk factors.” PA4 indicators are among the most operational of all HFA indicators⁴. Among the six PA 4 indicators [see table 1], governments give themselves among the lowest scores on CI 4.5, which measures integration of DRR into post-disaster recovery and rehabilitation (reconstruction).

Table 1 Priority for Action 4

PRIORITY FOR ACTION 4	3.29
REDUCE THE UNDERLYING RISK FACTORS	
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.	3.0
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

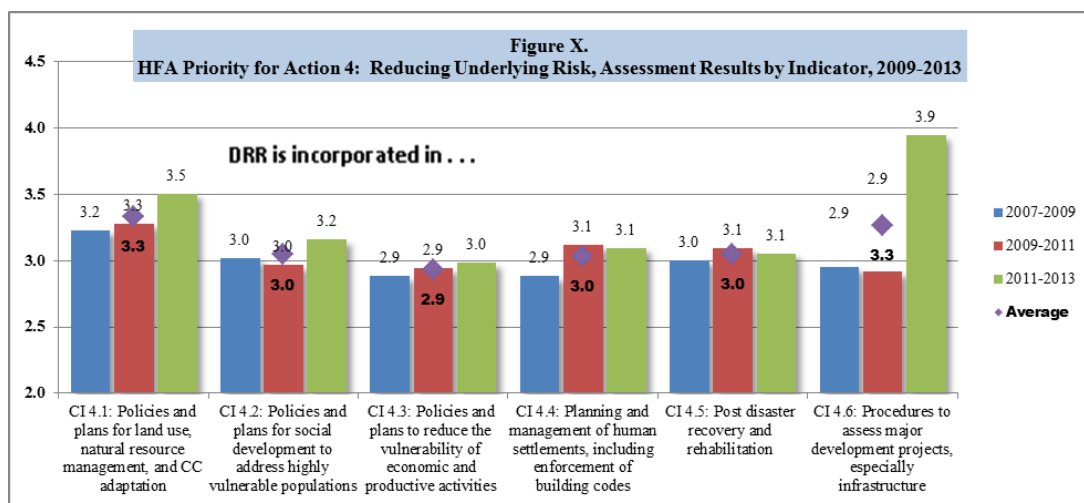
8. *By scoring themselves just over 3.0, governments admit that an institutional commitment exists to integrating DRR in recovery, but that achievements are neither comprehensive nor substantial.* Progress on this indicator is slower than progress on other “underlying risk” indicators. Relative to the other indicators in this Priority Area 4, this indicator experienced both low average scores as well as little growth year over year. Of the six Core Indicators, highest progress was reported in respect of putting in place procedures to assess the disaster risk impacts of major development projects, especially infrastructure. This clearly suggests that countries generally struggle to take advantage of recovery efforts to operationalize risk reduction. There can be various reasons for this. For example, disasters occur sporadically, so the results may be harder to measure overall progress in any particular reporting period. However, even countries with recent disasters report low scores. Qualitative evidence collected separately suggest that disaster recovery efforts which 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 for operationalizing risk reduction.

Table 2 HFA Indicator Score Definitions

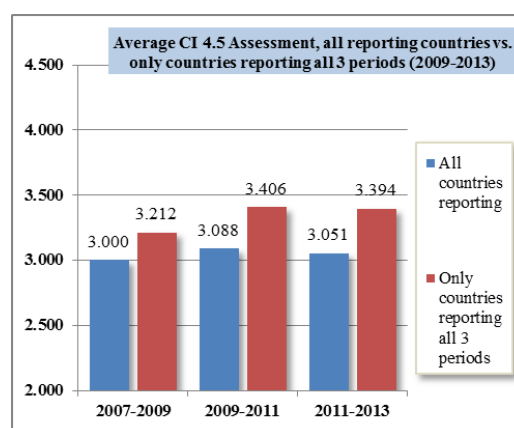
HFA Indicator Score Definitions
1. Minor progress with few signs of forward action in plans or policy.
2. Some progress but without systematic policy and/or institutional commitment.
3. Institutional commitment attained but achievements are neither comprehensive nor substantial.
4. Substantial achievement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

9. *Governments have reported little overall improvement in their ability to integrate DRR in recovery since 2007, as is obvious by flat score of 3.0 to 3.1 over the course of six years of self-assessment by countries.* From 2009-2013, 27 countries did not report scores, and 6 countries reported score reductions in CI 4.5. Romania and Honduras reported the greatest losses of all nations, respectively marking reductions of 4 and 2 points. For all ninety-nine countries reporting, the average reported value of this indicator increased from 3.00 in 2009 to 3.09 in 2011, and then fell to 3.05 in 2013.

⁴ The indicator with the highest score is CI 4.6, an indicator that actually measures assessment capability, rather than any action to reduce underlying risk, as is measured by the other PA4 indicators.



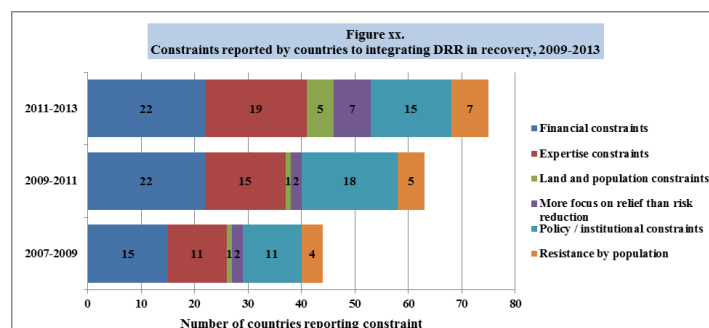
10. Thirty-four countries reported to ISDR for each of the three time periods in respect of the subject indicator that measures integration of DRR into recovery. This group perhaps coincidentally assesses its performance on integrating DRR in recovery as relatively higher on average, compared to less-frequently reporting countries. However more than a reporting bias, this appears to be a case of good performance on integrating DRR in recovery, to be an additional incentive for reporting performance more regularly. For these thirty-four countries, these figures were 3.09, 3.21, and 3.44, respectively. These countries are relatively closer to a self-assessment of 4, which represents: “*Substantial achievement attained but with recognized limitations in capacities and resources.*” Of the thirty-four countries with three reports, five reduced their self-assessment over the period, including Armenia, Anguilla, Czech Republic, Sweden, and Yemen; thirteen reported no change from the first to the third time periods; and sixteen assessed their performance as improved. Only five countries rated their performance as “5” in 2013, meaning “*Comprehensive achievement with sustained commitment and capacities at all levels.*” These were: Costa Rica, Republic of Korea, Hungary, Italy, and Turks and Caicos Islands. Of these five, only Costa Rica reported in all three periods.



Challenges Identified by Countries towards Integrating DRR into Recovery under HFA Reporting

11. Expectedly, financial limitations were most frequently identified as an impediment. Roughly a third of the reporting countries listed financing as a primary limitation on their ability to integrate disaster resilience into reconstruction efforts. This is based on countries’ answers to the HFA Monitor’s open-ended questions that comprise the sub-questions of Core Indicator 4.5, which provide additional insight into the incorporation of DRR in post-disaster reconstruction. The question analyzed below asked

respondents to describe the contexts and constraints each faced in incorporating DRR in recovery. Respondents were allowed to describe as many constraints as they felt appropriate.



12. *Financial constraints were closely followed by expertise constraints, which about a quarter of the countries analyzed identified as an impediment.* These two factors comprised a vast majority of the challenges faced by countries in incorporating DRR policies in reconstruction. As a result, the incorporation of resilience in recovery can often be “supply-driven” – that is, donors push for it and fund it – and not “demand-driven” – that is, the affected countries ask for it. However, this “supply-driven” emphasis on resilience in reconstruction is incommensurate with the growing recognition of the mainstreaming disaster risk reduction in national policies.

13. *While it is unreasonable to expect that financial and expertise constraints can be entirely solved by a well-structured reconstruction process, a planned, sequenced and prioritized process can help alleviate these challenges.* Financial challenges are a perennial aspect of post-disaster reconstruction. As such, countries facing reconstruction can greatly benefit from a financially well-prioritized approach to reconstruction that considers cross-sectoral and intra-sectoral activities, and allocates financing with an overall approach explicitly aiming for resilient recovery and reconstruction. The overall view provided by a framework-led approach facilitates the sequencing of activities so that funds can be allocated most appropriately to risk reduction measures in the recovery process. The institutionalization facilitated by such a reconstruction process similarly assists in alleviating expertise constraints. Once recovery practices, and reliance practices in particular, are increasingly institutionalized, the need for experts to “reinvent the wheel” in each reconstruction effort decreases.

14. *Such a framework-led approach can help properly allocate and target financing throughout the recovery process. Ensuring financial predictability can prove to be a key factor to successfully incorporating risk reduction into recovery activities.* Post-disaster recovery is difficult to properly incorporate into budgetary planning processes prior to the occurrence of disaster. However, predictable funding specifically for risk reduction during recovery shows great promise for making progress on CI 4.5. For example, the Queensland 2010 recovery experience highlights the need for predictable and easily accessible financing to ensure the incorporation of DRR in recovery. In 2007, prior to the establishment of the Queensland Betterment Fund, betterment of essential public assets during recovery and reconstruction was introduced to Australia’s Natural Disaster Relief and Recovery Arrangements (NDRRA) with the goal of reducing recovery and rebuilding costs and encouraging increased disaster resilience in the reconstruction of these affected public assets. Following 2013’s tropical cyclone Oswald, the Queensland and Australian Governments launched the Queensland Betterment Fund, a joint targeted

fund of \$80 million to finance reconstruction of assets to be built back better to a standard that would be more disaster resilient. Announced in February 2013, the Betterment Fund delivers global good practice in disaster reconstruction by increasing the resilience of Queensland communities to natural disasters, while at the same time reducing risk and future expenditure on asset restoration. Guided by the Framework for Betterment, which prioritizes financial considerations in betterment, the Fund aims to cover the difference in cost between restoring or replacing an essential public asset to its pre-disaster standard, and the cost of restoring or replacing the asset to a more disaster-resistant standard. This commitment by the fund to finance these build back better practices provides the link between reconstruction now and mitigation of future disasters.

Table 3 Examples of DRR-Led Recovery in Queensland, Australia

Examples of DRR-led Recovery in Queensland, Australia
<p>The \$80 Million Queensland Betterment Fund in Australia provided financing for “betterment” projects, facilitating resilience in reconstruction. Key projects financed by the Betterment Fund include:</p>
<ul style="list-style-type: none"> ▪ The Gayndah Water Supply Intake project. After having experienced nearly \$4 Million in damages due to disaster events, the asset is being relocated with intake design enhancements that will provide residence during and after flood events. ▪ George Bell Crossing project. George Bell Crossing was reconstructed from damage sustained in 2011 only one month prior the 2013 floods, with damage from the 2013 event resulting in catastrophic failure with the crossing completely washed away. Floodwaters also caused severe scouring and erosion to the eastern approach, resulting in complete demolition of the crossing. The betterment project will replace the crossing with a larger concrete bridge, which will reduce the risk of construction material washing out, scouring and saturation of the pavement and sub-grade making the asset more resilient to future flood events. ▪ Gayndah-Mundubbera Road project. Gayndah-Mundubbera Road is an essential freight and transport link for the North Burnett region. The road was damaged in 2011, and following reconstruction, approximately two kilometers of the road were washed out in 2013 storm, causing the road to be closed for three months. The betterment project will relocate the road to and introduce new measures for road protection, ensuring resilience in future disasters. ▪ Round Hill Road project. The Round Hill Road was severely damaged in the 2011 event, repaired at an estimated cost of \$1 Million, only to be damaged again in 2013 resulting in the road being closed for two weeks, causing isolation and forcing the community to access essential supplies by air and sea. The betterment project will install protection to prevent future damage from washout and provide a more resilient asset, preventing future isolation of affected communities, and minimizing financial loss from future disasters. ▪ Upper Mount Bentley Road project. Located on Palm Island, a remote indigenous community, the road provides the only on-ground access to vital telecommunications infrastructure located at the peak of Mount Bentley. This road has been impacted by disaster events eight times between January 2008 and January 2013, significantly reducing safe access during disaster events. The betterment project included the construction of concrete surfacing of the steepest or most vulnerable sections of the road, facilitating repair work to be carried out without delay to the communications tower.

Qualitative Analysis of the Integration of DRR in Disaster Recovery

15. *Recent global experience suggests that there can be the following four progressive levels of achievement in respect of the integration of DRR in disaster recovery: (a) integration of DRR in recovery needs assessments; (b) sustained commitment and continued focus on DRR in recovery planning; (c) actual incorporation of DRR in the design and implementation of recovery, and; (d) translation of the gains of resilient recovery into resilient development. The integration of DRR in recovery typically should begin at the post disaster needs assessment stage, followed through by incorporation of risk*

reduction considerations in subsequent recovery planning processes including developing recovery policies and strategies, and setting up institutional, financial and implementation arrangements for recovery. The real test, however, lies in whether such planning culminates in the actual incorporation of risk reduction measures in the design and implementation of the recovery efforts both at programmatic and individual intervention or project level. Finally, the most desirable or ideal longer term outcome from the integration of DRR in recovery is for such resilient recovery to leverage and catalyze the mainstreaming of risk reduction in national systems and for gains from resilient recovery to translate into resilient development. This section provides examples and instances of various levels of achievement being reached by post disaster countries in recent years, including factors that either aided or constrained the success of such countries in integrating DRR meaningfully into various recovery stages and processes.

Basic Level of Achievement: Integration of DRR in Recovery Needs Assessments

16. *Contemporary PDNAs led by national governments and facilitated by the international community increasingly include more detailed diagnostics of pre-existing DRR institutional and policy frameworks in post disaster countries. PDNAs also increasingly articulate and establish building back better factors and DRR requirements in cross sector recovery strategies and needs quantifications.* An internal GFDRR analysis of twenty PDNAs conducted in sixteen countries between 2004 and 2011 found that roughly half of the PDNAs analyzed included central DRR frameworks or guiding principles for recovery that recommend and promote the integration of risk reduction in recovery. These principles included addressing DRR at both structural and non-structural levels, enhancing emergency preparedness and management, and integrating risk-management in all sectors and levels of governance. Almost all recent PDNAs provided recommendations for the integration of DRR activities into sector-specific recovery strategies. These recommendations included ensuring that damaged social and physical infrastructure, particularly including schools, health facilities, houses and transportation networks were built to improved and reinforced BBB and disaster resistant standards.

Moderate Level of Achievement: Sustained Commitment and Continued Focus on DRR in Recovery Planning

17. *Anecdotal evidence from various countries suggests that the recommendations of PDNAs have been successfully implemented primarily only when followed up with sustained and systematic recovery planning efforts or national recovery frameworks to operationalize the DRR related provisions of such assessments.* Bangladesh's experience with the 2008 cyclone provides a good example. The PDNA included a guiding principle to minimize loss of life and reduce economic impacts by instituting capital investment planning for DRR. The Bangladesh recovery strategy included the resilience factor in cost estimates, and included clear timeframes. The country was able to use this to plan and prioritize DRR policies in reconstruction. Similarly, following the 2005 earthquake in Pakistan, the assessment emphasized DRR principles in a central reconstruction strategy for almost all affected sectors including education, health care facilities, water and sanitation infrastructure, and private housing.

18. *The recommendations of PDNAs can, however, also easily fall to the wayside when countries perceive themselves to be incapable of following their advice or cannot follow through on such recommendations in the subsequent phases of recovery planning and implementation.* Building Back

Better (BBB) has become perhaps the most frequently invoked term when talking about resilience in reconstruction. It is mentioned as an aim of many international, national and sub-national reconstruction plans, and features prominently in policy discussions around the subject. Despite this, the aims of BBB are often left unachieved and it is often just confined to serving as slogan to raise funds for recovery rather than leading to any meaningful results or gains on the DRR front. Although Building Back Better was a slogan used widely in the post-2010 Haiti earthquake, implementation of disaster risk reduction measures quickly fell apart in the reconstruction process. The effects of the lack of an overarching framework to guide DRR policies in reconstruction were particularly evident in the shelter sector.

19. *An Overseas Development Institute (ODI) report, closely examining the sector, found that without a strategic focus, the humanitarian community quickly reduced BBB to questions about building standards and the technical design of shelter 'solutions'.* Additionally, there was little common agreement amongst the humanitarian and recovery actors on what BBB meant, or what it implied for programming of funds. As a result, they operated largely through existing frameworks and programmatic interventions. ODI argues that given BBB's multiple dimensions, both technical and political, there is a risk that donors interpret its use in a recovery program according to their own priorities instead of those of the government. Such a scenario can often undermine long term national DRR goals.

20. *A similar lack of clarity on Building Back Better may have somewhat undermined the aim of DRR in the reconstruction in various countries. An ongoing analysis by GFDRR and EERI seems to indicate that BBB as a simple policy admonition may have lacked both specificity and coherence.* Depending on who is using it, it was seen as an overriding principle, a sectoral strategy, a phrase that refers to the recovery process, or one that describes the recovery "end state." This conceptual dispersion makes it impossible to determine whether it has been implemented across disparate reconstruction efforts. The report concludes that the ambiguous use of Building Back Better, by opening the door for a host of activities and expectations, can introduce new and unwanted complications to the reconstruction process.

Substantial Level of Achievement: Actual Incorporation of DRR in the Design and Implementation of Recovery Programs

21. *There are many historical and contemporary examples that demonstrate how post disaster countries have variously incorporated BBB and DRR considerations in the design and implementation of recovery programs. This particular agenda got a boost in the aftermath of the colossal damages and loss of human life caused by the Asian Tsunami of 2004.* Most Tsunami hit countries introducing a strong emphasis on DRR and BBB in the design of their recovery interventions. This renewed focus on resilient recovery was gathering momentum when the devastating 2005 earthquake of Pakistan shook the people and government of Pakistan as well as the international community into taking drastic actions and making huge investments on incorporating DRR in the recovery program.

22. *Pakistan, operating through a robust reconstruction framework and an empowered central agency, the Earthquake Reconstruction and Rehabilitation Authority (ERRA), was able to substantially implement DRR objectives in its 2005 earthquake recovery.* Consonant with ERRA's guiding principles, the organization's flagship initiative, the rural housing reconstruction program, prioritized BBB – defined as reconstruction to seismically resistant standards – as a central feature of housing reconstruction. The

owner-driven approach proved highly successful, with over 85% of reconstruction compliant with the new standards. As ERRA's successful leadership of the reconstruction effort unfolded, it highlighted the need for disaster-prone Pakistan to institutionalize a central agency to lead post-disaster reconstruction. As a result, in 2007, the National Disaster Management Authority (NDMA) was formed. The deputy Chairman of ERRA was brought over to lead the new agency and hopes were high. Unfortunately, the gains made and lessons learnt in DRR in the 2005 earthquake recovery could not be fully translated into a regularized institutional and policy framework for recovery due to issues pertaining to nebulous and conflicting mandates, legislative confusion, and ineffectual effort to transfer institutional knowledge to regular developmental institutions. With the reconstruction mandate opaquely divided across line 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 highlights that recovery institutionalization can be derailed in the absence of targeted efforts to institutionalize the learnings and gains of successful recovery and due to a host of other extraneous factors.

Table 4 Integration of DRR in the 2011 Typhoon Haima Recovery in Lao PDR

Integration of DRR in the 2011 Typhoon Haima Recovery in Lao PDR
<p>In 2011 tropical storms Haima (June) and Nok Ten (August) both hit central Lao PDR with devastating effects. Haima caused widespread flooding in five provinces – Phonsaly, Bolikhamxay, Xayabouli, Vientiane, and Xiengkhouang – affecting approximately 73,000 people (NDMO 2011). Damages were estimated at LAK 1.4 trillion (US\$ 174 million) (NDMO 2013). The Government of Lao PDR (GOL) mounted a significant response and recovery operation, with support from the international community. This included risk mitigation investments for reducing exposure to natural hazards and the operationalization of Building-Back-Better (BBB) principles particularly in the infrastructure sector (e.g. roads, irrigation, public buildings / assets, etc.). This has also subsequently led to a recently commenced joint review of existing building codes and technical standards for design, construction and monitoring of public investments by the Government of Lao in collaboration with the World Bank.</p>
<p>DRR in Road Rehabilitation</p>
<p>There was a historic need for the effective implementation of DRR measures during road recovery and on-going maintenance activities in the country. Issues included: i) budget restrictions; ii) financier project design restrictions (i.e. not allowing improvement works); and iii) a lack of simple and effective planning and implementation of physical works. Recognizing these issues, the World Bank, through the Lao Road Sector Project, has recently provided additional financing for disaster reliance upgrades to sections of the national road network; co-financing of disaster resilience measures (e.g. slope stabilization, drainage, surface treatment, etc.) on vulnerable sections on the provincial road network; topping up the emergency road contingency fund; and developing standard operating procedures for the use of these funds. Capacity for disaster risk audit of provincial roads is also being developed through the Mainstreaming Disaster and Climate Risk Management into Investment Decisions Project.</p>

Desirable Level of Achievement: Translation of the Gains of Resilient Recovery into Resilient Development

23. *Contrary to the above, there is no dearth of the successful transfer of gains from resilient recovery into longer term risk reduction and resilient development initiatives.* The PDNA prepared after Typhoons Ondoy and Pepeng in 2009 in the Philippines for instance, recommended that the Government establish 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/GFDRR, and to the establishment of a contingent loan facility—the Catastrophe Deferred Drawdown Option—which was employed for the first time following Typhoon Washi, in late 2012.

24. *The 2001 Gujarat earthquake recovery and reconstruction program is a good example of how a virtuous cycle between the integration of DRR and the institutionalization of resilient recovery can be established.* The comprehensive recovery program placed BBB principles at the heart of the development agenda. With widespread damages affecting both public and private sector assets it was envisioned essential to rebuild using improved multi-hazard resistant standards. Within weeks of the post-disaster response, the Gujarat State Disaster Management Authority (GSDMA) was established to provide institutional oversight and coordinate to the large-scale and multi-faceted recovery program. A main function of GSDMA was to prepare programs with the intent of mitigating the impacts of disasters, and strengthening long-term disaster preparedness. To do this, the GSDMA spearheaded numerous DRR initiatives that contributed to reforming policy and legal frameworks, modifying building-by-laws and construction regulations, training engineers and masons on better building practices, and revising the syllabi of engineering colleges to include seismic aspects. These initiatives formed the foundation to several policies at the national level. In particular, Gujarat’s comprehensive legislation on disaster management became the catalysis for the formation of similar legislation at the federal and state level.

25. *Similarly, Indonesia’s 2004 post-Tsunami Community-based Settlement Rehabilitation and Reconstruction Project (CSRRP), also known as REKOMPAK has grown from a housing reconstruction project to Government program, and gradually into development practice.* Following the 2004 Aceh tsunami, the Government of Indonesia enacted the REKOMPAK, employing a Community-Driven Reconstruction approach to empower communities to undertake construction work, manage financing, lead project planning, and execute reconstruction with assistance from government agencies and technical specialists. The collective owner-driven approach facilitated DRR beyond housing construction, and supported building back better principle through the rehabilitation of community infrastructure, risk sensitive settlement planning, and recovery of livelihoods. Throughout this process it has successfully integrated non-structural and structural measures to build disaster resilient communities, and mainstreaming DRR nationally within other sector. The community-based reconstruction program has continually evolved since the 2004 Aceh tsunami to incorporate broader initiatives focusing on resilient village development, and has been subsequently applied to the 2006 Yogyakarta and Central Java earthquake, the 2009 West Sumatra earthquake, and the 2010 Merapi volcanic eruption.

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"> General Guidelines for Post Disaster Rehabilitation and Reconstruction Program General Guidelines for Disaster Resilient Village Guidelines for the Implementation of Initiative of Safe School from Disaster 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	Decree 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	Guidelines for Implementation of Special Funding Allocation for Education	Inclusion of earthquake resistant standard and school-managed construction for school rehabilitation

26. *In Mexico, the government is helping small businesses to prepare for disasters so their services are available to support recovery through Business Continuity Management (BCM). 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.* Evolved from a private sector framework, BCM is increasingly seen as complementary component to disaster risk management and critical to maintaining the continuity of private and public sector operations. Business continuity practices demonstrate the benefits of institutionalization. Often institutionalized as an ex-ante planning procedure, BCM supports the formation of contingency arrangements and the delegation of essential management responsibilities required to ensure agencies have the capacity to maintain the delivery of core services. Its central function, Business Continuity Planning is an organized series of activities and procedures that are used to guide post-disaster response, recovery, and reconstruction. The disaster recovery plans are conceived as an iterative framework that continuously integrates DRR into management and planning procedures to minimize impacts of disasters and strengthen organizational resilience.

27. *Following the 2011 Great East Japan Earthquake, business continuity arrangements were attributed as being an essential component to the resilient recovery of the financial sector.* The Japanese banking and insurance systems institutionalized longstanding disaster recovery and management mechanism, which ensured payments and insurance settlements remained constant. The organizational and institutional resilience of the financial sector support the stabilization of the local communities and significantly impacted recovery efforts.

Table 6 Recovery-Led DRR and Institutionalization of DRR Functions in Mozambique

Recovery-led DRR and Institutionalization of DRR Functions in Mozambique

Droughts, floods, cyclones, and earthquakes constantly impact Mozambique. Following the impetus and momentum provided by the recovery program undertaken after the massive floods of 2007, the Government incorporated community resilience and vulnerability reduction as key components in its Master Plan for Disaster Prevention and Mitigation. Recovery, resilience and development also came together in introducing farmers to drought-resistant crops, the construction of small-scale rainwater catchment systems using local material, and reforestation along riverbanks. Despite heavy rains, the number of people who were negatively affected diminished considerably until major floods of 2012/13 showed that still more effort is needed to reduce vulnerabilities.

Subsequently, the National Institute for Disaster Management (INGC) was assigned to coordinate the resettlement of IDPs from the banks of the Zambeze river, in the absence of a Housing Ministry. An estimated 8000 families benefitted from government and international support in the construction of houses, schools and clinics on higher ground using more resilient materials, although the government had to recognize the continued importance of structures closer to the river for the continuation of existing livelihoods. Furthermore, 776 community-level committees have since been trained and equipped to use the flood alert system for evacuating vulnerable populations. Institutionally, disaster preparedness and prevention have become well institutionalized under the leadership of INGC. Aside from the aforementioned resettlement program, however, responsibility for disaster recovery blends into development plans under other government institutions. Nonetheless, the Mozambican government has a solid foundation for integrating disaster recovery readiness into longer term risk reduction and prevention in the country.

Successful Strategic Approaches and Good Practices for Building Post Disaster Resilience

28. *The growing incidence of both recurring and high-impact disasters in recent years has made countries think differently and place greater emphasis on building longer term disaster resilience, rather*

than merely achieving efficient disaster recovery. Recovery and reconstruction are increasingly viewed as an essential part of a strategic continuum for building longer term disaster resilience that is intrinsically linked to, and feeds into, ongoing preparedness and risk reduction work in normal developmental processes. For example, the Latin America and the Caribbean region represents one of the leading blocks of countries in respect of enacting advancements towards achieving financial resilience in the form of contingent risk financing and transfer mechanisms. In less developed regions, countries hit by the 2004 Tsunami and the subsequent spate of disasters in East and South Asia, followed suit in affecting a more strategic and synchronous risk reduction agenda across the recovery and development spectrums.

29. *In these countries, initial post disaster needs assessments led by national governments and international development partners provided a strategic platform and financial impetus for building immediate and longer term disaster resilience. This helped these countries in realizing the potential of resilient recovery as a means to resilient development.* As shown in the chart below, the two-pronged chain of building resilience that was triggered as a result, led to two key outcomes in these countries, albeit to different levels of success:

- a) ***Well-Coordinated and Resilient Recovery*** - *by mobilizing resources around a central strategic vision, recovery plan/framework and strong institutional arrangements.* These recovery programs stood out for two reasons: (i) for adapting and implementing the fundamental notion of building back better to the respective country contexts, and; (ii) accordingly equal, or in the very least, proportionate importance and resources towards the recovery of lives and livelihoods and the reconstruction of lost public sector assets . This was unlike traditional approaches in other countries which were built on an often unilateral and lopsided focus on rebuilding public infrastructure only, with little or no emphasis on building to better disaster resilient standards;
- b) ***Promoting Resilient Development*** - *by setting a precedent for disaster resilient reconstruction, and effectively using and sustaining the recovery continuum and institutions for guiding and catalyzing the disaster risk reduction agenda.* Increasingly, post disaster assessments contain a rigorous treatment and analysis of disaster management and emergency preparedness arrangements in post disaster countries, including an assessment and diagnostic of the state and levels of DRR mainstreaming in the developmental policies and programs of the respective countries. This approach, followed by sustained policy dialogue between national governments, international partners and national stakeholders, then helps lay the basis for developing simultaneous programs and initiatives for DRR mainstreaming and enhanced disaster preparedness.

30. *For example, Pakistan introduced programs on systematic risk assessments and community-based disaster risk management in areas affected by the 2005 earthquake and soon scaled up these efforts at the national level under the auspices of the then newly created National Disaster Management Authority.* This led to a central disaster risk management framework and initiation of efforts for the mainstreaming of DRR in various sector development policies and strategies and development of building codes for enhancing seismic safety. Similarly Bangladesh, after cyclone Sidr 2008, decided to invest heavily in structural mitigation interventions, strengthening of early warning systems, systematic risk assessments

and other risk reduction and preparedness programs. There are a few other more contemporary examples from Haiti, Lao PDR, Indonesia and Philippines to illustrate the far reaching developmental impact, in terms of structural, financial and community resilience, created by making informed and systematic use of opportunities created by such large scale disasters.

31. *Similarly, the U.S. National Disaster Recovery Framework (NDRF) promotes the incorporation of “sustainability practices” into recovery processes.*

The NDRF focuses on the restoration, redevelopment and revitalization of the health, social, economic, natural and environmental fabric of the community and on building “a more resilient Nation.”

“Resilience and sustainability” is one of the nine Core Principles of the NDRF. Under this priority area, the NDRF prioritizes the strengthening of the ability of communities to withstand, respond to and recover from disasters in a more resilient manner (see box). Formally launched by US President Barack Obama in 2009, a sign of the highest political ownership, the NDRF represents a joint initiative among the U.S. Department of Homeland Security, the U.S. Department of Housing and Urban Development and the Federal Emergency Management Agency to establish an operational framework to guide an improved National approach to disaster recovery. It reflects the federal structure of the U.S. government, under which it is local and state authorities that decide whether to ask for federal disaster assistance. The NDRF defines how Federal agencies operate to promote effective recovery and support jurisdictions affected by a disaster, and 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, and NGOs and community organizations in the NDRF. Sector-based “Recovery Support Functions” (RSF) can call on institutional resources from across the Federal government. The RSF structure is tailored to reflect the nature of the disaster and the capability of local authorities.

Table 7 Provisions for Resilient Rebuilding- US NDRF

Provisions for Resilient Rebuilding under the US NDRF

- The community rebuilds a sustainable future inclusive of ecological, economic and local capacity considerations.
- The recovery is an opportunity for communities to rebuild in a manner which reduces or eliminates risk from future disasters and avoids unintended negative environmental consequences.
- Communities incorporate stronger building codes and land use ordinances. Vulnerable structures are retrofitted, elevated or removed from harm.
- Community members, businesses and local governments incorporate risk-reduction strategies into governance and local decision making.

Factors of Successful Recovery, NDRF, pg. 16

32. *Regional initiatives can also provide a mechanism for institutionalizing resilient recovery in national systems. Disasters rarely respect national boundaries. Capitalizing on this, 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 DRR in recovery.* The contrasting examples of South Asia and Central America highlight the potential utility of regional platforms in promoting DRR in national post-disaster reconstruction. 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.”⁵ Despite a growing tendency in the region to include disaster resilience measures among

⁵ According to the South Asian Association of Regional Cooperation (SARRC) Disaster Management Center

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.

33. *In contrast, Central America furnishes a good example of how regional agreements on disaster management can serve as a mechanism for introducing framework-led recovery into national strategies.* The case of Central American Coordination Center for Natural Disasters Prevention (CEPREDENAC), comprised of Costa Rica, El Salvador, Nicaragua, Guatemala, Panama and Honduras, is particularly instructive. A paper jointly authored by UNISDR, IRP, UNDP's Bureau for Crisis Prevention and Recovery, and CEPREDENAC highlights the role of Central American regional efforts in institutionalizing DRR in national reconstruction planning. Based on the finding that recovery mechanisms can often be ad-hoc and unplanned, which fail to engage communities in building back better, the paper stresses the relationship between disaster risk reduction and the institutionalization of reconstruction policies and concludes that "DRR and PDRP [Pre-Disaster Recovery Planning] fit hand in hand."

Table 8 CEPREDENAC Commitment to Recovery

"[T]he 6 countries constituencies of CEPREDENAC through their Heads of National DRR Systems acknowledged the importance of effective recovery planning and have developed or are actively developing proposals of their respective National Recovery Frameworks as a key priority for 2013 and beyond."

34. *Regional-level initiatives have underscored this relationship between DRR and planning for reconstruction. The PCGIR [the regional DRR policy] considered recovery process as a main component for DRR at the regional level.* CEPREDENAC has lobbied for the prioritization of recovery planning, initiated the development of a regional DRR plan (PRRD), and simultaneously included the concepts of Pre-disaster Recovery Planning (PDRP) as a central element of the successful implementation of the regional DRR policy. This regional-level work has been instrumental in prompting the development of national recovery frameworks in the member countries of CEPREDENAC. Encouraged by the work of CEPREDENAC, and under its leadership, all six member countries of CEPREDENAC have initiated the development of national recovery frameworks which facilitate the successful implementation of DRR measures.

Key Areas of Improvement and Challenges towards "Integrating DRR into Recovery" and "Catalyzing DRR through Recovery"

Policy Challenges and Issues towards Achieving Resilient, DRR-led Recovery

35. *In recent times, there appears to be an increasing trend of the emergence of significant time-gaps, stakeholder attention deficit, and declining resource commitments across the supposedly seamless continuum of national and international post disaster responses. Much recovery momentum seems to have been lost across the post disaster assessment, recovery planning and implementation phases of disaster response.* This can badly impede the pace, and even the very viability of a recovery program, leading from sub-optimal to very little recovery, in extreme cases. Some recent PDNAs could not be fully or partly implemented, possibly due to lack of post-PDNA follow-up by governments and development partners, particularly in the areas of recovery strategizing, planning and project development. Countries and international development stakeholders that have undergone large scale recovery efforts have knowledge and experiences that can help governments bridge this gap through their

integration and systemization into user-friendly knowledge products and tools that can help governments plan and implement resilient recovery.

36. *Many other extraneous factors beyond the immediate control of national and international recovery stakeholders factor in to shaping the outcomes and impacts generated from post disaster engagements.* For example, whereas a PDNA may help provide a solid strategic and financing platform for shaping and realizing post disaster recovery, an assortment of factors can influence, and in cases, possibly diminish its DRR-related outcomes. These can include: political instability and overlay of political crises, lack of coordination or strategic harmony across national and subnational tiers of government, lack of conducive or enabling policy environments, inherent shortcomings of existing institutions and governance structures, fiscal and budgetary constraints including donor fatigue in financing recovery, competing developmental priorities, competing or diverging donor priorities, and other factors. These challenges also provide vital insight into various areas of policy development, strategic redirection and improvement, and more risk-cognizant resource allocation across developmental and recovery spending, to improve the likelihood of achieving more efficient, sustainable and resilient disaster recovery in the future.

Policy Challenges and Issues towards Promoting Resilient Development through the Recovery Process

37. *While opportunities for mainstreaming longer term resilience are perhaps the ripest in the aftermath of a big disaster, countries have not always been able to capitalize fully on these opportunities. A particularly important precondition for recovery to guide and lead to resilient development is for the recovery itself to work and be adequately implemented.* Hence in cases where post disaster recovery did not work or get implemented, the chances of it being able to promote resilience-in-development are bleak. However, even where recovery works, carry-over arrangements have to be instituted to ensure that the policy mandate, strategic gains and capacity strengthening resulting from the recovery process, transitions and translates into: (a) the mainstreaming of risk reduction in regular development and; (b) the institutionalization of the recovery experiences within disaster management institutions and future reconstruction agencies. Historical evidence suggests that the following factors led to either little or short-lived translation of the principles and gains of resilient recovery into resilient development and growth: (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/reconstruction agencies and successor/regular development institutions, and; (c) inadequate systemization of lessons learned from recovery experiences into future recovery strategies, standards and performance management tools.

Inadequate Focus on Recovery in the Hyogo Framework for Action and Need for Mainstreaming in the International Dialogue on Risk Reduction

38. *While governments around the world have made notable progress in some priority areas of DRR under HFA 2005, progress on the resilient recovery indicator since 2007 has been minimal, as generally pointed out by country self-assessments. While a general explanation of this might be that most recovery programs do not provide enabling environment for any sizeable disaster risk reduction, it also now is a generally accepted fact that recovery somehow received little attention and priority in the HFA 2005.*

First, having a single indicator related to recovery in the entire framework simply does not suffice as an effective tool for either properly articulating the actions needed under this priority areas nor does it provide enough handle for tangibly measuring progress made by countries in integrating DRR in their recovery processes. Therefore, HFA-2 should make resilient recovery a higher and more visible area of action within the entire DRR agenda. Going forward, recovery must be viewed as part of an integrated continuum, inseparable from preparedness, response, mitigation and development, while acknowledging the critical role it can play in seizing opportunities contained in the adversity of disasters in moving countries toward a state of greater resilience.

39. *The language of the current resilient recovery indicator can be considerably improved upon in HFA-2, since it is currently inadequately worded, and based on a set of questions that are in some cases irrelevant to resilient recovery. This is perhaps not surprising, given the lack of an agreed-upon definition of resilient recovery and a corresponding set of results indicators.* Phrases such as "build back better" do little to clarify the concept. Even "resilience" lacks specificity. Given the importance of a commitment to DRR in recovery, it is urgent that indicators be developed that are operational and actionable, and help managers, policy makers, and politicians understand the specific outcomes they should be aiming for in supporting disaster risk reduction in recovery, and in recovery institutionalization. Other issues related to the HFA scoring methodology such as a quantitative ranking scale that mostly does not correlate to the subjective explanations provided by countries to support their 'self-rankings' can be augmented by devising means of independent validation or cross-corroboration with other sources of similar information.

Recommendations for Strengthening the Integration of DRR in Recovery and the Subsequent Institutionalization of Resilient Recovery in Government Systems

40. The recommendations included in this section are limited not only to policy action on part of national governments, but apply across the range of international development partners and development cooperation forums that deliberate on disaster related policy. These recommendations respond to the policy challenges described variously in the previous sections.

41. ***Building greater financial resilience and predictability within government to manage and respond to natural disasters:*** National governments need to incorporate disaster risk management in developmental planning, particularly for land use regulation, urban planning and public and private sector construction standard-setting. Even if commenced now, such DRR mainstreaming will still leave a considerable residual risk of the occurrence of disasters over many years to come, in most countries. Hence governments will also need to start exploring pragmatic ways of provisioning disaster recovery allocations in their fiscal strategies to reduce the budget shock of natural disasters. Such strategies need to rely more on systematic risk assessments and aim to maintain effective financial protection while simultaneously enhancing the country's recovery capacities. International financial institutions can significantly contribute both technically and financially towards creating contingency funding mechanisms in less developed countries, and advanced risk transfer mechanisms in more developed or transition economies. There is a huge scope for enhanced development cooperation and aid harmonization across IFIs and donors in this area.

42. *Enhancement of national and international recovery preparedness and institutionalization:*

Making disaster recovery more efficient and systematic will require strengthening country systems to support post recovery operations, beginning with the conduct of post disaster needs assessments. Such PDNA institutionalization will improve the efficiency, accuracy and ground applicability of these assessments through: (a) enhanced data preparedness; (b) assigning formal institutional roles and responsibilities for maintaining PDNA preparedness and conducting them; (c) expansion of national, regional and global support capacities through more client-applicable training programs that simulate actual field conditions, and; (d) development of rapid assessment methodologies to expedite PDNAs, allowing greater room and time for recovery strategy formulation and planning.

43. *Development of national and international policy standards for informing and guiding disaster recovery strategies:* *The emergence of a more conducive national and international policy environment for recovery strategy-formulation, planning and implementation holds the key to building recovery-led resilience building. Governments may consider developing national policy standards for guiding post disaster recovery, by consolidating past country experiences, existing legal provisions and contemporary international practices.* This will help in improving the predictability and consistency of national recovery provisions and strategy vis-à-vis various types, scales and impacts of disasters, and enable governments to respond to disasters based on objective and impact-proportionate criteria. Such policy standards will also have to necessarily incorporate resilience building and risk reduction measures, while factoring in considerations such as affordability, technical viability, adaptability and local contexts, optimization across public and private sector needs and goods, maximization of social equity and distributive impact, ease of implementation and sustainability. The ready availability of such national standards prior to disaster events shall also improve the efficiency, applicability and acceptability of PDNAs. Similarly international development partners may need to further develop their engagement and investment criteria in post disaster recovery in the light of such resilience building considerations, and also provide knowledge sharing and other technical support to countries in developing such recovery standards.

44. *Formalized strategic and resource commitments towards recovery planning, implementation and performance management:* *There is an urgent need for counteracting an emerging national and international tendency of making 'halfway commitments' to disaster recovery, which are sometimes restricted to only the conduct of post disaster assessments, rather than leading to criteria-based prioritization, planning and implementation of recovery. The latter requires sustained post-PDNA national ownership and development cooperation for maintaining traction and momentum on recovery, rather than letting it fall through the cracks.* The most obvious convening forum and tool for multi-stakeholder engagement on this would be 'Recovery Framework Development'. Under international protocol, this exercise needs to take place immediately after the completion of a PDNA, or simultaneously with the conduct of a PDNA, but seldom does. The most apparent reasons for this include lack of formal policy commitment for full implementation of recovery and the absence of a formal engagement strategy and tool for developing recovery frameworks. Additionally, a fuller and results-oriented delivery of recovery programs and projects will require adaptation of regular performance management tools to the recovery context, such as results frameworks, risk and accountability frameworks, aid tracking mechanisms, grievance redress and community scorecard systems, etc.

45. ***Maintaining a strategic and institutional continuum between preparedness, recovery and prevention:*** Disaster recovery has often suffered on account of: (a) the inherent shortcomings of institutions and governance structures in treating recovery as a 'developmental urgency'; (b) the typical lack of coordination or strategic harmony across various national and subnational tiers of government, and; (c) lack of sustained attention and resources for its fuller and effective implementation. Overcoming such implementation fatigue & institutional fragmentation will require (a) effective institutional coordination and central oversight arrangements for dealing with large scale and multi-faceted recovery, that are typically not the domain of any regular development agency; (b) development of formalized policy and strategic linkages across recovery and regular development processes; (c) development of transition and legally binding arrangements between recovery/reconstruction agencies and successor/regular development institutions for the retention and succession of the resilience agenda, and ; (d) addressing longer term disaster vulnerability through coherent programs that cut across the divide of recovery and development –such as on safer housing, building code enforcement, safety nets, green growth, and climate change resilience.

Table 9 Recovery and Disaster Preparedness in Yemen

Recovery Provides Impetus for Strengthening Disaster Preparedness in Yemen

A Tropical Storm hit Yemen in October 2008. The affected governorates of Hadramout and Al-Mahara were declared disaster areas on October 27, 2008. The flooding and heavy rain also caused 2,826 houses and huts in both Governorates to be destroyed and 3,679 houses to be partially damaged. 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 has been particularly devastating. Of the total disaster effects, an estimated YR 174,962 million (US\$ 874.8 million) refers to the value of the destruction or damage to physical assets existing in the affected areas.

After the disaster hit, Government of Yemen carried out probabilistic risk assessments with the support of GFDRR as part of the recovery effort, in order 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 application is developed to provide public decision makers (Government of Yemen) and private decision makers (insurance companies) with the capacity to estimate in advance the impact of a disaster on national accounts and operations, as well as the resource and liquidity gaps expected to arise following a disaster. The application helps pre- and post-disaster response planning, such as emergency response planning, cost benefit analysis of risk mitigation investments, fiscal impact of natural disasters on the government budget, and insurance decisions (i.e., insurance portfolio risk analysis, pooling benefits).

46. ***Ex-Post Development of National Recovery Frameworks can help ensure DRR in recovery:*** Recovery offers a unique window of opportunity to reduce risk: people are more aware of risk, politicians are more motivated, and the funds are often available. Such recovery frameworks will help bring multiple stakeholders and their competing or diverging priorities to one common and inclusive platform for recovery strategy development, planning and project development. These can also: (a) help make recovery inclusive and resilient, and; (b) increase the likelihood of the gains from the recovery process to be sustainable and translatable into resilient development. But unless countries organize in advance to establish the required policies and plans and create the necessary partnerships to implement successful risk reduction in a post-disaster setting, the results may be disappointing. Going forward, governments would do well to invest resources and time for developing national, subnational or local recovery frameworks, as necessitated by a particular disaster, as a means to ensuring the systematic integration of

DRR in recovery planning and implementation processes. Such planning frameworks would need to essentially recommend and resource actions in the following four areas:

- a) *Institutional Frameworks for Recovery.* Agreeing on roles and responsibilities of various tiers of government for setting up and implementing standards for resilient recovery, including arrangements for horizontal and vertical coordination, quality control, oversight and monitoring; establishing legal framework for emergencies that balances speed and good governance, and; setting up public-private arrangements to mobilize resources and capacity.
- b) *Recovery Policy and Planning.* Defining rebuilding standards in advance for certain classes of assets; develop policy guidelines and formats for assessments and recovery plans in respect of DRR; identifying data sources required for recovery planning and ensuring their availability; and designating "rebuild" and "no-rebuild" zones, based on risk considerations.
- c) *Recovery Financing.* Ensure prioritization of DRR in funding allocations for recovery, adapting reporting standards to ensure tracking of recovery funds, particularly included DRR-related expenditure; provision of central or federal subsidies and incentives for the incorporation of DRR in recovery across various horizontal sector ministries and vertical tiers of government; creating multi-donor fund arrangements or donor coordination platforms for consistent integration of financial provisions for DRR in externally aided programs, and creating emergency transfer arrangements for household transfers and grants that incentivize DRR at local and individual levels.
- d) *Recovery Management and Monitoring.* Establishing quality control and enforcement mechanisms for the implementation of DRR in accordance with planning and design standards, building capacities of national, subnational and local governments in the design and implementation of BBB-based resilient recovery interventions; and developing recovery program monitoring and evaluation systems, including tangible indicators for the integration of DRR in recovery.

47. ***Ex-Ante Institutionalization of Recovery to Ensure Integration of DRR:*** Governments struggle to deliver good recovery because they are not ready for disasters. Knowing disasters are almost inevitable, governments can put in place policies, standards, and institutional arrangement for managing recovery before a disaster strikes. Disaster readiness has many dimensions, from establishing procedures for assessments, to defining parameters for financial assistance, to creating partnerships with the private and nongovernmental sectors. In order to ensure that recovery contributes to risk reduction and resilient development, post-disaster interventions must be well planned and well executed. Only institutionalization of recovery guarantees that governments are equipped to deliver recovery programs that meet strategic goals. Recovery institutionalization also improves the linkage between readiness, recovery and development processes, ensuring that all investment and development incorporate DRR goals.

48. ***Disaster readiness makes integration of DRR in recovery possible:*** Only well-executed recovery guarantees resilient recovery. Establishing institutional arrangements, policies, and financing sources for recovery before the disaster allows governments to avoid the post-disaster political pressures and confusion of roles that so often produce sub-optimal recovery. Similarly, with its recovery approach

defined, government can challenge international development partners to harmonize their post-disaster strategies, and ensure that DRR is a priority. In recognition of this, HFA-2 can play an important role by emphasizing the need for well-planned, prioritized and sequenced recovery in an ex-ante manner as a virtually necessary condition for the successful implementation of disaster risk reduction measures in post-disaster reconstruction. For that reason, institutionalization of recovery--implementing, reforming, and improving institutional and legislative arrangements for recovery in advance of disasters--offers the best hope for disaster risk reduction. During pre-disaster planning, stakeholders, including technical and scientific institutions, and the public, non-profit, and private sectors in countries can work together, to share approaches, adapt systems to the recovery context, and prepare for integrating disaster risk reduction in both recovery and development.

Table 10 Institutionalizing Recovery in Kyrgyz Republic

Institutionalizing Post-disaster Needs Assessment System and Recovery Planning in the Kyrgyz Republic
<p>Despite experiencing a high frequency of natural disasters and emergency situations, the Kyrgyz republic did not have any officially institutionalized procedures to assess disaster damage, loss and recovery needs. Hence, post-disaster recovery planning was not based systematic needs assessments, and failed to incorporate longer term DRR measures.</p> <p>In a paper investigating the positive implications of institutionalization the PDNA process for the broader recovery institutionalization agenda in the Kyrgyz Republic, the Disaster Risk Management Unit of the Europe and Central Asia Regional team of the World Bank notes that “the PDNA process... contributes to incorporating actions and their associated costs to reduce long-term effects of disasters by assessing and incorporating the needs to build more resilient facilities and systems in recovery and reconstruction plans and programs.” And underscoring the link between well-managed recovery and the successful implementation of disaster risk reduction policies, it recommends that the “institutionalization of the PDNAs system should be considered as an essential initiative to enhance disaster risk reduction”.</p> <p>Working with the National Platform for Disaster Risk Reduction, relevant line ministries and local governments, a National Action Plan was articulated, identifying the actions needed to improve the country’s needs assessment structure and methodology and recovery planning standards and provisions. Training workshops, guidance manuals and similar capacity measures were conducted to build expertise in needs assessment, and the process was endorsed by and incorporated into the functioning of the highest levels of disaster management systems of the Republic. This institutionalization of a key aspect of recovery planning offered an avenue to incorporate DRR measures into reconstruction policies. Building Back Better was prioritized in the training of needs assessment staff, and its importance as an investment in future resilience (and not just a present additional cost) was underscored.</p> <p>Highlighting the opportunity afforded by the institutionalization process to integrate BBB into staff capacities, the paper notes that the trainings “helped participants understand the contents [of BBB] far better.” Highlighting the positive impact of institutionalization on the DRR agenda, the inter-sectoral and inter-ministerial collaboration promoted by the institutionalization of the PDNA process, which strengthened its nation-wide application, providing DRR measures a critical avenue for widespread implementation.</p>

49. ***Making a commitment to institutionalization is not easy.** It requires financial support and political will to divert resources to institutionalize disaster preparedness. Inertia can hamper efforts to introduce recovery-related legislation and implementation plans.* This has meant that although governments have increasingly made commitments to DRR in national policy, they have been unable to successfully implement DRR measures in reconstruction. This has been due to their inability to tap capacities in the time in disaster, leading to hap-hazard ad-hoc recovery programs that do not fully incorporate resilience in reconstruction activities. The window of opportunity in a post-disaster scenario allows for DRR measures that would otherwise not be included in legislation to be introduced. A well-planned recovery effort creates an avenue for DRR measures to be included in all aspects of recovery in a systematic way.

This, in turn, facilitates the institutionalization of such measures, making the incorporation of DRR principles in future reconstruction efforts an integral part of reconstruction policy.

50. ***Development of Knowledge Products and Tools:*** *HFA-2 must promote the institutionalization of recovery with DRR stakeholders as a means to more resilient recovery. Agencies should showcase international good practices and translate them into guidelines and procedures. The new self-assessment should encourage and reward institutionalization, and to better define and measure outcomes such as resilient recovery and "Build Back Better."* These actions will ground the resilient reconstruction agenda in experiences on the ground and help to move it forward. Pre-disaster planning is also a time when bilateral donors, the EU, the UN, the World Bank and other multilateral institutions can work along with countries to determine both long-term strategic DRR priorities and protocols for providing post-disaster assistance that reduces disaster risk.

Improving Resilience by More Effectively Measuring Recovery Results – What gets measured, gets done!

51. International agencies should work with governments to develop actionable and measurable indicators to monitor progress of implementation and achievement of recovery goals related to both specific recovery programs, such as DRR, and to pre-recovery planning frameworks. Systems should be put in place that enable the production of reliable and comparable data about the recovery experiences and recovery preparation, and that permit accountability between government, the affected population, and the general public⁶.

52. Based on the recommendations made variously throughout this report, the table below provides a basic results framework for measuring outcomes associated with the recommended actions. This framework is designed to inform HFA2 deliberations towards both a more meaningful and substantive integration of DRR in recovery as well as the subsequent institutionalization of resilient recovery in government systems.

⁶ Adapted from IRP, 2013, "Recommendations for Recovery and Reconstruction in Post-2015 Global Framework for DRR (HFA2)."

Table 11 Results Framework

Results Framework for the Operationalization of the Proposed Indicator: “Ensure that post-disaster responses effectively contribute to risk reduction”	
I. Prepare for recovery in advance by institutionalizing recovery functions in national and local governance systems II. Ensure financial predictability for integrating risk reduction in recovery III. Promote the use of PDNAs and Recovery Frameworks to guide recovery processes IV. Strengthen coordination of recovery actors to avoid gaps and increase focus on recovery interventions that reduce risk	
I. Prepare for recovery in advance by institutionalizing recovery functions in national and local governance systems	
a) Strengthen capacity for recovery planning and monitoring at all levels (national, local, community) and make capacity building activities more open and available to all actors b) Establish clear roles and responsibilities for all actors in a recovery setting, including national and local governments, private sector, academia, and civil society organizations. c) Standardize approaches for post-disaster assessments and recovery planning frameworks d) Implement, reform, and improve institutional, legislative, and financial arrangements for recovery in advance of disasters	
II. Ensure financial predictability for integrating risk reduction in recovery	
a) Ensure financial predictability for integrating risk reduction in recovery. b) Develop disaster financing strategies that identify fiscal and financial mechanisms to deploy in the event of a disaster. c) Utilize comprehensive risk assessments to aid in budgetary planning processes and establishment of contingency financing mechanisms in the case of a disaster. d) Establish agreements and mechanisms to ensure coordination of donor recovery financing with government recovery plans. e) Adopt ex ante budget management and post disaster budget execution mechanisms for natural disasters	
III. Promote the use of PDNAs and Recovery Frameworks to guide recovery processes	
a) Promote the use of PDNAs and Recovery Frameworks to guide recovery processes b) Integrate the PDNA and Recovery Framework methodologies into national and local governance systems in an ex-ante manner c) Build capacity of national and local government staff, private sector, academia, and civil society in conducting PDNAs and formulating recovery plans d) Promote regional centers of excellence for conducting PDNA and developing Recovery Frameworks	
IV. Strengthen coordination of recovery actors to avoid gaps and increase focus on recovery interventions that reduce risk	
a) Strengthen coordination of recovery actors to avoid gaps and increase focus on recovery interventions that reduce risk b) Ensure that governance models for recovery that establish roles and responsibilities for all actors include mechanisms to hold all stakeholders accountable. c) Utilize the recovery planning process to align all actors behind the risk reduction agenda of the government. d) Develop actionable and measurable indicators to monitor progress of implementation and achievement of recovery goals related to DRR	