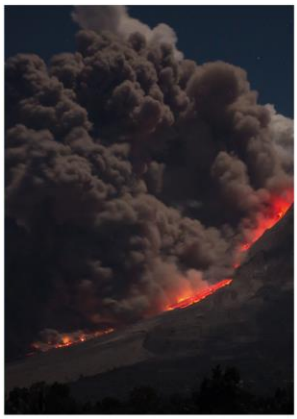


GUIDE TO

ENGAGING LOCAL ACTORS IN DISASTER RECOVERY FRAMEWORKS

NOVEMBER 2019

GFDRR
Global Facility for Disaster Reduction and Recovery

THE WORLD BANK
IBRD • IDA | WORLD BANK GROUP

IRP

Table of Contents

List of Figures

List of Tables

Preface

The Guide to *Engaging Local Actors in Disaster Recovery Frameworks* is based on the *Guide to Developing Disaster Recovery Frameworks*, which aims to support governments at the national level to assist with recovery planning and implementation. In line with the national level guide, this Guide is intended as a practice-based, results-focused tool to assist local governments and partners in planning for resilient post-disaster recovery.

The Guide seeks to further define the Framework for application by local governments; ensuring disaster recovery planning and implementation is tailored to the local context and needs. The Guide aims to strengthen capacity of local government to engage with local actors, undertake assessments, and develop arrangements for implementation and financing.

The Guide enables local governments and other local actors to develop a process to assess the recovery context; to revise, update and consider future recovery policies, plans and interventions based on the available resources and institutional arrangements. This should be a progressive effort where all recovery actors support the local government and disaster-affected communities towards resilient recovery.

The Guide, and recommended tools within, was written based upon interviews, desk research and case studies from seven sites of disaster recovery in Colombia, Serbia, Senegal, India and Indonesia which are used as examples in the document and presented in detail in the Annexes.

Acknowledgements

This Guide was written by IMC Worldwide Ltd, with guidance from the GFDRR of the World Bank. IMC would like to express gratitude and appreciation to all who have contributed and commented upon the guide, both from the World Bank and national staff involved in the implementation of projects that form the basis of the case studies that are utilized to illustrate the Guide. We are especially grateful to the comments and feedback received from the following DRM Specialists from the World Bank: Josef Lloyd Leitmann, and Mare Lo, Ayaz Parvez, Francis Samson Nkoka, Lesley Jeanne Yu Cordero, and Sajid Anwar. In addition, we would like to thank Rita Missal (UNDP) and Ricardo Zapata Marti (Particip/EU) for their additional comments as peer reviewers.

Acronyms

ADPC	Asian Disaster Preparedness Centre
ASEAN	Association of Southeast Asian Nations
CBO	Community-Based Organization
CEFR	Central Emergency Response Fund
CODI	Community Organizations Development Institute
CSF	Conflict Sensitivity Forum
CSO	Civil Society Organization
CSR	Corporate Social Responsibility
DMTP	Disaster Management Training Programme
DRF	Disaster Recovery Framework
DRFIP	Disaster Risk Financing and Insurance Program
DRM	Disaster Risk Management
DRR	Disaster Risk Reduction
ECHO	European Civil Protection and Humanitarian Aid Operation
EU	European Union
FEMA	Federal Emergency Management Agency
FARO	Flood Affected Areas Assistance and Rehabilitation
GDP	Gross Domestic Product
GFDRR	Global Facility for Disaster Reduction and Recovery
GIS	Geographic Information Systems
GRADE	Global RApid post-disaster Damage Estimation
HVCA	Hazards, Vulnerability and Capacity assessments
IASC	Inter-Agency Standing Committee
IDA	International Development Association
IFI	International Financial Institution
IRC	International Rescue Committee
IRM	Immediate Response Mechanism
IRP	International Recovery Platform
JRF	Java Reconstruction Fund

MDGs	Millennium Development Goals
MIRA	Multi-Sector Initial Rapid Assessment
MIS	Management Information System
NDMA	National Disaster Management Authority
NDRF	National Disaster Recovery Framework
NGO	Non-Governmental Organization
PCMA	Pre-crisis Market Assessment
PDNA	Post Disaster Needs Assessment
PIMO	Public Investment Management Office
PFM	Public Financial Management
PPP	Public Private Partnership
QSEM	Qualitative Social and Economic Monitoring
RPF	Recovery Policy Framework
SDG	Sustainable Development Goal
SFDRR	Sendai Framework for Disaster Risk Reduction
SIA	Social Impact Assessment
SIM	Social Impact Monitoring
SWOT	Strengths, Weaknesses, Opportunities, Threats
ULB	Urban Local Bodies
UN	United Nations
UNCDF	United Nations Capital Development Fund
UNDAC	United Nations Disaster Assessment and Coordination
UNDMT	United Nations Disaster Management Team
UNDP	United Nations Development Programme
UNDRR	United Nations Office for Disaster Risk Reduction (formally UNISDR)
VCA	Vulnerability and Capacity Assessment
WASH	Water, Sanitation and Hygiene
WB	World Bank
WDR	World Disaster Report

The guide incorporates learning from local disaster sites.

Introduction

Every recovery context is different. Disasters may be large, single events, several cumulative smaller events, or occur together, affecting single villages or entire regions. Climate change is attributed to intensifying severity, frequency and unpredictability of such disasters as well as increasing prevalence of slow-onset disasters.

Considerable focus of disaster recovery focuses on immediate emergency relief to natural disasters, large-scale humanitarian efforts, responses by national government and associated agencies, and international aid. However, recovery often continues at the local level away from the media spotlight, over months and years; long after the humanitarian relief effort has finished. The transition from relief to longer-term development can be challenging, often with less funding available for resilient recovery.

The growing incidence of recurring, high-impact disasters in recent years has prompted countries to place greater emphasis on rebuilding for longer term resilience, rather than simply restoring what existed before the disaster. Recovery and reconstruction methods are also increasingly viewed as part of a strategic disaster risk reduction and management continuum.

Figure 1 shows the typical disaster risk management (DRM) cycle, illustrating the relationship between the pre- and post-disaster phases of the cycle and interplay between the response, recovery, mitigation and preparation phases as is discussed further in this Guide. Figure 1 also highlights how local authorities and other local actors are at the heart of the DRM cycle.

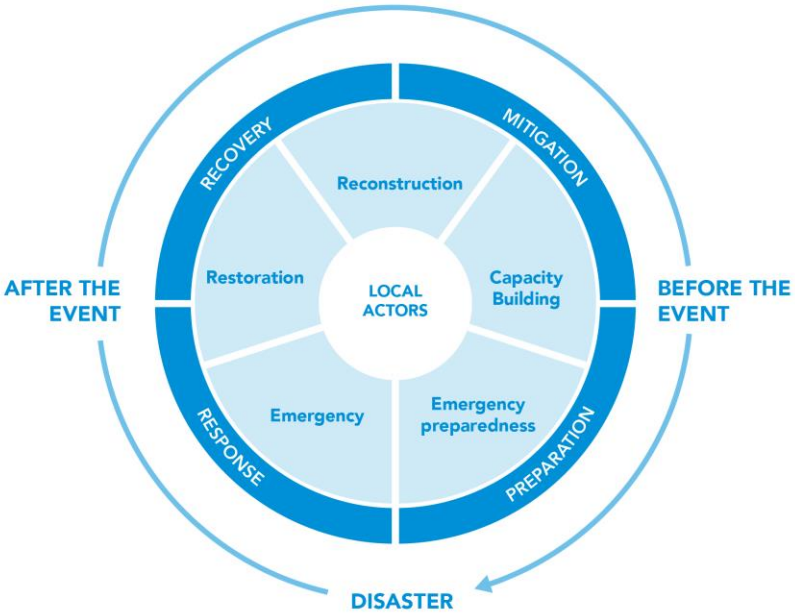


Figure 1: The Disaster Risk Management (DRM) cycle

Local actors in disaster response and recovery

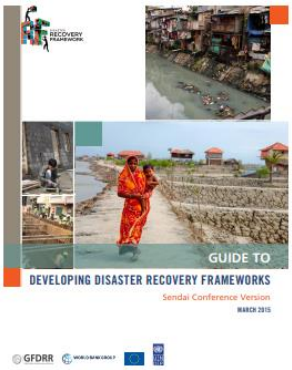
Recovery starts locally. If it is inclusive, sustainable, and has a long-term view, then local governments and communities can better face similar future events.

After a disaster, local authorities are frequently overwhelmed with shortages of resources, skills and leadership; often exacerbated by remoteness and a lack of available support. A combination of these impact adversely upon the efficiency and effectiveness of recovery operations. Governments may need to work with other actors including the military, inter-governmental agencies, and social and community leadership structures.

Local governments, including the mayors' offices, local councils and committees, authorities and public utilities responsible for water, transportation, housing and the environment have vital important leadership and coordination roles to play in local disaster recovery[1]. Another set of actors includes those from the private sector who are often the primary means through which communities obtain critical commodities – both goods and services – prior to, after as well as during emergencies in the case of protracted crises.

Developing Disaster Recovery Frameworks

The Disaster Recovery Framework (DRF) is a tool to assist national governments in planning, prioritizing, financing and implementing recovery programs to ensure resilience in recovery and development[2]. Developed by the World Bank's Global Facility for Disaster Reduction and Recovery (GFDRR)[3] in collaboration with the European Union (EU), the United Nations Development Programme (UNDP) and the International Recovery Platform (IRP), it serves both strategic and operational purposes in the development and management of a disaster recovery program.



Further information

www.gfdrr.org/en/disaster-recovery-frameworks

A national framework should be established prior to a disaster and can be further tailored following a disaster. By establishing policies, institutional arrangements and financing mechanisms for recovery, governments can avoid post-disaster political pressures, financial constraints, knowledge gaps and confusion of responsibilities that often impede the recovery process.

Thus, the DRF Guide offers a flexible methodology that countries can adapt to their own context in order to create a national framework that will help them rebuild and recover. As shown in the example from Malawi (see below), the Guide not only helps governments create disaster-recovery frameworks to facilitate a smooth recovery process, but also aims to improve resilience for the future.

The DRF recommends resilient recovery is prioritized to include: "*Build Back Better (BBB), gender concerns, equity, vulnerability reduction, natural resource conservation, environmental protection, and climate change adaptation"* (p. 12). Additionally, risk reduction measures should be integrated into recovery interventions such as enforcing building regulations or safer construction guidelines, land-use planning rules, early warning systems and resilience measures such as social safety net programming.

It should be noted that a review of the DRF is underway. Once completed, this document may be amended to reflect the updated DRF. In addition, the revised version will be available as an online course.

National Disaster Recovery Framework (DRF) for recovery from floods in Malawi in 2015

Following the devastating floods in 2015 affecting 1.1 million people, the Government of Malawi, through the Department of Disaster Management Affairs (DoDMA), with technical and financial support from the European Union (EU), the United Nations (UN) and the World Bank (WB), conducted a Post Disaster Needs Assessment (PDNA). The PDNA estimated damage and losses at US$335 million and it estimated the cost of recovery, and reconstruction needs at US$494 million.

An extension of the PDNA, the DRF translates recovery and reconstruction needs into prioritized recovery interventions across sectors and districts. To operationalize the key recommendations from the PDNA, the Government of Malawi (GoM) initiated processes to develop a DRF with technical support from the Global Facility for Disaster Reduction and Recovery (GFDRR) and other donors.

The DRF was developed through an inclusive, consultative process involving key stakeholders at the national and district levels to establish Malawi's central recovery vision, objectives and cross-cutting principles, as well as to defend national sector recovery priorities, institutional arrangements and financial gaps. During the process, cross-sectoral priorities and phased initiatives for all districts were defined; existing recovery resource allocations and financial gaps were identified; and institutional arrangements and mechanisms for monitoring and management were defined.

Ref:
www.gfdrr.org/sites/default/files/publication/Malawi%20National%20Disaster%20Recovery%20Framework%20Report%202015.pdf

What is this guide for?

Developing a disaster recovery framework is a collaborative process led by the government and supported by the affected communities and partners – GFDRR, 2017 [4].

In general, it is the role of national agencies with the support of international actors to lead the response and recovery program after the onset of a large disaster. However, as noted above, the role of local authorities and other local actors is increasingly recognized to be critical to both the immediate response and longer-term resilient recovery. Therefore, in addition to engaging with local actors to support the development of a national disaster recovery framework, the Guide seeks to ensure that local governments and stakeholders are at the forefront of the disaster response to address the specific and often varying needs of local communities.

It is intended to:

1. Ensure all affected stakeholders and community groups are included in the development and implementation of the recovery process.
2. Help reinforce buy-in from local stakeholders, ensuring those who know the local context and understand local needs play a key role in the needs and risk assessments.
3. Increase capacity in disaster recovery whilst encouraging sustainability of the recovery works in line with the longer-term development of the area.

The Guide does not replace the frequently used Post Disaster Needs Assessment (PDNA)[5]; a tool developed by the UN, World Bank and EU, which seeks to estimate post-disaster damage and loss across all sectors of the economy as well as the recovery, relief, reconstruction and risk management needs. Instead, local assessments are designed to support the PDNA, which is used to develop the DRF which then provides a comprehensive national disaster recovery framework to help local governments and communities recover from a disaster. The Guide emphasizes the importance of ensuring recovery plans are in line with the national government's long-term development plans for the area and contribute towards long-term sustainable development. In addition to the post-disaster planning and response, it can also be used to inform pre-disaster planning to ensure enough thought is given to recovery systems in the aftermath of a disaster.

The Guide highlights the important roles to be played by local stakeholders who partner with the local government including civil society, local leaders, businesses and academic institutions. For instance, much-needed expertise for recovery activities will be provided by the private sector and non-governmental organizations. The importance of partnerships and communication with local stakeholders is therefore emphasized throughout the Guide.

Primary themes included within the Guide are:

- People-centered recovery focusing on the needs of marginalized and vulnerable groups.
- Many individuals and organizations have a role to play.
- Partnerships and communication with local government as the focal point.
- Resilient, inclusive, sustainable long-term recovery.

Who is this guide for?

The Guide has been produced to assist local government representatives in supporting a DRF that considers the appropriate response to and resilient recovery from a disaster at the local level. It is also for other local actors and stakeholders such as Non-Governmental Organizations (NGOs), Community-Based Organization (CBOs) and the private sector who participate in the local recovery process. The national government and its international partners will also benefit from the Guide to understand how to facilitate and support local disaster recovery efforts.

How is the Guide structured?

The Guide comprises four modules which are broken down as follows and illustrated in Figure 2. Each module describes the actions required to meet these results, together with outputs that are intended to enable the successful development of local disaster recovery action plans. Checklists are additionally included as an aide-memoire to highlight the key elements relevant for each module.

Module 1 Understanding and Responding to Local Needs

Post-disaster assessments should be undertaken with local stakeholders providing contextually accurate information to make the right decisions for immediate disaster response planning as well as to inform the later stages of recovery. This module describes the various types of assessment to understand local needs that can be utilized during the disaster risk management cycle, which are used to support the activities described in the other modules in this Guide.

Module 2: Institutional Arrangements for Disaster Recovery

This module focuses on the importance of restoring and supporting local government functions and establishing institutional partnerships and engagement mechanisms to enable all actors to meet the post-disaster needs of affected communities. In this context, this module describes the roles that local actors can play in recovery, including the leadership and coordination role that local governments should have; with close the cooperation with communities and private sector actors, and support from other actors such as international partners.

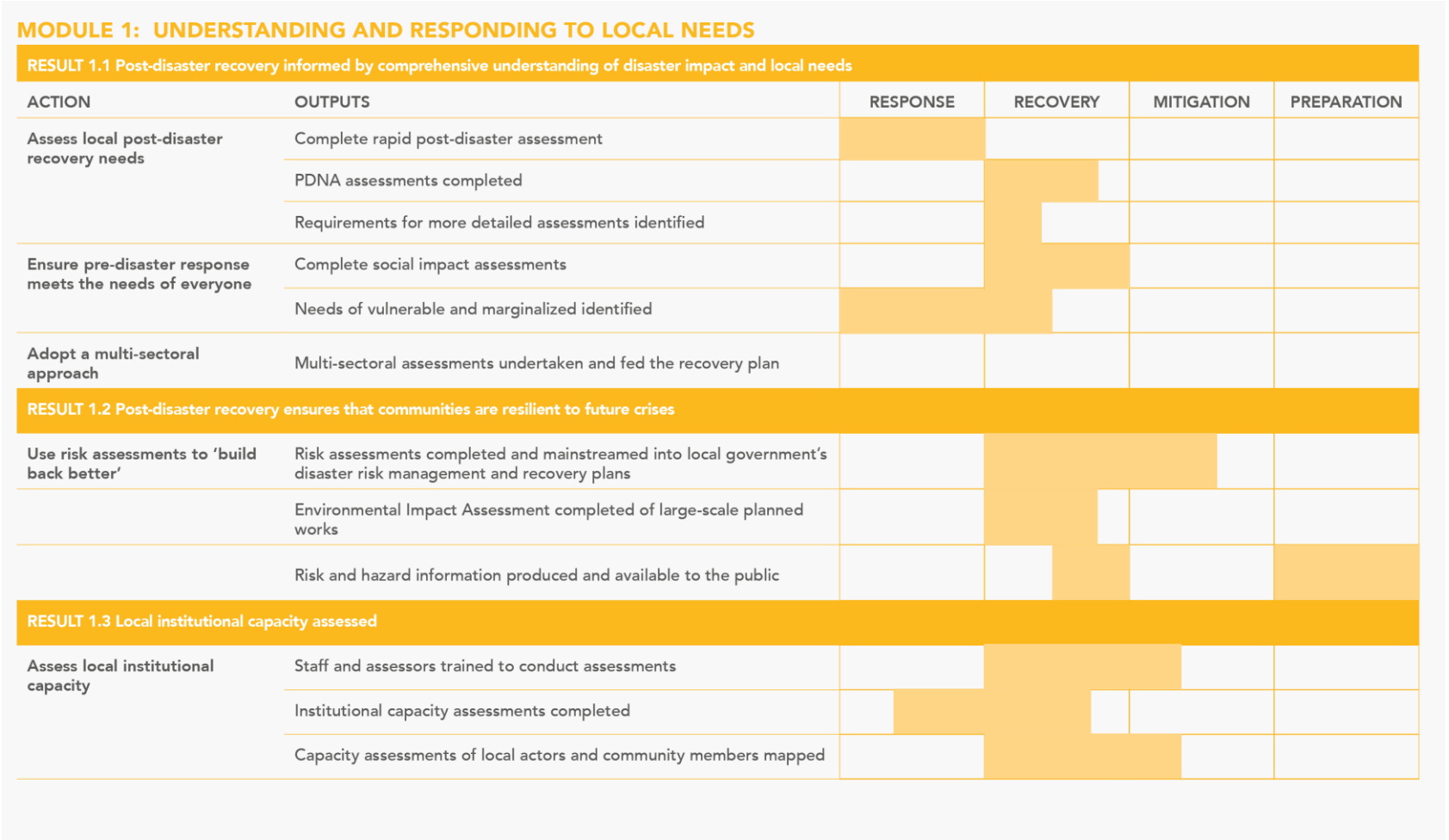
Module 3: Engaging with Communities and Private Sector Actors

This module helps local governments to manage and coordinate with local actors as part of a collaborative and community-focused self-recovery process to 'build back better'. The module focuses on establishing a recovery implementation process based upon engagement with and coordination between community-based, non-governmental organizations and the private sector. In doing so, local governments should respond to the needs of marginalized and vulnerable groups, take action to manage tensions within and between communities, and 'do no harm' to avoid unexpected adverse impacts of the recovery works.

Module 4: Financing for Disaster Response and Resilient Recovery

Local governments play a key role in managing the costs of recovery and mitigating the impacts of future disasters. Local governments may provide direct support to communities and affected businesses, but in many cases, recovery is reliant upon self-help and assistance from international agencies to support the reconstruction of infrastructure and rehabilitation of public services. In this context, this module focuses on funding sources and financial mechanisms for disbursement of funding for post-disaster response and resilient recovery.

Figure 2: Overview of the Guide to Engaging Local Actors in Disaster Recovery Frameworks



MODULE 1: UNDERSTANDING AND RESPONDING TO LOCAL NEEDS

ACTION	OUTPUTS	RESPONSE	RECOVERY	MITIGATION	PREPARATION
RESULT 1.1 Post-disaster recovery informed by comprehensive understanding of disaster impact and local needs					
Assess local post-disaster recovery needs	Complete rapid post-disaster assessment				
	PDNA assessments completed				
	Requirements for more detailed assessments identified				
Ensure pre-disaster response meets the needs of everyone	Complete social impact assessments				
	Needs of vulnerable and marginalized identified				
Adopt a multi-sectoral approach	Multi-sectoral assessments undertaken and fed the recovery plan				
RESULT 1.2 Post-disaster recovery ensures that communities are resilient to future crises					
Use risk assessments to 'build back better'	Risk assessments completed and mainstreamed into local government's disaster risk management and recovery plans				
	Environmental Impact Assessment completed of large-scale planned works				
	Risk and hazard information produced and available to the public				
RESULT 1.3 Local institutional capacity assessed					
Assess local institutional capacity	Staff and assessors trained to conduct assessments				
	Institutional capacity assessments completed				
	Capacity assessments of local actors and community members mapped				

MODULE 2: ESTABLISH INSTITUTIONAL ARRANGEMENTS FOR DISASTER RECOVERY

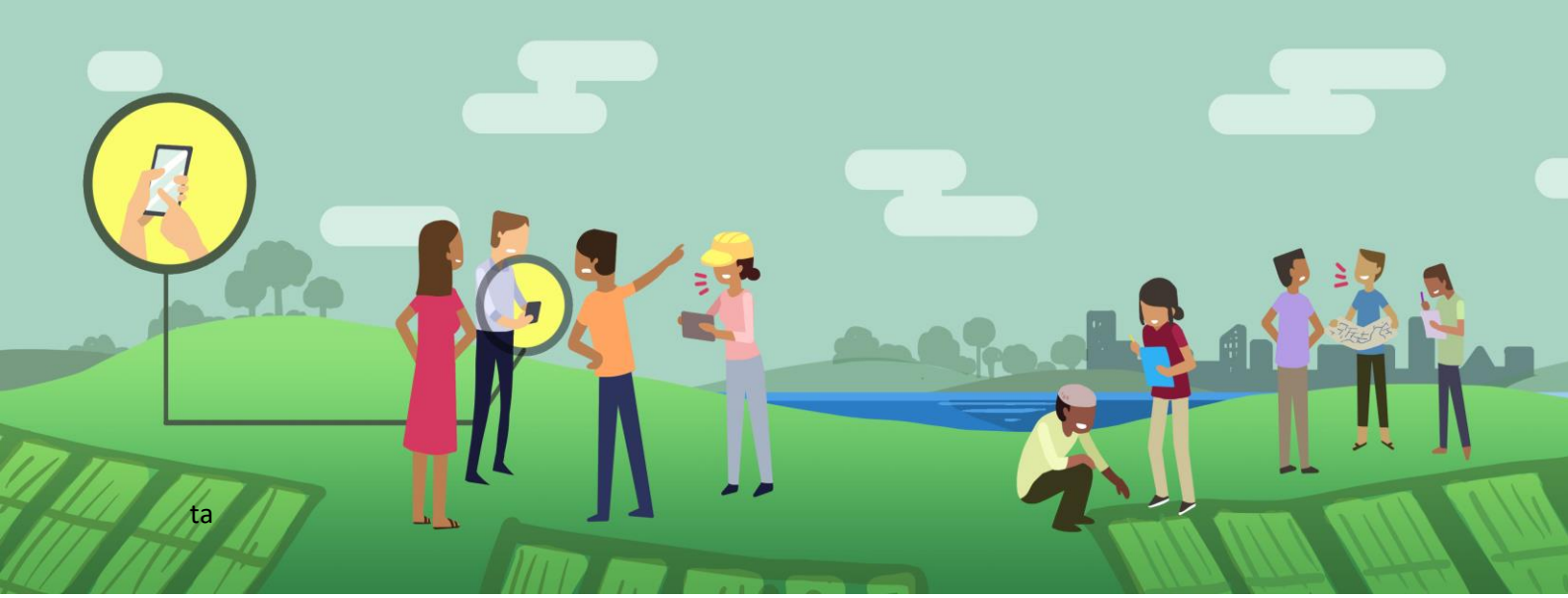
ACTION	OUTPUTS	RESPONSE	RECOVERY	MITIGATION	PREPARATION
RESULT 2.1 Roles for disaster recovery established					
Define roles in disaster recovery	Stakeholder map prepared				
	Roles defined and agreed				
Restore the functions of local government and establish engagement mechanisms	Engagement mechanisms for all recovery actors established				
	Framework agreements, MOUs and working mechanisms produced				
Prepare local disaster management plans based upon the National Disaster Recovery Framework	Local disaster management plans prepared				
Reconstruction standards and DRR guidelines are incorporated into the response	Reconstruction complies with guidelines, codes and laws				
RESULT 2.2 Local institutions are capacitated to implement recovery processes					
Increase capacity of the local government to respond	Local actors are trained and technically equipped to plan, manage and implement recovery				
	Additional technical assistance is provided				
	Action plan to involve the community during planning and managing recovery developed				
Monitor, evaluate and manage information for continuous learning	Transparent and accountable monitoring and evaluation systems are established				
	Communities are included in participatory monitoring				
	Recovery learning well-documented and shared				

MODULE 3: ENGAGING WITH COMMUNITIES AND PRIVATE SECTOR ACTORS

RESULT 3.1 Effective engagement with communities and the private sector					
ACTION	OUTPUTS	Immediate response	Post-disaster reconstruction	Resilience building & adaptation	Disaster mitigation
Communicating with local actors	Communication strategy prepared				
Working with local communities and NGOs	Local communities, NGOs and CSOs involved in recovery planning and implementation				
	Improved capacity for communities to recover and build resilience				
	Action plan to involve the community during planning and management of recovery				
Engage with private sector local actors	Engagement with the private sector established with framework agreements and MOUs developed				
	Capacity strengthening of the private sector				
RESULT 3.2 Effective response to the needs of margnialized and vulnerable groups					
Mainstrean social safety net programs	Social risk management framework mainstreamed within recovery				
	Tailored or adaptive social protection and safety net programs available for post-disaster recovery				
	Conflict resolution measures implemented				
Develop accountability mechanisms	Accountabiliy framework developed				
	Management Information systems established				
	Monitoring methods developed				
	Communication and information management systems used at all recovery stages				

MODULE 4: FINANCING FOR DISASTER RESPONSE AND RESILIENT RECOVERY

RESULT 4.1 Funding sources and financing mechanisms developed					
ACTION	OUTPUTS	Immediate response	Post-disaster reconstruction	Resilience building & adaptation	Disaster mitigation
Derive budgets for response and recovery	Assess damage and recovery costs				
	Costings for recovery interventions				
	Recovery budgets developed and approved				
Identify funding sources for local recovery	Funding sources identified				
Develop financing arrangements for local government-led recovery	Contigency financing plans				
	Risk transfer instruments instigated				
	Financing strategy for building back better				
Financing for households and communities	Humanitarian financing for emergency response and recovery				
	Safety nets in place for poorest households				
	Financing for community-based resilient recovery				
RESULT 3.2 Budgets and disbursement mechanisms developed					
Define responsibilities and share of financing	Cost-sharing/co-financing agreements prepared				
Define financing and fund disbursement mechanisms	Budgets prepared and approved				
	Disbursement mechanisms developed and communicated				
Disbursements monitored and accounted for	Procedures and instrument for monitoring and tracking disbursements				



Module 1: Understanding Local Needs and Institutional Capacity

Post-disaster assessments should be undertaken with local stakeholders providing contextually accurate information to make the right decisions for immediate disaster response planning as well as to inform the later stages of recovery. This module describes the various types of assessment to understand local needs that can be utilized during the disaster risk management cycle, which are used to support the activities described in the other modules in the Guide.

Post-disaster assessments are required to determine what resources, time and money will be required and to derive a plan together with local communities and market actors how best to implement recovery activities. These assessments contribute towards a) a comprehensive understanding of disaster impact and local needs (Result 1.1), b) ensuring that communities are resilient to future crises (Result 1.2) and c) local institutional capacities are understood (Result 1.3).

The objectives of these assessments are to:

i. identify recovery priorities relating to community needs and damaged infrastructure;
ii. define external technical support requirements to improve systems, processes and capacities;
iii. determine financial assistance to fund recovery initiatives.

Whilst some assessments can be carried out before a disaster occurs, most of the Module's focus is on post-disaster assessments to plan for recovery. Additional assessments (i.e. capacity assessments and more detailed sector-specific assessments) are also needed to help local governments develop an inclusive and holistic recovery plan.

Module 1 is structured around the following five actions:

1. Assess post-disaster recovery needs
2. Ensure disaster responses meet the needs of everybody
3. Adopt a multi-sectoral approach
4. Use risk assessments to 'build back better'
5. Assess local institutional capacities.

The assessments described in this Module will benefit from the following:

- **A coordinated approach between all actors.** Communities often get tired when multiple actors undertake assessments, especially when they do not see immediate results (such as the delivery of food, housing supplies, medical help or financial assistance). Local authorities should play a key role to avoid the duplication of assessments.
- **Engage with communities and local actors to fully understand needs, social dynamics and other factors that influence recovery.** They will benefit from the use of traditional, indigenous and local knowledge and practices in the development and implementation of policies, strategies, plans and programs.
- **Multi-disciplinary expertise to understand complex environments**. Multi-disciplinary expertise is particularly valuable where disasters have interconnected impacts. For example, where a natural disaster coincides with long-term stresses such as climate change, political change or conflict, or in urban areas where there are complexities relating to land tenure which may impact upon proposed resettlement plans.
- **The use of innovation and technology in conducting assessments.** Assessments in difficult to access areas; for example, a remote mountainous area cut off by a landslide, may be undertaken using innovative technology. A drone could be used to record damage, or a cellphone text messaging service used to ask affected communities questions about their needs. Other technologies include tablets to record and send assessment data back to a central coordination unit to reduce the time of data processing otherwise required with handwritten assessments. Note, consideration must be given to any local regulations, for example, some governments forbid the use of drones and or concerns from communities who are unfamiliar with these technologies.

Result 1.1: Post-disaster recovery informed by comprehensive understanding of disaster impact and local needs

Outputs

- Complete rapid post-disaster assessment
- PDNA assessments completed
- Requirements for more detailed assessments identified

Action: Assess post-disaster recovery needs

It is the role of national governments and governmental agencies to take the lead during large-scale disaster responses, but where coordination needs exceed governmental capacity, early recovery assessments and responses are supported by Humanitarian Global clusters[6]. These Clusters are activated with permission from the national government, who co-lead the response often with support of International Governmental Organizations (INGOs). The humanitarian actors including national government response teams, international search and rescue and engineering teams and NGOs (both national and international) undertake immediate rapid assessments of the damage and identify immediate needs for critical goods and services.

Responses to large scale disasters are guided by Post-Disaster Needs Assessments (PDNAs), which are initiated and led by national governments. The PDNA approach is an internationally accepted methodology for determining the physical damages, economic losses, and costs of meeting recovery needs after a natural disaster from a national perspective[7]. PDNAs help to quantify longer-term recovery needs after a large-scale disaster. PDNA's provide a comprehensive estimate of the funding needed, requiring national and often international support for large-scale disaster recovery - normally undertaken within five to six weeks following the onset of a disaster.

Further information about Post-Disaster Needs Assessment (PDNA)

The World Bank has produced an interactive and sequential online e-Learning on PDNA consist of four modules. The four modules address the following:

Module 1: Introduction to PDNA
Module 2: Context Analysis, Identification and costing of Disaster Effects
Module 3: Disaster Impact Analysis
Module 4: Identifying Recovery Needs and Formulating Recovery Strategy

Further Information and detailed guidelines and online training can be obtained from:
International Recovery Platform website www.recoveryplatform.org/pdna
https://olc.worldbank.org/content/post-disaster-needs-assessment-pdna-online-training

Under the PDNA, the clusters (sectors) have a standard system for assessing humanitarian and immediate recovery needs. These "rapid needs assessments" are conducted at local level by relevant "cluster members", with lead agencies acting as focal points for each cluster. This helps to ensure that humanitarian needs are understood and shared across disaster-affected areas. The assessments focus on two main perspectives:

i) Valuation of physical damages and economic losses; and
ii) Identification of human recovery needs based on information obtained from the affected population.

These assessments cannot be undertaken effectively without the close engagement with all relevant stakeholders including government line agencies, NGOs, civil society organizations and private sector entities, and most importantly local authorities which act as the coordination and assessment focal point [8]. The local authorities with other local actors therefore play a key role in undertaking rapid damage assessments, which support the PDNA and the development of the Disaster Recovery Framework as well as providing the foundation for localized disaster recovery plans.

Ensuring the correct assessment tools are used

There are various pre-established assessment tools and methodologies that have been developed and are used routinely in post-disaster contexts. Using these, adapted to the local context, enable a rapid estimation of the damage as a result of the disaster, enabling humanitarian responders to determine the immediate needs of affected communities. The results of these assessments should also feed into local government response plans.

Responses to a disaster may therefore benefit from various rapid assessment tools including: GFDRR's **Global RApid post-disaster Damage Estimation (GRADE)** approach[9] or the Inter-Agency Standing Committee's (IAAC) **Multi-Sector Initial Rapid Assessment (MIRA)**[10], employing either the UN-led disaster assessment and coordination (UNDAC) mission or UN Disaster Management Team (UNDMT). Whilst there are numerous approaches for assessment in rural and camp-based settings, post-disaster approaches adapted for the urban context specifically are less established[11]. However, the methodology recommended by the World Bank to '**Understand disaster and climate risk in cities** (Dickson *et al*, 2012) is a good example of a post-disaster assessment that can be used for urban settings.

In addition, there are a wide array of sector specific tools, as well as tools that are used to derive a better understanding of the impacts of a disaster and the status of local actors to respond. For example, the **Emergency Market Mapping and Analysis (EMMA)**[12] toolkit, which adopts a visual mapping approach, facilitates analysis of market systems to identify gaps in the market in order to develop interventions to support private sector actors and market development. There is also the **Pre-crisis Market Assessment (**PCMA), which is based on the EMMA toolkit which has been developed for market mapping and analysis in pre-crisis contexts.

Table 1.1 summarizes the different types of assessments, highlighting the focus of each one in relation to key questions and information to be collected. It is important to note that, as each disaster recovery situation is unique, it may not be necessary to utilize the full range of tools described below.

Table 1.1 Tools for assessing needs for disaster recovery

Pre- and post-disaster assessments	Key questions and information to be collected
Post Disaster Needs Assessment (PDNA)	A national perspective of the quantitative and qualitative losses, damages and how much it will cost for the long-term resilient recovery
Sector-specific detailed assessments	Details of sector-specific needs to plan and design recovery programs with available resources
Multi-Sector Initial Rapid Assessment (MIRA)	Critical needs and strategic humanitarian priorities during the first weeks following an emergency.
Emergency Market Mapping and Analysis (EMMA)	Impacts on market actors and supply chains of critical goods and services
Social Impact Assessment (SIA)	Social consequences, both positive and negative, of planned interventions and any social change processes invoked by those interventions.
Community-based risk and vulnerability assessments (e.g. HVCA, VCA etc.)	Level of risk of future events and how these hazards impact upon different sectors of society.

Action: Ensure disaster response meets the needs of everyone

Disasters can disproportionately affect some members of the community, including low-income, aging, those with functional and access needs and minority populations. These groups are more likely to be displaced and have more limited access to resources, mobility issues, or difficulty participating or being represented in recovery planning and community activities. The recovery process should evaluate the risk of these groups and their likelihood of displacement and establish a strategy for communication as well as a plan for ensuring equal participation in post-disaster recovery programs[13].

Outputs

- Complete social impact assessments
- Needs of vulnerable and marginalized identified

Prioritizing reconstruction planning to address the needs of socio-economically vulnerable individuals and groups contributes to a more equitable society. It is therefore important to understand potential inequalities and prevent discrimination of any kind on grounds of ethnicity, religion, language, sex, age or disability. If their needs are ignored, the poor and vulnerable are more susceptible to future hazards and shocks. Standard post-disaster needs assessments may not adequately identify varying perspectives or social dynamics, or the needs of vulnerable groups.

Carry out social impact assessments

Social impact assessments help ensure that interventions meet the needs of all, including the most vulnerable such as female-headed households, children, orphans, the landless, people with special needs, the youth and the aged. These assessments provide a means to ensure that the needs of socially, economically and physically disadvantaged groups are addressed in project planning and community recovery actions plans. For the assessments to be effective in supporting project planning, implementation and progress monitoring, there is a need to engage with affected communities as described in detail in Module 3.

Social impact assessments:

- Provide a deeper understanding of how people are affected and why they employ survival strategies.
- Ensure that needs of all individuals are voiced and accounted for.
- Look into livelihood restoration, including economic livelihoods and housing, psychological and communal recovery.
- Highlight amendments to existing policies at the local or national level which should be actioned.

For more information on the social impacts of disasters, see **"Analyzing the Social Impacts of Disasters, Volume I: Methodology1 and Volume II: Tools1", GFDRR, 2011** https://www.gfdrr.org/sites/default/files/SIAVol_II.pdf

Action: Adopt a multi-sectoral approach

Output

- Multi-sectoral assessments undertaken and fed into the recovery plan

Use sector-specific detailed assessments prior to project implementation

Table 1.2 provides details of key considerations to be included in the planning stage of disaster recovery related to a selection of sectors. Whilst some of these will be determined as part of the PDNAs, going through each sector in detail enables a more holistic and considered response with the aim of meeting the needs of all members of disaster-affected communities.

Once assessed, the needs identified in each sector need to be prioritized and form part of the recovery plan. The sector assessments will help determine any gaps in technical support at the local level and enable local governments to determine what support they need from national and international agencies.

Table 1.2: Planning considerations related to physical infrastructures and social sectors

Physical infrastructure	
Housing	• Selection of beneficiaries • Spatial planning and land availability • Supporting facilities including roads, power, water and solid waste management • Monitoring, evaluation and grievance redressing mechanisms • Land and property title or ownership agreements • Renting documentation • Existing construction technology.
Infrastructure	• Prioritization of sub-sectors such as roads, bridges, power, water, telecommunications, community infrastructures and WASH • DRR as integral for infrastructure reconstruction • Reconstruction as an opportunity to upgrade the resilience capacity of infrastructure • Environmental issues related to emissions and longer-term sustainability. • Availability of human resources for reconstruction • Public health considerations in settlement and infrastructure planning • Market assessments of the construction sector's capacity and dynamics • Local government and local technical resources.
Social sectors	
Livelihoods	• Access to cash and capital • Gender-responsive livelihood recovery • Role of the private sector • Decent living and working conditions • Sustainable and socially inclusive income-generating opportunities • Identify key sectors and services through market chains.
Health	• Opportunity to strengthen health services • Improve hygiene and sanitation facilities • Implement disaster preparedness measures to function during crises • Community-based programs such as mobile health clinics and community-based first aid training • Availability of medical staff and the funds to pay their salaries.
Education	• Improved quality of education and educational facilities • Availability of teachers and the funds to pay salaries • Competency of teaching staff to promote awareness on disaster preparedness such as school earthquake safety programs • Innovative adaptation measures such as boat schools for children to continue to attend classes during flood seasons • Integrate social safety net programs such as complementary feeding during drought or other crises, and incentives for bringing children to school.

Result 1.2: Post-disaster recovery ensures that communities are resilient to future crises

Action: Use risk assessments to 'build back better'

According to the United Nations' Sendai Framework[14], policies and practices for disaster risk management should be based on an understanding of disaster risk in all its dimensions considering hazard characteristics, exposure of persons and assets, and vulnerabilities within communities associated with different social groups.

As opposed to assessments for recovery purposes, risk assessments are forward looking and are integral for 'build back better' approaches to help ensure local governments are prepared for and mitigate impacts of future disasters. Risk assessments should include uplift based upon climate change projections so that recovery is in the right location and sufficiently resilient.

Outputs

- Risk assessments completed and mainstreamed into local government's disaster risk management and recovery plans
- Environmental Impact Assessment completed of large-scale planned works
- Risk and hazard information produced and available to the public

Strengthen infrastructure resilience by implementing environmental and technical risk mitigation and long-term planning measures

Infrastructure resilience and 'build back better' must be integrated within the design of recovery projects. An Environmental Impact Assessment (EIA) of all large-scale recovery works should be undertaken to ensure no detrimental effect from the recovery works, with mitigation actions taken as appropriate. Technical studies by academic institutions, national and regional technical teams can be commissioned to strengthen project designs and ensure long-term resilience to hazards. Various other risk assessment tools focus specifically on different elements of risk, such as the Hazard, Vulnerability and Capacity Analysis (HVCA) assessment[15] and IFRC's Vulnerability and Capacity Assessment (VCA).

Further Information

Build Back Better in recovery, rehabilitation and reconstruction

UNISDR. 2017, p.5: CESR www.preventionweb.net/publications/view/53213

Integrate community-based risk assessments into local development plans

Where available, NGOs and CBOs should be engaged in these assessments to ensure enough resources are available to complete the assessments, and local knowledge is applied. Ensure the use of traditional, indigenous and local knowledge and practices, as appropriate, to complement scientific knowledge in disaster risk assessments. The findings of these risk assessments should be embedded into local development plans to ensure risks are appropriately managed and community vulnerabilities and local leader capacities are accounted for.

Risk assessments in Colombia[16]

In Western Colombia, the Carillon de Cali project aimed to reduce flood risk associated with the rivers and drainage systems of eastern Cali, protecting the lives and property of 900,000 inhabitants. During the la Niña flooding in 2011, the flood protection dyke that protects the city was severely damaged. A collapse would have led to loss of access to potable water and the destruction of the sewage system. State and local governments realized the danger and commissioned a study to understand the risks. In response, they invested resources for dykes and for relocating people to safer locations.

The findings from these risk assessments should be embedded into local development plans to ensure risks are appropriately managed and community and local leader vulnerabilities and capacities are accounted for.

Share risk assessment findings

Local authorities have a duty of care to share disaster risk information with communities to enable them to understand identified risks and help develop mitigating actions. Information from these assessments, including hazard maps, should be publicly available and used for disaster risk management and recovery plans, and to promote inclusive land use planning. Risk information will additionally help communities and authorities address wider issues such as land tenure and land use planning processes to recover and help to prepare vulnerable communities living with the risks identified.

Result 1.3: Local institutional capacity assessed

Action: Assess local institutional capacity

Outputs

- Staff and assessors trained to conduct assessments
- Institutional capacity assessments completed
- Capacity assessments of local actors and community members mapped

In a post-disaster context, if the local government function is severely affected, it might not have enough capacity to manage recovery projects on its own. Conducting a rapid capacity assessment after a disaster will help determine what additional support is required for the local government to respond to local needs following a disaster including staffing, salary advance, resources, workspace and staff welfare facilities.

These assessments may also highlight the need for increased capacity-building within local governments which should be addressed as part of the recovery process. Note that these assessments should form part of pre-disaster planning, enabling the national government and local actors to understand and plan for any local government constraints to adequately respond to a disaster. Capacity assessments can also be used to identify budget shortfalls restricting local governments response.

Self-assessments

Self-assessments enable local institutions to identify their own strengths. capacity gaps, and areas for performance improvement. Straightforward exercises like a Strength-Weakness- Opportunities-Threat (SWOT) analysis – see **Table 1.3** - can quickly identify what works well, provide positive examples of recovery, available resources, opportunities, as well as potential threats.

Table 1.3: Rapid self-assessment template (SWOT analysis)

Strengths	**Weaknesses**
• *What works well in our organization?* • *Positive examples of disaster recovery in our area?* • *What resources and capacities do we have (identified by mapping capacity)?*	• *What does not work well in our organization?* • *What difficulties do we face in recovery or response to disasters in our area?*
Opportunities	**Threats**
• *What resources and capacities should we mobilize within our locality?* • *Which resources and capacities can we seek from others outside our locality?*	• *What barriers, threats and risks prevent effective recovery? Examples: conflicts within communities, neighboring villages, towns or districts, political bias for certain areas, corruption, remoteness and lack of access to authorities or exploitation of resources.*

Understanding the capacity of all local actors (including local government, institutions, civil society and private sector) will help to identify the overall strengths and weaknesses and respond to a disaster at the different levels. In order to determine the capacities of these local stakeholders, several assessments should be undertaken. These can highlight a range of factors from available resources and capacities of local actors to respond to disaster threats. Support should be requested from the national government and international actors to address these gaps as early as possible.

The assessments summarized in **Table 1.4** should help to answer the following questions

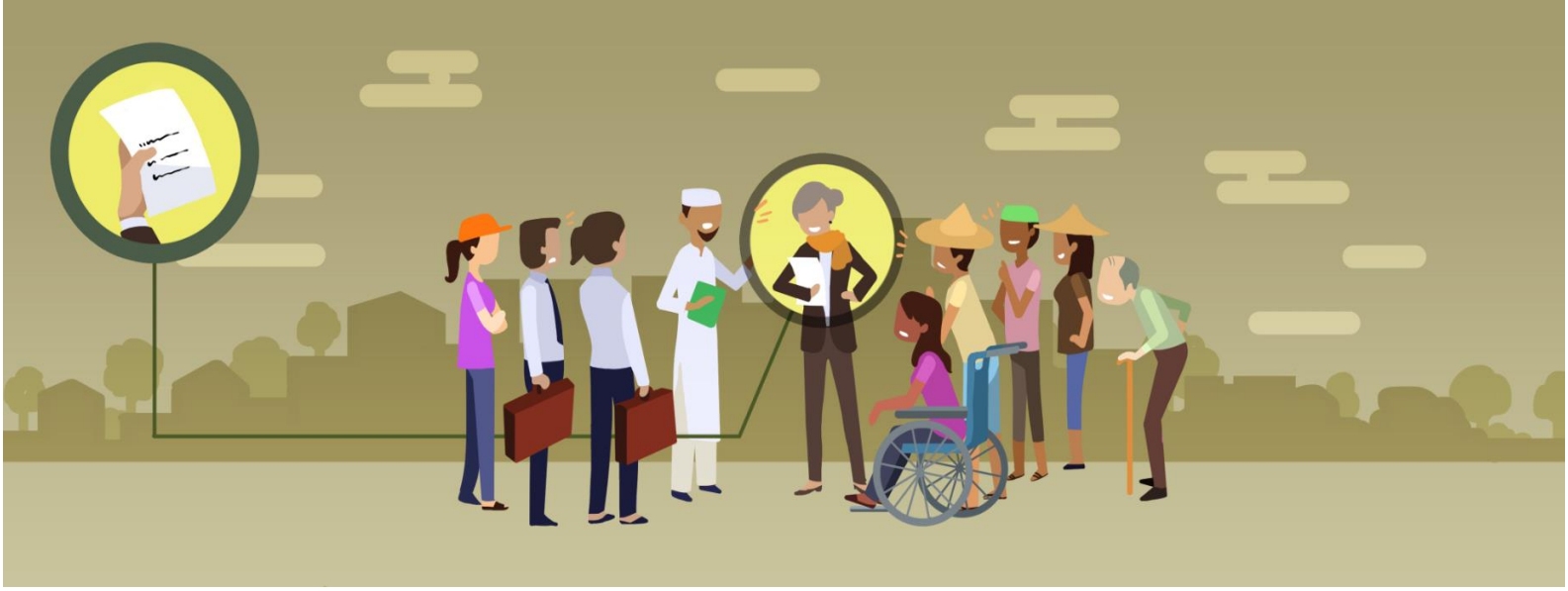
- *What are the capabilities of existing actors (identify leaders, planners, and supporters) and how can these be used for recovery?*
- *What capacities will be needed to implement recovery and what additional resources and expertise are required to provide additional support?*
- *Who can invest funds and who can develop financial plans? How to best channel recovery support to disaster-affected localities and institutions for both the immediate (humanitarian) and longer term (recovery) responses?*

Table 1.4: Tools for assessing institutional capacity for disaster recovery

Pre- and post-disaster assessments	Key questions and information to be collected
Local government capacity assessment tool	This tool developed by the UNDRR identifies the capacities that local authorities possess related to a) planning b) policies and regulations c) budgeting and accounting and d) partnership development.
Urban context analysis toolkit	The toolkit is a quick and adaptable assessment methodology that can be modified for different urban crises to identify stakeholders, governance and legal frameworks, sources of livelihoods, social networks to determine suitable entry points in order to improve the effectiveness and responsiveness of disaster response programs (IRC, 2017).
Political Economy Analysis	Political economy analysis helps to the understand the underlying political economy drivers that determine how governance and related institutions operate in different contexts (Poole, 2011).
Power mapping	Power mapping is used to identify the individuals to target to promote social change. The power mapping process entails the use of a visual tool to conceptualize the sphere of a person or group's influence.

Module 1 Checklist: Understanding local needs and institutional capacity

- ☐ Identify critical needs upon which different sectors might depend. For example, housing reconstruction might depend on availability of land, construction materials and workers.
- ☐ Consider psychological, social and economic needs alongside physical needs.
- ☐ Distinguish needs from wants, as disasters may increase people's expectations.
- ☐ Consider inequalities related to power, race, gender, religion, occupational and social divisions.
- ☐ Monitor how the situation changes as needs may change due to time and the seasons.
- ☐ Undertake vulnerability and capacity assessments focusing on marginalized and disadvantaged individuals and communities.
- ☐ Ensure stakeholders and communities are involved in identification and quantification of risk.
- ☐ Communities are not homogenous – consider how hazards impact different people in different ways.
- ☐ Validate risks using data from different sources.
- ☐ Share risk assessment findings with all stakeholders.
- ☐ Identify locally available capacities and resources of institutions and people.
- ☐ Allocate resources for assessing changes in people's lives before, during and after recovery.



Module 2: Establish Institutional Arrangements for Disaster Recovery

This module focuses on the importance of restoring and supporting local government functions and establishing institutional partnerships and engagement mechanisms to enable all actors to meet the post-disaster needs of affected communities. In this context, this module describes the roles that local actors can play in recovery, including the leadership and coordination role that local governments should have; with close involvement with communities and private sector actors, and support from other actors such as international partners.

In order to establish the recovery implementation process, Module 2 is structured around the following five actions:

1. Define roles in disaster recovery.
2. Restore the function of the local government and establish engagement mechanisms.
3. Prepare local disaster management plans based upon national policy and strategy.
4. Reconstruction standards and DRR guidelines are incorporated into the response.
5. Increase capacity of the local government to respond.
6. Monitor, evaluate and manage information for continuous learning.

The combined results of these actions are expected to: a) establish roles for disaster recovery (Result 2.1), b) build upon the results from the capacity assessments described in Module 1 (Result 1.3), and c) strengthen the capacity of local institutions to implement recovery processes (Result 2.2).

Result 2.1: Roles for disaster recovery established

The key resources for implementation are organization, leadership, authority, cash, flexible plans, overall commitment to the task at all levels, and a clear vision[17].

Outputs

- Stakeholder 'map' prepared
- Roles defined and agreed

Action: Define roles in disaster recovery

Successful local disaster recovery relies upon empowering local actors' ability to decide and implement their recovery efforts. As all local actors are affected by disasters, it is essential to prioritize their early recovery needs to support the development of locally appropriate disaster recovery interventions. Therefore, local governments, NGOs, the private sector and communities should be actively involved in planning to:

- Validate recovery vision and principles;
- Use assessment information to understand different actors' capacities, economic and social considerations;
- Establish sectoral priorities to address people's immediate needs and address sector-specific policy and planning issues;
- Develop guidelines and standards as needed; and
- Implement recovery that defines time-limited roles and scope of work of all recovery actors.

Engage and organize communities in deciding on their future actions

Effective participatory planning allows local governments to:

i) establish their position to lead and implement recovery activities;
ii) prioritize communities' interests and ownership in the recovery process and be accountable to these communities, and
iii) mobilize local resources and finances to support the recovery.

If local governments do not have the capacity to facilitate participatory planning, they should seek help from the national government and CSOs.

Stakeholder mapping to identify key stakeholders

Before starting with the implementation arrangements for recovery, actors' roles and resources need to be identified. A first step in defining the roles in disaster recovery will be to complete a stakeholder mapping exercise to identify key stakeholders. By doing this effectively, it will help to ensure that all stakeholders are included, ensuring buy-in as they will feel included in the planning process.

Define clear roles, standard operating procedures and code of ethics

It will be important to define the roles of each recovery actor and standard operating procedures, ensuring all local and external actors such as the private sector, NGOs, international and national organizations understand their role in the recovery process. There will also be a need to ensure that they understand their obligations as per the operating procedures and code of ethics and operate sensitively and professionally at all times. This will require due consideration of the ethical and political complexities and ensure social diversity to reflect the overall needs and views of the community(s).

Action: Restore the function of the local government and establish engagement mechanisms

In order to restore the function of local government, there is a need to establish basic operational functions related to logistics, communications and recovery of data, records and other key information without which local services cannot function.

The activities described below are focused on recovery activity, but if they can be established ahead of a disaster, this will save time and potentially lives.

Outputs

- Functions of local government restored
- Engagement mechanisms for all recovery actors established
- Framework agreements, MOUs and working mechanisms produced

Create a recovery network at local and national level

In-country experts, CSOs and the private sector should be included in the recovery network to provide support during recovery. Agreements with communities, community groups, leaders, national and local government should be formalized. External actors should sign memoranda of understanding with the local government to implement recovery projects.

Local and national coordination mechanisms are integrated

For large-scale disasters, when significant areas of a country are affected and external actors are supporting recovery, the national level focal point must identify local-level coordination focal points to ensure local and national coordination activities are integrated and reported together. This mechanism must be agreed before a disaster and set out within the local and national disaster management policy and institutional framework.

Develop partnership agreements between government bodies

Local authorities and ministries should have mutual agreements for seconding staff, equipment, resources and expertise from central, regional and local governments for recovery when required. For large-scale disasters, when government capacity is overwhelmed, external assistance must build national and local capacities. It is important therefore that external assistance understands the local context ahead of any disaster and engagement mechanisms for international actors need to be developed defining the roles they will fill in the event of a disaster.

Manage tensions and mediate conflicts

Local governments can play a key role in developing conflict-sensitive programs and ensure outreach recovery supports displaced populations that may otherwise be forgotten. There may be a need to introduce conflict resolution measures to ensure recovery works do not increase or create any conflicts or tensions within the community.

Establish a transparent recovery team with sectoral working groups for recovery management, coordination, monitoring and learning

People recovering from a disaster must have access to the local coordination team, be able to receive and provide information and participate in decision-making on recovery projects in their area.

Action: Prepare local disaster management plans based upon the national disaster recovery framework

Output

- Local disaster management plans prepared

National and local governments have distinct and complementary roles in DRM planning. The national level oversees defining the overall disaster recovery framework (DRF), coordination and legislation, allocation of funds, and deployment of the government budget.

At the local level, the government focus is more upon disaster management action planning, coordination of administrative and operational functions regarding preventative measures, emergency response and rescue, and recovery and reconstruction activities. These may include, for example, issuing and transmitting of information and warnings; safety drills, evacuation and rescue activities and contingency plans for supply and distribution of critical goods required during emergency situations.

Develop a phase-based approach for cross-sectoral recovery

This requires the establishment of a clear timeline and identification of resources required to implement cross-sectoral recovery plans. It is also likely to require cross-sectoral prioritization exercises during recovery planning before a disaster occurs to make decisions on how and which sectors to allocate resources to. This will enable the local government to plan the mobilization of additional resources for future stages of recovery.

As illustrated in the examples from India and Indonesia described below, the involvement of local organizations in recovery policy framework is required in order to enable recovery plans to be put into place. These need to be adopted by the key stakeholders at the local level to ensure buy-in from the outset.

Examples of local actor involvement in recovery policy frameworks from Japan and Indonesia

Japan has developed local and national disaster management policies and plans since 1961. Local governments are required to prepare local disaster management plans, while Designated Administrative Organizations and Designated Public Corporations are required to prepare disaster management operational plans based on the Basic Disaster Management Plan, which is revised biannually. Changes in national plans and policies are communicated immediately to the local level.[18]

In Indonesia, following the overwhelming impact of the 2004 Indian Ocean tsunami, existing government systems and processes in Indonesia were unable to cope. This led to the creation of the Disaster Management Law in 2007 and establishment of the National Disaster Management Agency (NDMA) in 2008. With support from UNDP, the NDMA developed guidelines for post-disaster rehabilitation and reconstruction. Under the new legislation, the community-driven resettlement and reconstruction model was mainstreamed; embedded in sectoral disaster risk management regulations with the support of ministries. In addition, 'Village law' allows communities direct access to funds for their Village Development Plans, enabling them to recover rapidly and reduce risks of corruption and bureaucracy.[19]

Action: Reconstruction standards and DRR guidelines are incorporated into the response

Output

- Reconstruction complies with guidelines, codes and laws

Reconstruction guidelines, building and infrastructure codes and land use planning laws must be reviewed and incorporated into local and national policies

All official guidelines, codes and laws should be considered when preparing the local disaster recovery action plan. For example, action plans should be integrated within updated land use plans. Existing development policies must be reviewed to ensure that risk areas are not built upon, with a provision for safer future settlements, protection of existing settlements and critical infrastructure. As part of the process, local leaders and technical inspectors need to be empowered to be able to complete inspections and insist on remedial works where laws and guidelines are not being adhered to.

Ensure disaster risk reduction guidelines are sustainable and coherent with local practices

Disaster risk reduction (DRR) measures for the recovery works must be realistic and relevant given local resources and practices. Community participation at the planning stage will help ensure DRR measures are relevant to the local context. For environmental sustainability, climate resilient infrastructure should promote transition towards to a zero-carbon future, rather than contributing further towards carbon emissions due to construction materials and supply chains.

Promote a 'safety culture' in institutions that extends to risk-aware communities

Promotion of a 'safety culture' depends on the demand for change, political will, scientific risk assessments and evidence-based research. For example, in countries such as Mexico, Chile, and Japan, disaster risk reduction culture is practiced in day-to-day activities, institutional structures are equipped to manage recovery from years of practice, resulting in changes and successive improvements to policies and an established practice of enforcing laws, building codes and safety procedures.

Result 2.2: Local institutions are capacitated to implement recovery processes

Action: Increase capacity of the local government to respond

Outputs

- Local actors are trained and technically equipped to plan, manage and implement recovery
- Additional technical assistance is provided
- Action plan to involve the community during planning and managing recovery developed

One of the most important activities to reestablish the functions of local government and other institutions is to repair office buildings and damaged facilities. In addition, local authorities should be provided with personnel and financial resources to play a key role in the recovery process. The capacity assessments referred to in Module 1 will determine what level of assistance is required in this respect.

In a smaller or localized disaster, communities are likely to either self-recover or seek assistance from local, regional and national governments. In this case, it is often civil society organizations (CSOs) who assess damages, losses and needs. Therefore, training must be provided to government departmental staff and local NGOs and CSOs to assess longer-term recovery needs. However, it may still be necessary to employ additional staff or second skilled staff from other non-disaster-affected areas.

When recovery is led by the central government, there needs to be a handover strategy during or at the end of the reconstruction phase whereby all rebuilt and newly-constructed assets to be managed by local government are identified, catalogued and communicated to appropriate local authorities along with information about operations and maintenance requirements as well as beneficiaries. Local institutions need to be capacitated to be able to take on board responsibility for asset management and operation of facilities build in the recovery phase.

As described below in the examples from Serbia and Senegal, a key to success is the role of both national and local leaders.

National and Local leaders in recovery in Serbia and Senegal

National leadership in Serbia: The 2014 floods in Serbia were a large-scale disaster. The national government appointed a recovery leader from a civil society background, who was neutral, well-reputed and not linked to intergovernmental bureaucracy and politics. Under his leadership, flood recovery was managed transparently. Government officers were conversely prosecuted for corruption and mishandling of recovery funds. Instead, recovery funds were managed by a newly established Office for Flood Affected Areas Assistance and Rehabilitation (FARO) and disbursed to local governments.[20]

Local leaders in Senegal: The Mayor of Dalifort took an active role in leading recovery activities following the 2012 floods. This followed his earlier role, before becoming a mayor, during the 2005 floods, when Mr. Diallo helped mobilize communities and local actors to manage emergency operations in his neighborhood. "Everyone's good will was needed", said Mr. Diallo. "*I wore my boots and led emergency operations as firefighters would do. I would help pump water until late in the night*". As part of post-emergency activity, his network of contacts and on-the-ground experience in risk prevention helped him to identify relevant stakeholders in local planning, including neighborhood representatives, religious leaders and voluntary organizations to initiate flood mitigation activities.[21]

Establish mechanisms to enable the local government to co-lead/co-manage relief and recovery with international actors

Although local institutions should always play an integral role in disaster response during large-scale disasters due to the scale of the impact, in practice, external bodies often take on key coordination and decision-making roles. For a local government-driven approach to be possible, pre-established agreements should be in place with the national government to ensure they support restoring local government functions; either by seconding government staff from unaffected areas or by providing resources to build their functional capacity to co-lead and manage disaster relief and recovery processes. This will require one lead coordinator in charge of the overall coordination, designated focal points for cross-sectoral coordination and defined terms of reference for those involved.

Essential functions and skills for recovery managers include:

- Coordinate and manage the team
- Demonstrate strong consultative and team-building skills
- Seek good practices. If not previously experienced in disaster management, experience of successful program implementation is a useful transferable skill
- Understand the importance of sustainable practices
- Mobilize and allocate resources efficiently
- Establish a transparent system and
- Manage conflicts within communities and overcome bureaucracy and competition.

Provide staff welfare support

Where required, fast-track recruitment and outsourcing of work. In recognition that working in a recovery context can be challenging, even more so for those directly affected by the disaster (particularly those who have lost their home or family members), staff welfare support for mental and physical recovery should be provided.

Secure technical assistance

Appropriate technical assistance will be required to support critical local government functions to ensure local disaster recovery is sufficient and coordinated with other activities such as local planning, financial management and disaster risk reduction measures. There may be a need to request support from other organizations such as the national government and other national institutions (such as the army as in the example from Pakistan described in the example below), and international organizations.

Engineering and army support for damage assessments[22]

After earthquakes in Chile, Haiti, West Sumatra in Indonesia, India (Gujarat) and Nepal, engineers were trained to rapidly assess housing and building damages. Using the army engineering corps in Pakistan enabled substantially more houses to be assessed than in other countries when using civilian engineers only as they could mobilize quickly and access difficult terrain. Six hundred teams assessed 600,000 damages houses across a vast geographical area in two provinces. Each assessment team had four members: one from the army, one local government officer who was often a teacher, one government revenue department representative to handle land records, and a community leader.

Strengthen institutional resilience by improving local implementation capacity

Institutional resilience must better prepare local actors to manage recovery. These local actors must have access to resources, training and other capacity building activities to manage disaster recovery with confidence.

Provide on-the-job skills development training to both local authorities and communities

This ensures not only that people are learning disaster recovery approaches and best practices, but also that they are earning an income and being provided with new skills to increase their own resiliency going forward and be able to seek work in a newly qualified skill; *e.g.* masons trained in earthquake resilient construction techniques.

Equip national and local government staff with tools, training and resources

National governments should c support the local initiatives, concerns and needs for recovery. For sectoral assessments, assessment teams (comprising governmental and other agency experts) should be trained by specialist organizations to undertake sector-specific assessments, in addition to the more general needs assessment.

Train staff in pre-disaster planning and post-disaster management

Training should be incorporated into pre-disaster DRR preparation to save time post-disaster and ensure a more thorough training program than would be possible post-disaster give the high strain on resources at this time. Training should be available for local disaster recovery managers and financial staff. Financial staff should be trained on funding mechanisms to acquire funds and seek opportunities from funding sources in the event of a disaster.

Other skills development training options are suggested below.

Skills development training options for local actors:

- Code of ethics and guiding principles for recovery to address needs of disaster-affected people with empathy and professionalism.
- Anti-corruption and monitoring measures to prevent financial, physical and social exploitation of disaster-affected populations.
- Assessment of risks, vulnerability, capacity, post-disaster needs and damages, and wider socio-economic impacts of disaster recovery.
- Community-based participatory planning and budgeting mechanisms, including enforcement of anti-corruption measures across all sectors.
- Data management, monitoring and reporting, use of equipment such as phones, and use of Management Information Systems (MIS) and Geographic Information Systems (GIS).
- Cross-sectoral project planning, management and monitoring that integrates climate adaptation, disaster risk management and social risk management frameworks by engaging multiple actors.

Action: Monitor, evaluate and manage information for learning

Outputs

- Transparent and accountable monitoring and evaluation systems are established
- Communities are included in participatory monitoring
- Recovery learning well-documented and shared

The initial task will be to develop a results framework to evaluate recovery performance in the areas of policy, institutions, planning, financing and implementation. Local and national governments should develop a performance evaluation matrix to generate dialogue, improve working relations and recovery performance. Regular follow-ups should be provided by the local government officials to ensure that assessors are familiar and confident to collect real-time and accurate information on recovery priorities and changing needs over time.

Monitoring and evaluation systems should be based on existing platforms or processes in place at the local or national level. Where an existing platform is not in use, involving local leaders (both governmental and non-governmental) is key to ensuring the development of a workable monitoring and evaluation system. Using a benchmark for measuring the recovery framework, program staff can then rank their recovery performance and define these results.

Use the local disaster recovery results framework to understand local recovery status and support real-time learning

Using the disaster recovery results framework, local and national governments should assess themselves as part of pre-disaster preparedness or they can reassess themselves during disaster recovery, or both. The results framework helps to understand communities' own recovery priorities as well as needs that are not being addressed by recovery programs, periodic social and environmental impact assessments should be undertaken at various stages of recovery[23]. These results must be evaluated to support resilient recovery and to promote capacity building to improve the resilience of communities and local institutions.

Monitoring the impact of Cyclone Nargis in 2008[24]

In Myanmar, the PDNA process was followed up after the cyclone Nargis disaster (Myanmar's biggest recent disaster in 2008) with impact monitoring developed by the World Bank two years, three years, five years and ten years after the disaster. Qualitative social and economic impact assessments such as Qualitative Social and Economic Monitoring (QSEM) and Social Impact Monitoring (SIM) are examples of continued post-disaster recovery project monitoring and assessment which enables both outsiders and communities to track and learn from the recovery progress. This revealed many gaps in recovery assistance and emphasized the need to strengthen community resilience.

Engage with communities in participatory monitoring processes

Effective monitoring benefits from engagement with communities to monitor progress from their perspective. Improved reporting to the recovery imlementing agencies will be achieved using social media, public messaging and various mechanisms for people to address and report concerns and feedback on recovery programs.

Visual audits in La Niña Recovery, Colombia[25]

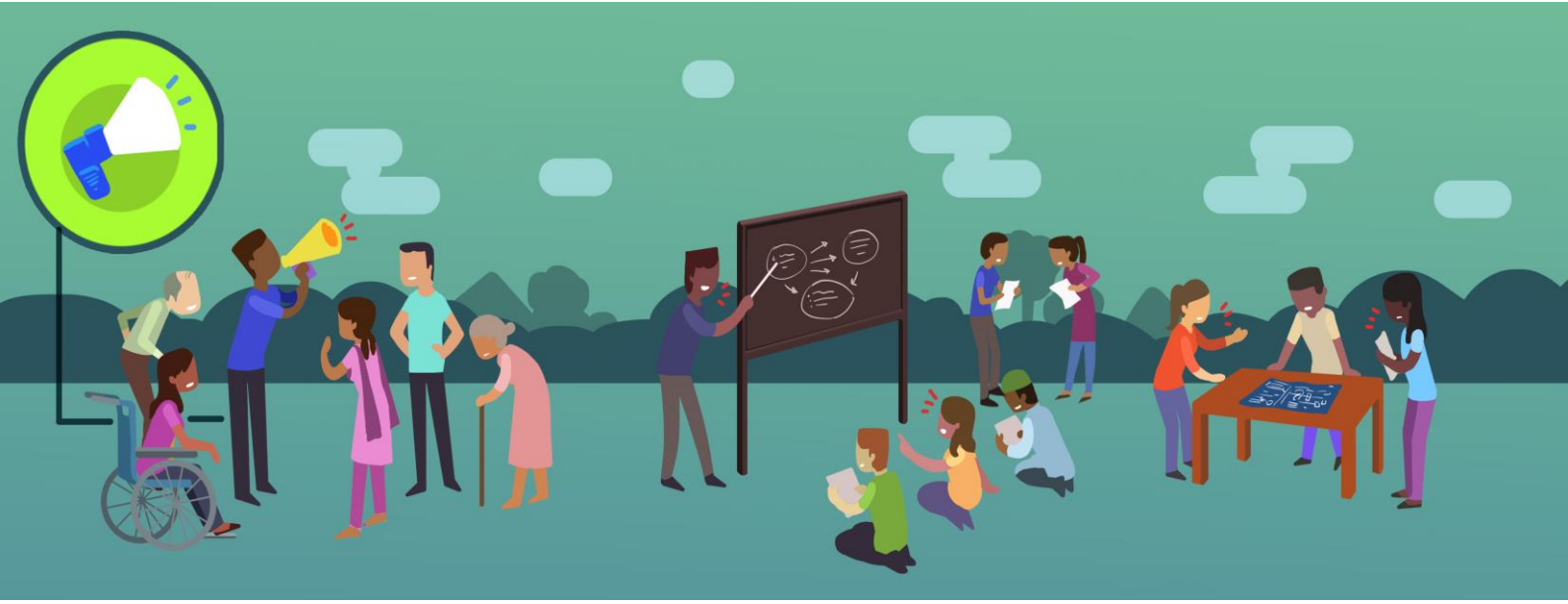
After the La Niña floods in 2010/2011 in Colombia, the Fondo Adaptación used what are known as visual audits to monitor project implementation, but also to boost actions that encourage proprietorship by the community and contribute to projects' sustainability. During different stages of reconstruction, local monitoring teams and the wider community were involved to ensure transparent and inclusive project delivery. This process was mandatory for every project. Community observation groups were required for every contract signed for the FA projects to ensure community participation, including ensuring project accountability and progress. Visual audits were implemented through forums with the contractor, local government and community. These were carried out at the start, during the project and at project completion. These forums were public assemblies, to which the community directly affected by the project was invited. Civil works have especially benefited from this strategy by including community feedback before and during construction.

Share experiences internally and across government to promote learning

Learning plans must be built into risk management practices. Staff must be able to record and log individual and program-related learning within reporting and monitoring systems and periodic reviews. Staff and community exchange visits to see various recovery activities in other provinces or states can help to improve the ongoing recovery program. Communities must be supported to share and learn from each other's experiences. Exchanges can be made among disaster-affected communities within or outside the localities. This will improve resilience by learning from different types of disaster recovery and by sharing experiences. National and local governments can help promote best practice in local disaster recovery across the country. The recovery coordination platform could also be used as a learning platform to exchange challenges and how to overcome them alongside best practices.

Module 2 Checklist: Institutional arrangements for disaster recovery

- ☐ Roles and responsibilities of all actors are determined – helping to increase transparency.
- ☐ Establish local disaster-specific recovery policies and guidelines in line with national policies.
- ☐ All local and regional governments know pre-established arrangements for collaborating with one another and other actors.
- ☐ Review recovery and disaster management policies and guidelines and revise them based on recovery performance.
- ☐ Be aware of the activities of international partners supporting the recovery.
- ☐ Ensure strong lines of communication with the ministry responsible for the DRF.
- ☐ Identify a strong leader to work with communities and other recovery actors.
- ☐ Ensure that roles of all recovery actors and implementation processes are well-defined.
- ☐ Support local initiatives and establish socially inclusive recovery processes.
- ☐ Community members are consulted and engaged in the recovery process.
- ☐ Local authorities and external recovery actors are informed of communities' and individuals' special needs.
- ☐ Build upon existing systems and resources.
- ☐ Support local government via staff training and technical assistance.
- ☐ Facilitate in organizing communities to respond and recover from the disaster.
- ☐ Invest in training assessors ahead of disasters.
- ☐ Monitor ongoing activities, learn from experience and update procedures.



Module 3: Engaging with Communities and Private Sector Actors

This module helps local governments to manage and coordinate with local actors as part of a collaborative and community-focused self-recovery process to 'build back better'. The module focuses on establishing a recovery implementation process based upon engagement with and coordination between community-based, non-governmental organizations and the private sector. In doing so, local governments should respond to the needs of marginalized and vulnerable groups, take action to manage tensions within and between communities, and 'do no harm' to avoid unexpected adverse impacts.

Result 3.1: Effective engagement with communities and the private sector

Recovery projects must integrate disaster risk reduction (DRR) measures as part of local development plans, building upon the community-based risk assessments and assessment of the capacities of local stakeholders undertaken in Module 1. In this process, engaging with local actors from public and private sectors is key to effective disaster response as well as building back better to reduce community vulnerability to future disasters.

In the past, infrastructure reconstruction has tended to dominate over post-disaster recovery. However, increasing priority is now given to the recovery of the lives and livelihoods in disaster-affected communities. This requires reestablishing market systems; requiring strong engagement and partnership with market traders and service providers. This enables the resumption of trading of goods and services and associated livelihood opportunities contributing towards sustainable recovery.

Action: Communicating with local actors

Output

- Communication strategy prepared

Establish a communications strategy when recovery starts

Recovery can be adversely impacted by the public perception of the handling of a disaster[26]. Local governments must therefore communicate promptly and accurately with other local actors and stakeholders during all stages of recovery. A communications strategy should therefore be developed to ensure a collaborative recovery process engaging effectively with CSOs, NGOs, and the private sector. Local government must also work with the media as a supporter of recovery processes, allowing accurate information to and from the communities to be shared.

A communication strategy is required for the following purposes:

- Government and other recovery actors need to understand the status of affected populations.
- Disaster-affected people need to know what to do to be safe, what types of recovery programs exist and where to seek assistance.
- Prepare communities for future disaster to protect people and assets.
- Raise awareness of risk reduction measures such as constructing in low-risk locations using disaster-resilient construction practices.
- Inform people about grievance redressal mechanisms so they know how to file their concerns over the recovery approach and works.
- Conveying information about the funding sources to the affected communities.
- Facilitate feedback from beneficiaries and disaster-affected communities concerning complaints, suggestions and gaps in coverage.

People should have access to information and monitoring reports to know the recovery progress

Regular monitoring reports should be publicly available (through websites, field offices, community bulletin boards, *etc*.) and in all relevant languages to ensure transparency and accountability between actors. Information should be made available to the public through media, communication campaigns and consultation.

Points to consider for effective community-focused communications:

- Appoint a communications manager who can train staff in effective communications.
- Use free/low-cost technology where possible including radio, flyers, megaphones, cell phones and social media – depending on local access to these services.
- Plan messaging and audience engagement.
- Use multiple engagement channels (do not rely on one network).

Action: Working with local communities and NGOs

*Effective disaster recovery requires strong community participation. Therefore, management structures must empower local people, but ensure harmonization with higher levels of government. But strong community participation needs to be balanced with a strong governmental role; both being essential ingredients for effective recovery (*Davis and Alexander (2016).

Outputs

- Local communities, NGOs and CSOs involved in recovery planning and implementation
- Improved capacity for communities to recover and build resilience
- Action plan to involve the community during planning and management of recovery

Involve the community in planning and recovery implementation

Involving the community at the outset and throughout the recovery process (ideally at the pre-disaster phase) will help to ensure not only a recovery plan better suited to the needs of the community, but also help to promote buy-in from the local community at an early stage. In post-disaster recovery, one of the key roles of NGOs and CSOs is to support communities through service delivery and capacity strengthening to advocate for policy reforms/enforcement of policies that will ultimately benefit these communities. Alongside municipal authorities, civil society organizations and NGOs should also be involved in preparedness as well as in post-disaster activities as illustrated in the example from Senegal below.

The role of CSOs and NGOs in flood risk management in Senegal

During the floods of 2009 and 2012 in Dalifort, civil society organizations partnered with the Mayor's office to raise funds for affected families. In Yeumbeul Nord, a voluntary local committee for flood management and climate change adaptation worked with the municipality to mobilize pumping equipment to evacuate water from the houses located in the low-lying areas where there are no drainage facilities. Before the rainy season, the NGOs and CSOs partnered with the municipality to carry out clean-up operations in neighborhoods where solid waste was not collected and build embankments to protect houses in flood-prone areas.

Supporting capacities for community-based recovery and resilience-building

Effective and sustainable recovery opportunities is achieved through partnerships between communities and local authorities. However, communities need support and resources for these partnerships to be successful. Local authorities must ensure that communities have adequate resources and skills, have access information to identify their risks and vulnerabilities, and can voice their concerns. To promote good practice, the establishment of recovery committees is recommended. These committees are likely to benefit from visits to areas and meetings with other community groups where successful programs have been implemented to learn from previous recovery efforts. The example below describes experience from India where community-based task forces were established for the purpose of cyclone preparedness as well as their active involvement in post-disaster recovery.

Community-based task forces in India[27]

The National Cyclone Risk Mitigation Project in India supported communities in forming community-based task forces so that they were organized and able to manage their own cyclone shelters. One NGO organized community-based disaster reduction activities and formed cyclone shelter management committees, which included both local government and community leaders. These committees are responsible for cyclone preparedness planning, evacuation drills and other disaster preparedness exercises. They also hold competitions among committees to promote improved performance and mutual learning. This approach brings together local people, the State and local government, helping communities to support themselves before, during and after the disaster, which reduced the loss of lives during Cyclone Phailin in 2013.

The role of NGOs and CSOs in upholding standards in reconstruction

Local NGOs and CSOs are an important stakeholder in planning and strategy setting for recovery as they work closely with communities and understand the local context. They play a key role in sustaining DRR awareness at the local level when recovery works are complete and national and international actors close their programs and leave the area. This is particularly relevant in ensuring that reconstruction efforts follow accepted engineering standards (*e.g.* for earthquake resilience) long after the technical expertise from national/international actors have left the area. Their active involvement is also important to ensure that communities adopt and continue to practice DRR measures. An example from Indonesia of the role of local NGOs in sustaining learning from reconstruction is described below.

Sustainability of earthquake resilience building codes in Indonesia

In the aftermath of the Yogyakarta earthquake, international and local NGOs responded rapidly because they were already implementing post-disaster response and reconstruction in Aceh. In the province, there is a DRR forum where NGOs can collaborate. As a result, INGOs already had a cultural understanding and engaged efficiently with local NGOs and universities involved in the Yogyakarta response and reconstruction activities. The continuing presence of NGOs, after international actors have left, ensures lessons learnt from the earthquake response continue to be implemented.

Action: Engage with private sector local actors

Outputs

- Engagement with the private sector established with framework agreements and MOUs developed
- Capacity strengthening of the private sector

As described in Module 1, many communities rely upon local market actors to provide a variety of goods and services to meet their basic needs both before, during and after a crisis. During reconstruction, the private sector is responsible for the design of structures and infrastructure, supplies materials, and performs the construction itself. It therefore plays a key role in supporting disaster recovery; often contributing significant amounts towards the cost of recovery and reconstruction.

Participation of the private sector in recovery works

If local, national, and regional economies are to grow and to be built back better after a disaster, the participation of the private sector in recovery planning and operations is of paramount importance. Engaging with market systems and private sector actors – both formal and informal – and the institutional and regulatory environments in which they operate is also an important activity during post-disaster recovery. As part of the process, there will be a need to provide quality assurance inspections and training to the construction industry and ensure financially transparent and accountable systems for local contractors. This can be ensured by measures such as mentoring of contractors, on-site supervision and staged payments.

The Emergency Market Mapping and Analysis (EMMA) and Pre-crisis Market Mapping (PCMA) tools described in Module 1 provides the basis for understanding who the market actors are and the supply chains that provide goods and services to their customers. Market engagement takes place through different modalities which broadly speaking correspond to a) immediate emergency response/preparedness, b) protracted crisis response/contingency planning, and c) post-crisis rehabilitation/resilience. These modalities are described below:

i) Using market systems is generally best suited to emergencies where market systems are still functional. Local government should identify private actors whom they want to work with and establish formal arrangements through framework agreements and memorandums of understanding (MOU) to ensure accountable ways of working together. Under these framework agreements, local market actors/suppliers can then supply commodities to affected communities to meet their essential needs.

ii) Supporting market systems. Market support actions are required in post disaster responses to re-establish supply chains/essential services and help existing suppliers and service providers recover from the impact of a shock. This is often done through grants to rehabilitate facilities and repair/replace damaged equipment. In pre-crisis situations, market support actions enable market actors to increase their resilience and emergency preparedness through the preparation of business continuity plans.

iii) Developing market systems requires longer term engagement with market actors as part of pre-crisis or post-disaster recovery and requires close cooperation and support from governmental institutions. Market development may involve the strengthening of suppliers/service providers through training, development of public–private partnerships (PPPs), and support to trade associations for business/enterprise development.

The expected benefits of these PPPs include:

- Enhancing both the government's and the private sector's ability to recover from financial losses; loss of market share; and damage to infrastructure, equipment, products, or business interruption by assembling resources and forces and making preparedness a win-win option.
- Facilitating the government's job by making compliance with regulatory and safety requirements everybody's concern. PPPs can also increase oversight to prevent corruption, which remains a major risk in post-disaster responses.
- Reinforcing social bonds among community members, local governments, and the business community.

Result 3.2: Effective response to the needs of marginalized and vulnerable groups

Outputs

- Social risk management framework mainstreamed within recovery
- Tailored or adaptive social protection and safety net programs available for post-disaster recovery
- Conflict resolution measures implemented

Action: Mainstream social safety net programs

Safety net programs are part of a broader social risk management framework and are designed to reduce people's vulnerability to ongoing shocks and stresses. The ***World Bank's Social Risk Management Framework*** provides guidance for ensuring the overall risk management framework is well-integrated with the social risk management aspect of recovery[28].

As listed below, there are various examples of social safety net programs that governments can utilize. These programs must establish accountable monitoring procedures to ensure that people are not exploited by local elites or hindered by complicated registration systems when seeking assistance.

Options for social safety net programs[29]:

- Cash transfers and conditional transfers to specific target groups.
- Food voucher or free food distribution for relief for the most vulnerable.
- Direct feeding programs to prevent malnutrition.
- School-based food programs to encourage poorer children to attend school.
- Food stamps or vouchers.
- Price subsidies for food, water, electricity, public transport and rent.
- Costs for health and education services waived.
- Subsidized agriculture products such as seeds, fertilizers and tools to increase crop cultivation.
- Public works programs for emergency relief, and short works to rebuild schools, houses, clinics, water and irrigation networks and roads.
- Social health insurance with the government.
- Microfinance, credit and savings groups created for social protection and entrepreneurship; sometimes linked with micro-insurance and training.

Action: Develop accountability mechanisms

Ensuring local actors understand and use key elements of the accountability framework

There is a need for a clear reporting mechanism to enable people to have direct access to local and national authorities to address any concerns on recovery progress.

As shown in **Figure 3.1**, it is important for both local government and those doing recovery work to be accountable to citizens/clients (local communities) and for local communities to be able exercise this accountability. Training and orientation sessions on accountability mechanisms should be developed for local actors to understand and apply them in project planning, management and monitoring.

Outputs

- Accountability framework developed
- Management Information systems established
- Monitoring methods developed
- Communication and information management systems used at all recovery stages

Table 3.1 below looks at communication, information management and monitoring systems which can be utilized to uphold lines of accountability.

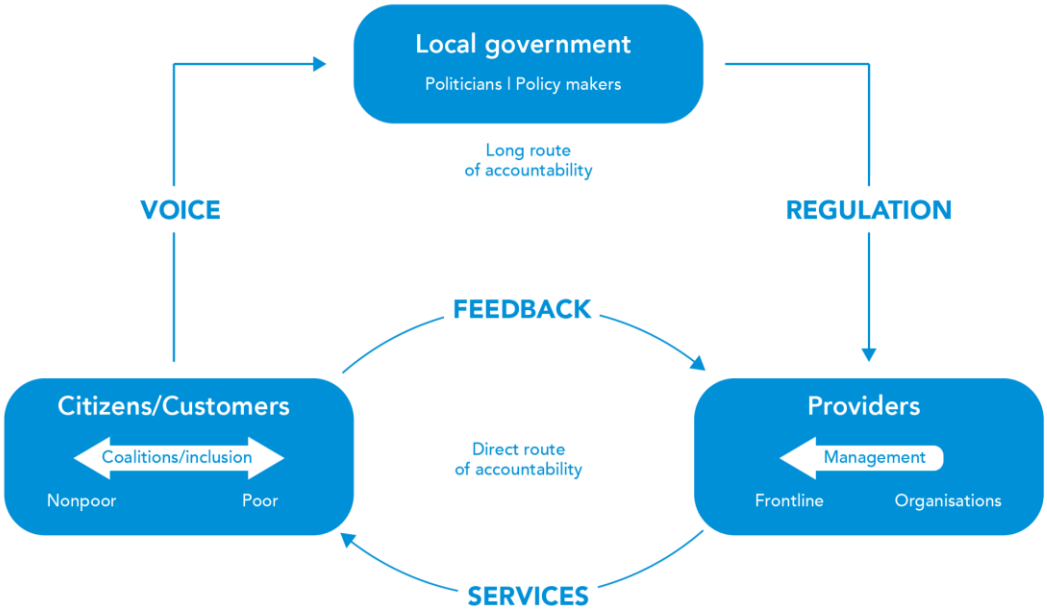


Figure 3.1: Accountability framework (adapted from the World Bank Development Report, 2003)

Develop participatory monitoring and evaluation systems

Communities should be engaged for feedback and verification on the progress of recovery projects. This engagement may be in the form of regular updates through forums and surveys, or a more structured community monitoring system can be set up from the outset. (See more on Monitoring and Evaluation in Module 2). Community dialogue, training and awareness of rights should be integrated into an accountability framework and special attention should be paid to protecting the rights and needs of disadvantaged groups.

Introduce anti-corruption measures[30]

Inadequate systems for procurement and control will result in inadequate use of resources and corruption and will erode public confidence. Therefore, a checklist for undertaking anti-corruption measures should be completed to help financial planners and managers.

Government should establish a user-friendly and transparent Management Information System:

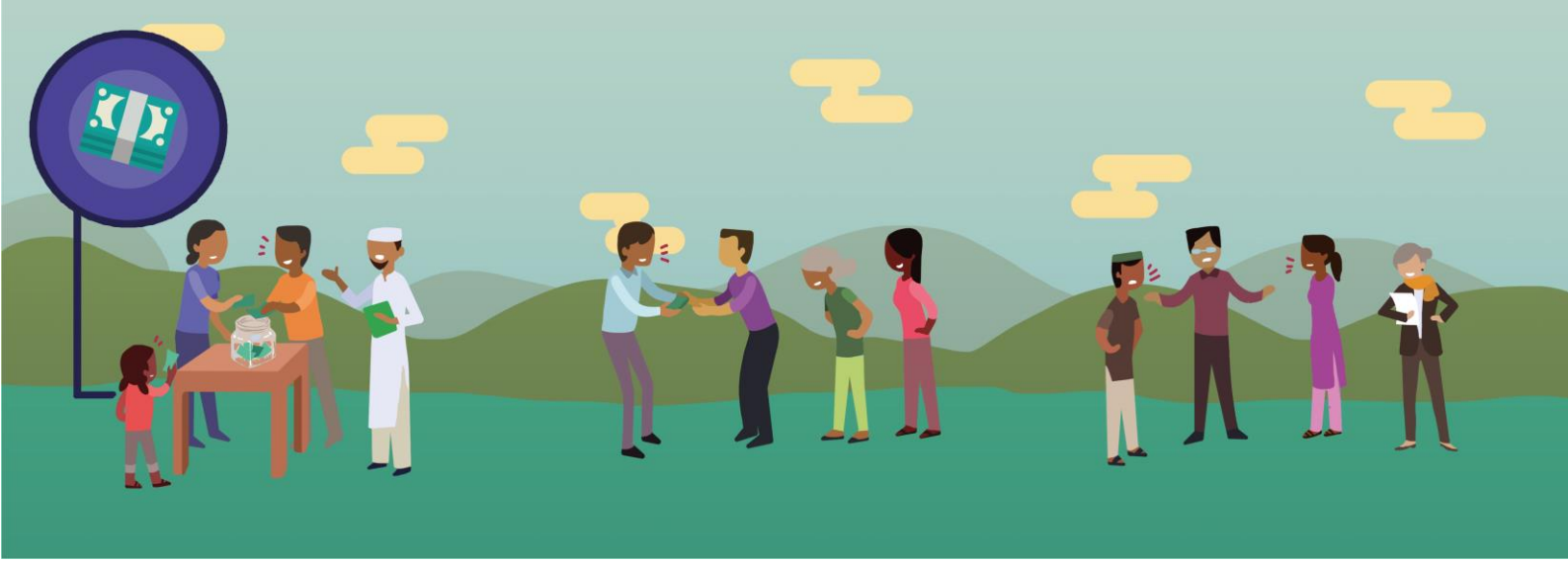
- Respond to national government reporting requirements. There should be synergy in reporting to avoid duplication and allow for more efficient and effective reporting systems.
- Ensure that data collection does not replicate existing efforts. Build upon existing systems and ensure that gender, age and ethnicity-disaggregated data is collected to respond to needs of disasters in the future.
- Establish a team for collecting, analyzing and communicating information and lessons.
- Track individuals', communities' and localities' progress over time**.** Update tracking systems regularly to understand the progress of recovery assistance and people's movements. Link this system with grievance and feedback mechanisms so that people can observe their status updates. Use of a tracking system will also help to enforce anti-corruption measures.

Table 3.1 Communication, information management and monitoring systems to uphold accountability[31]

Element	General recommendations	Recommendations for local governments
Monitoring of expenditures against results	Public financial management (PFM) systems can serve this purpose, but timelines within the recovery process can be challenging. Systems can instead be tailored to the recovery process. National governments must include natural disasters in their statements of fiscal risks and should also develop and strengthen guidelines for fiscal risk disclosure and management that includes natural disasters.	Use nationally led initiatives for monitoring of expenditures against results. Ensure that information is accessible for communities. Also, tailor PFM to suit local governance systems at respective governance level (village, district or council level) and to respond to recovery demands. The national government must conduct concurrent audits of local government operations. All funds should be tracked against results.
Reporting on progress	Reporting occurs within national and local governments and to the affected population(s) and public. Address progress reporting in the communications strategy. PFM systems produce relevant information, but outputs are unsuitable for public use, so alternative systems may be required. Recommendations for actions are an essential part of the reports. Reports should provide field updates on the status and implementation and identify specific locations for each project.	A reporting strategy is essential. Ensure that all implementing partners report progress. Special reporting may be needed, for example with donors. Share information with communities and other stakeholders. Ensure access to information (through community meetings and communications such as leaflets, notice boards, community media, radio and newsletters) to inform people about recovery implementation works criteria for selection of projects, and to publicize the availability of grievance redress mechanisms.
Preventing corruption	Channels for whistle blowers, financial auditing systems and mechanisms for community/third party oversight.	Advertise reporting channels to communities. Implement mechanisms for community/third party oversight. Use of private sector as project management and control can strengthen systems, but risk of collusion/corruption must be minimized.
Grievance redress	Require grievance redress and feedback mechanisms in all projects that assist households and community infrastructure. Provide grievance redress standards for implementing agencies.	Grievance redress systems should be widely available to communities. Local governments in rural and urban areas should ensure the system is clear, escalated appropriately, and corrective action taken. Personnel dealing with the systems must have authority to deal with grievances.

Module 3 Checklist: Engaging with communities and private sector actors

- ☐ Mobilize communities and facilitate participatory planning, budgeting, monitoring and evaluation activities.
- ☐ Provide technical support to local and national governments on establishing accountable systems to implement and monitor recovery activities.
- ☐ Mobilize resources from within communities and skills for self-recovery.
- ☐ Support the marginalized and hard to reach members of society.
- ☐ Provide support to enable businesses and market traders provide a key role in recovery and reconstruction.
- ☐ Support community groups to help themselves with their psychological needs including bereavement and trauma.
- ☐ Engage vulnerable and disadvantaged people and groups into program design, decision-making and advocacy.
- ☐ Accountability framework should be developed with a plan for information management and monitoring.
- ☐ The use of smaller contracts to inject cash into the local economy are encouraged as they are less prone to large-scale corruption inherent with larger contracts.
- ☐ Cash transfers are distributed where appropriate using cellphone technology – helping to minimize corruption and encouraging personal banking.
- ☐ Careful record-keeping maintained - creating an obstacle to corrupt practices.
- ☐ Resolve conflicts (that may arise in unequal recovery assistance) within the communities or with neighboring localities.



Module 4: Financing for Disaster Response and Resilient Recovery

Local governments play a key role in managing the costs of recovery and mitigating the impacts of future disasters. Local governments may provide direct support to communities and affected business, but in many cases, recovery is reliant upon self-help and assistance from international agencies to support the reconstruction of infrastructure and rehabilitation of public services. In this context, this module focuses on funding sources and financial mechanisms for disbursement of funding for post-disaster response and resilient recovery.

There are three main tasks covered in this Module for financing post-disaster response and recovery related to:

i) economic quantification of damage caused by the disaster and preparation of recovery budgets;
ii) identification of sources of funding; and
iii) establishment of mechanisms to manage and track the disbursement of financial assistance.

Result 4.1: Funding sources and financing mechanisms developed

Action: Derive budgets for response and recovery

In the aftermath of a disaster, governments are confronted with the challenge of determining the overall economic impact in order to gauge the magnitude of the event and estimate the cost of recovery and reconstruction. Supported by the results from the PDNA (see Module 1), the Ministry of Finance will normally prepare estimates of the overall costs from a national level perspective. Damage assessment committees can be established to determine the extent of losses and quantify the resources needed for specific recovery and reconstruction activities[32].

Outputs

- Assess damage and recovery costs
- Costings for recovery interventions
- Recovery budgets developed and approved

Widespread damage estimates over large areas are increasingly improved in terms of speed and accuracy using remote sensing and innovative technologies. However, local on-the-ground assessments are often required to provide a more detailed picture of the requirements and costs of localized recovery initiatives. At the local level, traditional rapid appraisal methodologies and techniques such as transect walks *etc*. remain effective approaches to derive estimates of financing needs for recovery.

Damage therefore needs to be valued firstly in physical terms considering the extent of the impact and the number assets affected. The cost of reconstruction or replacement according to the market price before the disaster should be adjusted according to post-disaster price alterations and improvements associated with risk reduction and 'building back better' for the calculation of reconstruction costs.

Assets in the damage inventory should include both:

- *Public assets:* e.g. roads, drains, water supply systems, bridges, public schools, community infrastructure, hospitals, etc. and
- *Private assets:* e.g. houses, small businesses, churches, crops and livestock etc.

In addition to direct losses related to these assets there are also consequential indirect losses that are harder to quantify. For example, a school destroyed by disaster results in the direct loss of a school building, but there are also additional indirect losses related to education opportunities. There is a need to consider both types of losses using quantitative and qualitative information collected by different actors to assess the scale of funding requirements.

In addition to recovery finance there is also a need for funding to increase community resilience to and preparedness for future disaster events. This may include for example:

i) Disaster risk reduction works *e.g.* planting of grass and shrubs with a deep root system to help keep topsoil in place during floods.
ii) Developing an early warning system to ensure the community is warned of potential disasters before they strike.
iii) Support to establish and train disaster preparedness committees.

Action: Identify funding sources for local recovery

Output

- Funding sources identified

Local authorities should take a lead in the identification of potential funding sources for a) humanitarian response, b) recovery and c) resilient finance to building back better. Local public financing from the municipal budgets should be the primary funding source for local-level recovery works. However, local governments are frequently dependent upon emergency funds from national government or from international donors to cover the cost of reconstruction and recovery.

Figure 4.1 illustrates the different sources of finance related to these three categories, indicating the need for coordination to ensure that one form or financing is replaced by another source during different stages of the disaster-recovery cycle.

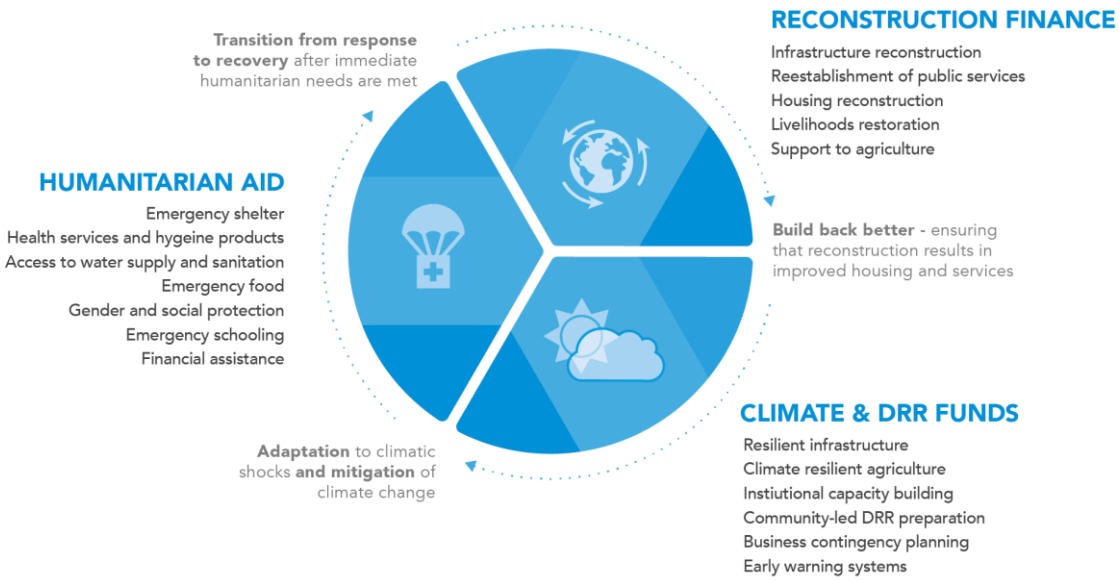


Figure 4.1: Finance sources to support resilient recovery

Government funding sources include local governments' own capital budgets and bonds and from national budgets, contingency funding and insurance schemes. Municipal budgets should be developed to include specific allocations for emergency response and disaster recovery. These should reflect historic and anticipated future funding requirements and allow funding to be reserved for future years where it has not been used.

External sources include donors, NGO assistance or international financial institution loans (IFIs). Whilst IFI loans and grants will be part of national/state/local budgets, other external funding, such as INGO assistance, will be channeled directly to communities. In addition, private funds will be deployed from a range of sources including charities, religious organizations, foundations, patrons, the private sector (corporate social responsibility), remittances and private donations.

"…around 87 per cent of all funds targeted at disasters at present is aimed at post-event recovery and relief, with only 13 per cent on resilience building." (World Disasters Report 2016 p. 79) In most contexts, less finance is available for more complex, longer-term recovery activities than for early humanitarian relief. The lack of post-disaster finance can slow down the return to normalcy, prompting households and firms to rebuild more quickly - often at the expense of quality and long-term asset management.[33] However, increasing funding is available for local level from climate funds for either adaptation projects to increase resilience or mitigation projects to contribute towards tackling the problem of climate change.

Table 4.1 summarizes the various types of funding sources and financing mechanism for disaster recovery actions at local level discussed in this Module.

Table 4.1 Summary of funding sources and financing instruments

Government led recovery supported by funding from bilateral donors or NGOs	Donor funding commitments for recovery are often made during donor pledging conferences or through direct communication with donors. Because donor recovery funds are often reprogrammed from existing development programs, national governments should require that recovery activities support long-term development objectives.
Multi-lateral humanitarian funding	Funding from the UN Central Emergency Response Fund, flash appeals, or other resource mobilization activities organized by the IASC are meant principally for humanitarian response and managed at the national level. Governments can request that funds are spent on early recovery and work to minimize duplication between international and national emergency funding, leaving more local funding for recovery.
Contingency funds	A contingency fund is a reserve fund set aside to handle unexpected expenditures, such as those related to disaster recovery. Governments, private businesses, and even individual households can establish and maintain a contingency fund as part of the overall financial plan of operation.
Disaster risk insurance	Disaster risk finance insurance helps to the strengthen the financial resiliency of governments, businesses, and households to the effects of natural disasters. It reduces reliance on reconstruction loans from IFIs, which can impact on long-term fiscal independence and resilience.
Community based self-help funding	Community based self-help funding can strengthen community organizations and empower them; supporting long-term resilient recovery. But accountability systems might not be able to record disbursement of funds and local governments can be sidelined.

Safety net, microfinance and microinsurance	Safety net measures can come from local and national institutions – either governmental or non-governmental organizations. These financial assistance instruments are longer-term measures, which enable poor communities manage during times of post disaster or crisis. Safety nets are focused particularly upon the poorest households, the socially marginalized and are often targeted towards women.
Foreign remittances, formal and informal arrangements	The majority of disaster recovery responses are initiated by people themselves often supported by their families working overseas as remittances. The private sector and government can assist in fast-tracking money transfer facilities following a disaster (banks and cellphone companies have been proactive in Bangladesh to ensure reliable remittances).[34] Built on trust, accountability and ownership. An important part of recovery; remittances increase in response to natural disasters in countries that have many emigrants such as Haiti, Bangladesh, Nepal, Sri Lanka, Ethiopia, Burkina Faso and Ghana.[35]

Action: Develop financing arrangements for local government-led recovery

Contingency funds for disaster response and recovery

Outputs

- Contingency financing plans
- Risk transfer instruments instigated
- Financing strategy for building back better

In a government setting, contingency funding forms the basis for disaster recovery or disaster assistance funds. Provided the scale and nature of the event meets the criteria for disbursement, these funds enable governments to assist to local authorities, and subsequently for municipalities to support citizens and business after a disaster occurs.

Contingent financing gives governments rapid and low-cost access to funds for disaster relief and recovery, which can be derived from sources:

i) ***From national government –*** yet to be disbursed budget allocations can be accessed immediately and disbursed to local governments for disaster response actions. Internal reserves and innovations, including bonds, within local or national governments provide flexibility in the event of a disaster.

ii) ***From IFIs*** - financed under existing investment loan from an IFI, a contingent emergency response component allows rapid reprogramming of the loan funds following a disaster. For example, the Catastrophe Deferred Drawdown Option offered by the World Bank associated with a development loan providing a contingent credit facility that may be deployed after an emergency has been declared.

Risk transfer instruments

Disaster insurance and compensation arrangements encourage public and private risk reduction and recognize the benefits of utilizing the capacity of national and international (re)insurance and capital markets to absorb disaster losses. There are various types of catastrophe risk insurance schemes focusing on different assets such as property, agriculture, and social protection schemes, which operate in different ways depending upon the recipient. Risk transfer instruments can play a fundamental role in reducing the economic impacts of disasters, but the only sustainable way to reduce disaster impacts over time is through investments in risk reduction and building resilience against disaster risks.

Financing instruments to build back better

A disaster risk financing strategy is therefore a central component of a comprehensive approach to disaster risk management and sustainable development and should be anchored in an integrated framework of hazard identification, risk and vulnerability assessment (as described in Module 1), risk awareness an education, risk management, and disaster response and resilient recovery[36].

An integral part of building back better recovery is to ensure that investments in infrastructure consider operation and maintenance requirements and associated costs. The example in the box below from Odisha shows how the establishment of community committees play a key role in ensuring that there are sufficient funds available to pay for solid waste collection and drainage system maintenance to mitigate flooding.

Community-managed funds for solid waste management and operation and maintenance of drainage infrastructure in Odisha, India[37]

After Cyclone Phailin in the state of Odisha in 2013, the government constructed relocated settlements with cyclone-resilient houses for those who were living in the high-risk coastal zone and who had lost their homes due to tidal surges and cyclones. Many of these new settlements were formed by different communities coming together. Therefore, new communities evolved. The government, with the help of a local NGO, established community committees to be responsible for looking after operations and a maintenance fund, by collecting money from each household. The funds are used to pay utility bills for water and electricity. The committees also ensure that solid waste management and drainage issues are addressed by negotiating directly with local authorities and responsible government departments.

Action: Financing for households and communities

Outputs

- Humanitarian financing for emergency response and recovery
- Safety nets in place for poorest households
- Financing for community-based resilient recovery

There are various financing mechanisms that may be utilized at local level to provide direct assistance to households and community groups. As well as meeting immediate basic needs, the aim is to invest in livelihoods and income-generating efforts that give people control of their futures. This requires an inclusive approach to funding allocations considering physical, economic, social and psychological recovery.

Local and/or national governments can create financial support schemes for enhancing people's resilience often with the support from non-governmental and private actors. As described below this can be achieved in various ways either through humanitarian financing for emergency response and recovery, financing for social risk mitigation or for community-based resilient recovery. These are either within the national government's control (on-budget) including existing funds often with external financial assistance as described above or financing goes outside of the municipal accounts and not managed by government (off-budget).

Humanitarian financing for emergency response and recovery

i) ***Cash transfer Programming (CTP)*** Community based or individual recovery funds supported by "cash transfer programming" involve commodity vouchers (conditional or unconditional) or multi-sector cash grants that enable families to procure the goods and services that they need from local markets or service providers. NGOs may also transfer cash to people's bank accounts or distribute conditional vouchers for people to obtain basic commodities such as food and water.

ii) ***Direct support to communities from private finance*** These schemes rely upon crowd funding and diaspora contributions often with partnerships with CSOs or a consortium. There are many examples where communities have organized themselves with CSOs with support from government to promote the scheme.

Social risk mitigation through safety nets, microfinance and microinsurance

Ensuring the needs of vulnerable people are considered ahead of a disaster, must consider the capacity of the very poor to access such funds. Local actors should be encouraged to write off loans in areas with significant damages such as agriculture and stockbreeding. In protracted disasters resulting in longer-term displacement, migration and loss of livelihood, microfinance and microinsurance schemes and community-scale revolving funds can improve resilience. Both governmental and non-governmental organizations can offer social welfare options, subsidies, or micro-insurance at lower than market rates. This may include insurance for farmers from drought and flood, for fishermen in cyclone-prone coastal areas. The box below provides examples of safety net programs in Kenya and Ethiopia.

Safety net programs in Bangladesh, Ethiopia and Kenya

One of the most renowned safety net schemes include pension schemes and savings schemes for the poorest of the poor, especially for women was established by the Grameen Bank in Bangladesh providing loans for building flood-resilient houses, restoring livelihoods, and purchasing land. Loans can be taken individually or through self-help groups of individuals who can support one another for disaster preparedness and recovery plans. The scheme has been replicated globally, including in the US, to help people self-recover after Hurricane Katrina by taking microfinance loans. Other safety net schemes programs include the *Hunger Safety Net Program* in Kenya and the *Productive Safety Net Program* in Ethiopia enabling governments to move from a relief and food distribution approach towards resilient recovery.

Community-based resilient recovery

Financing for community-based resilient recovery enables communities to have direct access to recovery fund and is targeted at those who cannot access formal banking and insurance schemes. As described in the example below, there are various types of scheme including community-based self-help groups, revolving self-help funds in which civil society, the private sector and local government collectively raise funds and manage them.

Financing for community level recovery in Indonesia and Thailand

Indonesia's "Village Law" enables communities to apply for development and recovery funds directly from the national government. They must collectively submit proposals to the national government presenting their development plans. This model called "Rekompak" has helped many communities to recover after the Yogyakarta earthquake in 2006 and Merapi volcano eruption in 2010[38]. Another source of community development financing is provided by the Community Organizations Development Institute (CODI) in Thailand, a public organization that offers microcredit through a revolving fund. The Baan Mankong (meaning "secure housing") program supports urban communities access funds to improve settlement conditions in urban slums, protect against threats of eviction, arrange land tenure agreements, and prepare and prevent settlements from natural disasters.

Result 4.2: Budgets and disbursement mechanisms developed

Action: Define responsibilities and share of financing

Output

- Cost-sharing/co-financing agreements prepared

Local governments should know how to access various national funding sources

This should be clearly set out within the national Disaster Recovery Framework (DRF) and include instruments that do not require advance planning such as budget reallocations, domestic credit and tax increases. It also includes donor assistance and financial instruments that require advance planning as 'calamity' or contingency funds and risk transfer mechanisms.

Strong coordination between financing for humanitarian and development (including building resilience) needs is required

Both national and local governments should define a financing mechanism that seeks a smooth transition from emergency response funds to long-term recovery funds. The financing mechanism must address short, medium and long-term financing needs.

Ensure collaboration between funding sources

The humanitarian response focuses on rebuilding capacity to help people move from dependence on humanitarian relief towards development. Resilience finance must be incorporated into recovery planning to reduce communities' vulnerability to future disasters. It shares significant priorities with resilience building recovery efforts financed through development and humanitarian assistance, including prioritization of livelihood and lifesaving activities, food security, agriculture, access to water and infrastructure services.

Define the scope of local and national government liabilities related to natural disasters

National/state-level funds may not be enough to finance all losses, either by the local government itself or wider community efforts such as compensation to assist with indirect losses and impacts of natural disasters. Defining the scope will help to identify where additional assistance is required.

Develop a framework to share costs between central and local governments

This can improve the efficiency of resource allocation. It will incentivize government authorities to invest in reducing risk by, for example, purchasing appropriate insurance cover. The sharing mechanism may trigger promotion of programs to build capacity within local governments to reduce liabilities.

Specify the contribution from local actors

This may differ by sectors, types of assets, type and severity of the disaster and varying financial constraints of the local governments. The mechanisms must work across scales and consider people's immediate needs and longer-term needs. This should recognize the capacity of the private sector to provide support and expertise for recovery, such as restoring infrastructure functionality.

Funding channeled for different recovery projects therefore needs to be well-coordinated under a recovery platform or coordination groups managed by government. The aim should be to develop a cost-sharing arrangement in which local governments meet their share of the costs where they have the capacity to do so. The arrangement should ensure that the share of risk exposure is clear and should not reduce the incentive for local governments to manage risks to the assets and infrastructure that they are responsible for.

Action: Define financing and fund disbursement mechanisms

Outputs

- Budgets prepared and approved
- Disbursement mechanisms developed and communicated

The points below look at how to define the financial management mechanisms considering not only recovery financing, but also the interconnect with humanitarian and resilience financing.

Establish local government control over recovery funds

The funding strategy should highlight mechanisms by which the local government should mobilize resources and conduct activities in the local disaster affected areas. These efforts must enhance national and local responses to natural disasters by**:**

- Creating budget reserves for disaster preparedness and recovery planning.
- Defining public and private assets under national and local government financial responsibilities.
- Revising budget and related laws to permit transfer and liquidation of local government financing.
- Upgrading financial management systems at the local government level so they are adequate for the transfer and tracking of recovery financing against physical delivery.
- Establishing mechanisms to facilitate fast-track local procurement, and
- Pre-qualify local contractors for predictable recovery functions[39].

Define the process for disbursing different financing mechanisms

This applies to local, state and national funds. This will clarify financing available after different types of disaster events. Different levels of government may choose to limit liabilities by formalizing this process. For example, issuing a declaration as to what support will be provided in the case of disasters above a certain severity level, and stating what resources, if any, are to be provided if a disaster is less severe and consequently not formally declared as a national emergency.[40] Governments will require simple criteria for which regarding which farmers receive support, including a farmer's annual income, amount of planting acres, number of cattle.

Local authorities put in place special or accelerated procedures for local disbursement and procurement for recovery operations

Recovery activities require prompt and convenient access to funds and also to disburse these in an accountable manner. Finance officials at national and local institutions should determine how to channel the funds and monitor them. The modality for disbursing recovery funds must be flexible to meet diverse needs, and it must have a clear system by which it can be tracked.

Strategy for disbursement channels must be based on defined mechanisms within local and national disaster recovery frameworks

The DRF will have a determined agency for the disbursement of the funds and the mechanism to work/apply for funding should be clear and communicated to local governments at all levels.

Procurement procedures developed to enable a quick response at the beginning of the recovery response

The streamlined to facilitate efficient disbursement once the type of funding and disbursement channels have been identified. In some cases, measures for recovery projects such as having pre-qualified local contractors or changing labor policies can streamline the recovery; enabling a quicker response than if they had to be set up post-disaster.

Resources and funds can be disbursed in the following ways

Internal resources can be disbursed within budgets of local governments as grants or direct invoicing for cost incurred in recovery efforts. Approval systems must be in place and linked with monitoring systems. Funds must be dispersed only against results. External resources can come as grants, new loans, in-kind donations, technical assistance or reprogramming of existing projects. In most cases, national governments need to provide a disaster management authority to coordinate the disbursement of funds to local governments.

Encourage the local government to inscribe local investment plan resources and activities for relief and disaster recovery in their budget

Local budgets may be revised (reallocated, transferred, *etc*.) to consider the recovery needs. Put in place local insurances to cover risks and fiscal mechanisms for disaster risk reduction and recovery financing.

Local and national governments should be trained in the participatory budgeting process

Toolkits are available for the local and national actors to tailor to their contexts. The key phases of the participatory budget cycle are the formulation of the budget and then monitoring it. The participatory budget cycle (see **Figure 4.2** below), can ensure accountability and develop a sense of ownership among all local stakeholders. This will also ensure transparency and curtail corruption.

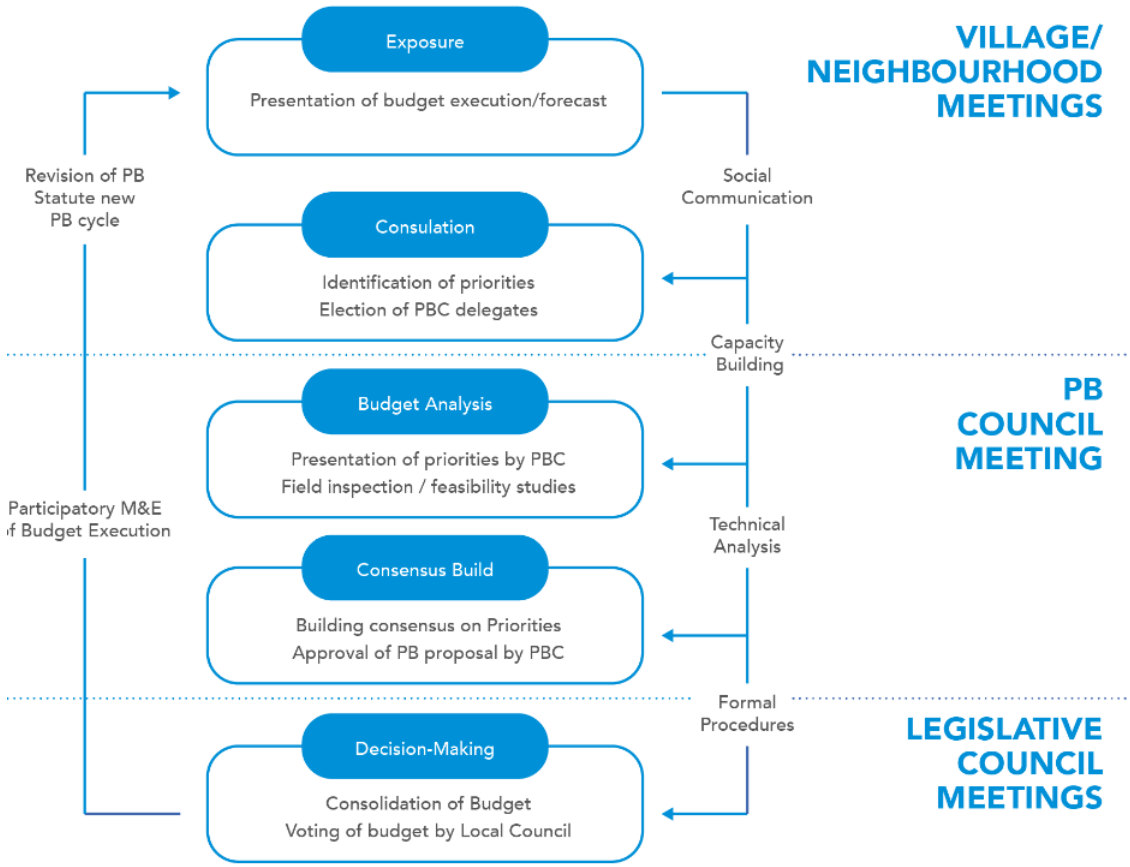


Figure 4.2: Participatory budget cycle (Source: World Bank, 2006)

Action: Disbursements monitored and accounted for

All financial plans should be accounted for and monitored by a committee of multiple actors from communities, CSOs and a technical member from local government departments. The private sector can provide independent auditors.

Output

- Procedures and instrument for monitoring and tracking disbursements

Transparent procurement

Hold implementing staff and authorities accountable for ensuring transparency, anti-corruption practices and neutrality. Use pre-qualified, well-reputed suppliers. Ensure a transparent tender process using anti-corruption measures and public advertisements. Involve third-party neutral assessors to evaluate procurement processes. Seek national government support to fast-track procedures. Simplify contract extension procedures.

Develop a local monitoring and evaluation system with regards to transparency, quality of delivery, accountability and sustainability of recovery activities

Ensure that there is a database to track and monitor the recovery fund disbursement progress.[41]

Set up grievance and redress mechanisms

Provide grievance and redress mechanisms to enable community members and stakeholders to address issues such as mismanagement of funds.

Module 4 Checklist: Financing for Disaster Response and Resilient Recovery

- ☐ Identify the cost for each recovery sector with disaster risk reduction measures.
- ☐ Compile the costs of damages and losses in consultation with communities.
- ☐ Seek funding sources from local actors: local government, private businesses, civil society organizations and communities.
- ☐ Be able to handle, coordinate and allocate financial resources on time.
- ☐ Ensure financial disbursement is transparent and accountable.
- ☐ Establish efficient public financial management systems to allocate, disburse and monitor financial flow.
- ☐ Organize support, resources and funds for immediate recovery.
- ☐ Ensure awareness of the government and other recovery actors' support plans and how to access this support, funds and other forms of assistance.
- ☐ Establish transparent systems within the community to monitor recovery funds and reporting back to the relevant authorities if there are any discrepancies.
- ☐ Establish efficient public financial management systems to allocate, disburse and monitor financial flow.
- ☐ Provide support to local leaders and governments on establishing fund monitoring systems.
- ☐ Secure the contingency fund for recovery.
- ☐ Define a sustainable, transparent and efficient post-disaster recovery funding strategy.
- ☐ Be competent to handle, coordinate and allocate financial resources on time.

References

ASEAN (2016). **Disaster Recovery Reference Guide - ASEAN | One vision one identity one community**. Retrieved from http://asean.org/?static_post=asean-disaster-recovery-reference-guide

Asian Disaster Preparedness Centre (2015). **Guidance on land use planning, Disaster Recovery Toolkit, Tsunami Global Lessons Learned Project**. Retrieved from http://www.adpc.net/igo/category/ID807/doc/2015-aeu2Xl-ADPC-tgllllanduse.pdf

Aysan Y. and Davis I. (1993). **Rehabilitation and Reconstruction, Disaster Management Training Programme**. (1st ed.). Retrieved from http://www.pacificdisaster.net/pdnadmin/data/original/UNDP_1993_DMTP_rehbltn_rconstrctn.pdf

Bayat-Renoux F. and Glemarec Y. (2014). **Financing Recovery for Resilience**. UNDP.

Davis I. and Alexander D. (2016). **Recovery from Disaster**, Routledge.

Department of Homeland Security (2016). **Crisis Communications Plan**, Ready.gov. Retrieved from https://www.ready.gov/business/implementation/crisis

De Silva, Samantha; Burton, Cynthia; De Silva, Samantha; Burton, Cynthia. (2008). **Building resilient communities: risk management and response to natural disasters through social funds and community-driven development operations** (English). Washington, DC: World Bank. Retrieved from http://documents.worldbank.org/curated/en/844751468148503609/Building-resilient-communities-risk-management-and-response-to-natural-disasters-through-social-funds-and-community-driven-development-operations

Dickson, Eric; Baker, Judy L.; Hoornweg, Daniel; Tiwari, Asmita. (2012). **Urban risk assessments: understanding disaster and climate risk in cities**. Urban development series. Washington, DC: World Bank. http://documents.worldbank.org/curated/en/659161468182066104/Urban-risk-assessments-understanding-disaster-and-climate-risk-in-cities

Dowla. A. (2015). **Helping hand instead of handouts – Social safety net provision by Grameen Bank**. Retrieved from http://www.academia.edu/836204/Helping_hand_instead_of_handouts_Social_safety_net_provision_by_Grameen_Bank

FEMA, **Pre-Disaster Recovery Planning Guide for Local Governments**. (2017). Retrieved from https://www.fema.gov/media-library-data/1487096102974-e33c774e3170bebd5846ab8dc9b61504/PreDisasterRecoveryPlanningGuideforLocalGovernmentsFinal50820170203.pdf

GFDRR (2016). **Disaster Recovery Guidance Series, Process for Preparing Disaster Recovery Frameworks**. Retrieved from https://www.gfdrr.org/sites/default/files/Disaster%20Recovery%20Guidance%20Series-%20Process%20for%20Preparing%20Disaster%20Recovery%20Frameworks.pdf

GFDRR (2015). **Guide to developing disaster recovery frameworks**, Sendai conference version. Retrieved from https://www.gfdrr.org/sites/gfdrr/files/publication/DRF-Guide.pdf

GFDRR (2013). **Methodology Note on the Global RApid post-disaster Damage Estimation (GRADE) approach**. Retrieved from https://www.gfdrr.org/sites/default/files/publication/DRAS_web_04172018.pdf

GFDRR (2014). **Pakistan Earthquake 2005 - The Case of Centralized Recovery Planning and Decentralized Implementation**. Country Case Study Series, Disaster Recovery Framework Guide. (2014). Retrieved from https://www.gfdrr.org/sites/default/files/publication/rfcs-2014-pakistan.pdf

GFDRR (2013). **Guidance Note Financing Post-Disaster Recovery and Reconstruction Operations: Developing an institutional mechanism to ensure the effective use of financial resources**. Retrieved from http://siteresources.worldbank.org/EXTDISASTER/Resources/8308420-1342531265657/Central-Note-on-Reconstruction-Process_04Nov2013.pdf

GFDRR (2013). **Post-Disaster Needs Assessment Guidelines**, Volume A. Retrieved from https://www.gfdrr.org/sites/gfdrr/files/PDNA-Volume-A.pdf

GFDRR (2012). **Disaster Risk Financing and Insurance Program**. Retrieved from http://siteresources.worldbank.org/EXTDISASTER/Resources/8308420-1353538006746/4Pager_GFDRR-DRFI-program_final_Nov21_2012.pdf

GFDRR (2015). **Resilient Recovery: An imperative for Sustainable development - The Way Forward for Strengthening Recovery Systems and Integrating Disaster Risk Reduction into Post-Disaster Recovery** Retrieved from www.gfdrr.org/sites/default/files/publication/Resilient-Recovery-An-Imperative-for-Sustainable-Development.pdf

GFDRR (2017). **Bringing Resilience to Scale.** Retrieved from: https://www.gfdrr.org/sites/default/files/publication/GFDRR-Annual-Report-2017.pdf

Hallegatte, S., Vogt-Schilb, A., Bangalore, M., & Rozenberg, J. (2017). **Unbreakable: Building the Resilience of the Poor in the Face of Natural Disasters**. Retrieved from https://openknowledge.worldbank.org/handle/10986/25335

Holzmann R., Sherburne-Benz, L. and Tesliuc, E. (2013). **Social Protection Department, World Bank, Social Risk Management: The World Bank's Approach to Social protection in a Globalizing World**. Retrieved from http://siteresources.worldbank.org/SOCIALPROTECTION/Publications/20847129/SRMWBApproachtoSP.pdf

IASC (2015). **Reference Module for Cluster Coordination at Country Level**. Revised July 2015. Retrieved from https://interagencystandingcommittee.org/iasc-transformative-agenda/documents-public/reference-module-cluster-coordination-country-level

IFRC (2016). **World Disasters Report Resilience: saving lives today, investing for tomorrow**. Retrieved from http://www.ifrc.org/Global/Documents/Secretariat/201610/WDR%202016-FINAL_web.pdf

IFRC (2012). **Recovery programming guidance**. Retrieved from http://www.ifrc.org/PageFiles/41104/IFRC%20Recovery%20programming%20guidance%202012%20-%201232900.pdf

IFRC (2006). **What is VCA? An introduction to vulnerability and capacity assessment**. Retrieved from http://www.ifrc.org/Global/Publi.cations/disasters/vca/whats-vca-en.pdf

International Recovery Platform (no date) **Post Disaster Needs Assessment** Retrieved from https://www.recoveryplatform.org/pdna/

IRC (2017) **Urban Context Analysis Toolkit: Guidance Note for Humanitarian Practitioners**, https://www.rescue.org/report/urban-context-analysis-toolkit

Japan Cabinet Office (2015). **White Paper: Disaster management in Japan**. Retrieved from http://www.bousai.go.jp/kaigirep/hakusho/pdf/WP2015_DM_Full_Version.pdf

Jha A. K., Barenstein J. D., Phelps P. M., Pittet D., Sena, S., (2010). **Safer Homes, Stronger Communities: A Handbook for Reconstructing after Natural Disasters**. World Bank. Retrieved from http://hdl.handle.net/10986/2409

Khan S. M. and Arefin, T. M. S. (2013). **Safety Net, Social Protection, and Sustainable Poverty Reduction: A Review of the Evidences and Arguments for Developing Countries**. Retrieved from http://www.iosrjournals.org/iosr-jhss/papers/Vol15-issue2/D01522329.pdf?id=7167

Lloyd-Jones T., Davis I. and Steele A. (2016). **Topic Guide: Effective Post-disaster Reconstruction Programmes**. Retrieved from https://reliefweb.int/sites/reliefweb.int/files/resources/P1735_EoD_TG_Reconstruction_FINAL.pdf

Mohapatra. S, Joseph G. and Ratha D. (2009). **Remittances and Natural Disasters: Ex-post Response and Contribution to Ex-ante Preparedness**. World Bank, Policy Research Working Paper 4972. (2009). Retrieved from http://siteresources.worldbank.org/INTPROSPECTS/Resources/334934-1110315015165/WPS4972.pdf

Poole, A. (2011). **Political economy assessments at sector and project levels (How-To Note)**. Washington, DC: World Bank. http://www.gsdrc.org/docs/open/PE1.pdf

Sage, B., Meaux, A., Osofisan, W et al. (2017). **Urban context analysis toolkit. Guidance note for humanitarian practitioners**. International Rescue Committee**,** Retrieved from http://pubs.iied.org/pdfs/10819IIED.pdf

Shaw, R. (2016). **Community-based Disaster Risk Reduction**. Retrieved from http://naturalhazardscience.oxfordre.com/view/10.1093/acrefore/9780199389407.001.0001/acrefore-9780199389407-e-47?print=pdf

Sphere (2018) **The Sphere Handbook: Humanitarian Charter and Minimum standards in Humanitarian Response**. https://spherestandards.org/handbook-2018 Retrieved 2019-02-19.

United Nation. **Sendai Framework for Disaster Risk Reduction 2015–2030** (2015) Retrieved from https://www.un.org/en/development/desa/population/migration/generalassembly/docs/globalcompact/A_RES_69_283.pdf

UNDP, **Guidance note on early recovery**. (2008). Retrieved from http://www.undp.org/content/undp/en/home/librarypage/crisis-prevention-and-recovery/guidance-note-on-early-recovery-cwger-april-2008.html

UNDP, **Guidance Note: National Post-Disaster Recovery Planning and Coordination**. (2017). Retrieved from http://www.undp.org/content/undp/en/home/librarypage/climate-and-disaster-resilience-/recovery-guidance-note.html

UNDP, **Towards Human Resilience: Sustaining MDG Progress in an Age of Economic Uncertainty** (2011). Retrieved from http://www.undp.org/content/undp/en/home/librarypage/poverty-reduction/inclusive_development/towards_human_resiliencesustainingmdgprogressinanageofeconomicun.html

UNISDR, **Local Government powers for disaster risk reduction: A study on Local-Level Authority and Capacity for Resilience**. (2017). Retrieved from http://www.unisdr.org/campaign/resilientcities/assets/documents/guidelines/LG%20Powers%20for%20DRR_2017_Final_20170531.pdf

UNISDR Local Government Capacity Assessment Tool https://www.unisdr.org/

UNISDR, **Words into Action guidelines: Build back better in recovery, rehabilitation and reconstruction** (Consultative version) (2017) Retrieved from http://www.preventionweb.net/publications/view/53213

Wates. N. (2006) **The Community Planning Handbook: How people can shape their cities, towns and villages in any part of the world**. Retrieved from http://library.uniteddiversity.coop/REconomy_Resource_Pack/Community_Assets_and_Development/The_Community_Planning_Handbook-How_People_Can_Shape_Their_C.pdf

World Bank (2006). **Participatory budgeting toolkit for local governments in Albania**. Washington, DC: World Bank.

World Bank (2014). **PDNA Guidelines, Volume B, Cross-cutting sector: Governance**. Retrieved from https://gfdrr.org/sites/gfdrr/files/WB_UNDP_PDNA_Governance_SP_FINAL.pdf

World Bank (2015a). **Catastrophe Deferred Drawdown Option: Product Note**. Retrieved from http://treasury.worldbank.org/documents/CatDDOProductNote_2015.pdf

World Bank (2015b). **Investment Project Financing - IDA Immediate Response Mechanism Guidance Note**. Retrieved from http://siteresources.worldbank.org/PROJECTS/Resources/40940-1365611011935/Guidance_Note_IRM.pdf

Glossary

(Terms are taken from the *Guide to Developing Disaster Recovery Frameworks*, 2015)

Adaptation:

The adjustment in natural or human systems in response to actual or expected climatic or other stimuli or their effects, which moderates harm or exploits beneficial opportunities.

Build Back Better:

Approach to reconstruction to reduce vulnerability and improve living conditions, while promoting a more effective and sustainable reconstruction. Building back better uses the opportunity of having to rebuild to examine the suitability of reconstructing in the same location and making a home warmer, drier, and cheaper to run.

Building Code:

A set of ordinances or regulations and associated standards intended to control aspects of the design, constructions, materials, alteration and occupancy of structures that are necessary to ensure human safety and welfare, including resistance to collapse and damage.

Cash Transfers:

Direct payments or vouchers to provide resources to affected populations.

Capacity:

The combination of all physical, institutional, social, and/ or economic strengths, attributes, and resources available within a community, society, or organization that can be used to achieve agreed goals. Also includes collective attributes such as leadership and management.

Capacity Building:

Process by which individuals, groups, and organizations build their knowledge, abilities, relationships, and values to solve problems and achieve development objectives. The impacts of capacity building thus may be seen at different scales—individual, households, communities, and governments.

Climate Change Resilience:

The ability to resist, absorb, adapt to, and recover from meteorological changes attributed directly or indirectly to human activities that alter the composition of the global atmosphere or the natural climate variability. See also “Resilience.”

Community:

A social group of any size whose members reside in a specific locality, share government, and often have a common cultural and historical heritage.

Disaster:

A situation or event that overwhelms local capacity, necessitating a request to a national or an international level for external assistance; an unforeseen and often sudden event that causes great damage, destruction, and human suffering.

Disaster Risk Management (DRM):

Systematic process of using administrative directives, organizations, and operational skills and capacities to implement strategies, policies, and improved coping capacities to lessen the adverse impacts of hazards and the possibility of disaster.

Disaster Risk Reduction (DRR):

Concept and practice of reducing disaster risks through systematic efforts to analyze and manage the causal factors of disasters. Results of DRR include reduced exposure to hazards, lessened vulnerability of people and property, wise management of land and the environment, and improved preparedness.

Early Warning System:

The set of capacities needed to generate and disseminate timely and meaningful warning information to enable individuals, communities, and organizations threatened by a hazard to prepare and to act appropriately; and in sufficient time to reduce the possibility of harm to or loss of life or livelihoods, injury, damage to property, and damage to the environment. A people-centered early warning system comprises four key elements. They are (a) knowing the risks; (b) monitoring, analyzing, and forecasting the hazards; (c) communicating or disseminating alerts and warnings; and (d) developing the local capacities to respond to the warnings. The term "end-to-end warning systems" is used to emphasize that warning systems need to span all steps from detecting hazards to the community's response.

Effective Recovery:

Achieving the intended outcomes of medium- to long-term recovery such as the rehabilitation and reconstruction of damaged infrastructure and the re-creation of sustainable livelihoods and income-generating opportunities.

Empowerment:

Authority given to an institution, organization, or individual to determine policy and make decisions.

Flood:

Partial or complete inundation of normally dry land areas from the overflow of inland or tidal waters or the accumulation or runoff of surface waters.

Hazard:

Natural process or phenomenon or human activity that has the potential to cause property damage, loss of livelihoods and services, social and economic disruption, and/or environmental degradation.

Housing:

Immediate physical environment, including inside and outside of buildings, in which families and households live and so serves as a shelter.

Humanitarian Relief:

Process that seeks to lead to sustainable development opportunities by generating self-sustaining processes for post-disaster recovery. Humanitarian relief encompasses livelihoods, shelter, governance, environment, and social dimensions, including the reintegration of displaced populations. It also addresses the underlying risks that contributed to the crisis.

Infrastructure:

Systems and networks by which public services are delivered. These services include water supply and sanitation, energy, and other utility networks, and transportation networks for all forms of travel.

Livelihoods:

The ways in which people earn access to the resources that they need, individually and communally, including food, water, clothing, and shelter.

Losses:

Include the decline in output in productive sectors and the lower revenues and higher operational costs in the provision of services. Also considered losses are the unexpected expenditures to meet emergency needs. Losses are expressed in current values.

Mitigate/Mitigation:

The use of reasonable care and diligence to minimize damage; to take protective action to avoid additional injury or loss; to lessen or limit the adverse impact of hazards and disasters.

Monitoring:

Ongoing task of collecting and reviewing program-related information that pertains to the program's goals, objectives, and activities.

Needs Assessment:

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

Off Budget Financing:

Could not be managed directly by the national government or is not comprised in its budget.

On Budget Financing:

Within the national government's control, including Own Source Revenue (OSR) as well as external funding and loans.

Partners:

Donor community or any group or individual taking part and sharing the responsibility of the reconstruction and recovery process. In contrast, see "Stakeholders.

Policy:

Principle or protocol to guide decisions and achieve rational outcomes.

Post-Disaster Needs Assessment (PDNA):

A multisectoral assessment that measures the impact of disasters on the society, economy, and environment of the disaster-affected area.

Preparedness:

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

Prevention:

To avoid and minimize the adverse impact of related environmental, technological, and biological disasters by raising public awareness and providing education related to disaster risk reduction, changing attitudes and behavior.

Reconstruction:

Focuses primarily on the construction or replacement of damaged physical structures, and the restoration of local services and infrastructure.

Recovery:

Recovery involves restoring or improving of livelihoods and health, as well as economic, physical, social, cultural and environmental assets, systems and activities, of a disaster-affected community or society, aligning with the principles of sustainable development and "build back better", to avoid or reduce future disaster risk" (United Nations General Assembly, 2016, p. 12). The term "recovery" in this guide encompasses both "recovery" and "reconstruction".

Recovery Framework:

Pragmatic, sequenced, prioritized, programmatic, yet living (and flexible) action plan that ensures resilient recovery after a disaster.

Relief:

Provision of assistance or intervention immediately after a disaster to meet the life preservation and basic subsistence needs of the persons affected.

Relocation:

Process whereby a community's housing assets and public infrastructure are rebuilt in another location.

Resilience:

The ability of a system, community, or society exposed to hazards to resist, absorb, accommodate, and recover from the effects of a hazard in a timely and efficient manner, including through the preservation and restoration of its essential structures and functions. Resilience is determined by the degree to which the community has the necessary resources and can organize itself both prior to and during times of need.

Resilient Recovery:

Builds resilience during recovery and promotes resilience in regular development. Resilient recovery is a means to sustainable development. See also “Resilience,” “Recovery,” “Disaster risk management,” and “Disaster risk reduction.”

Response:

The provision of emergency services and public assistance during or immediately after a disaster to save lives, reduce health impacts, ensure public safety, and meet the basic subsistence needs of the people affected. See also “Humanitarian relief.”

Risk:

The combination of the probability of an event and its negative consequences.

Risk assessment:

A methodology to determine the nature and extent of risk by both analyzing hazards and their potential likelihood and intensity and estimating impacts through the evaluation of conditions of vulnerability and the identification of exposed people, property, infrastructure, services, livelihoods and their environment.

Risk Transfer:

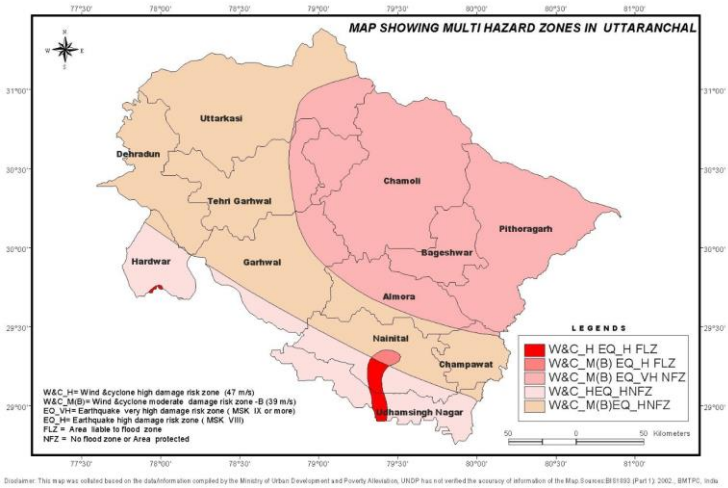
Process of formally or informally shifting the financial consequences of risks from one party to another. In this transaction, one party (household, community, enterprise, or state authority) will obtain post-disaster resources from another party in exchange for ongoing or compensatory social or financial benefits.

Stakeholders:

Groups who have any direct or indirect interest in the recovery interventions, or who can affect or be affected by the implementation and outcomes. Term includes groups undertaking, managing, reporting on, affected by, promoting, and funding the interventions. Stakeholders include vulnerable segments of the population, local governments that are in direct dialogue with communities.

Annexes

Case study 1: Uttarakhand flash flood and Odisha Cyclone Phailin - India 2013



The **Uttarakhand flash flood** of June 2013 has been termed the "Himalayan Tsunami" due to the scale of devastation. Over 900,000 people were affected, 580 died and 5,400 were reported missing.[42] 4,200 villages were affected and 3,320 houses[43] were damaged alongside roads, bridges, public buildings and private businesses.

Cyclone Phailin hit coastal Odisha on October 12th 2013, with a wind speed of 220 kilometers per hour, followed by flooding, torrential rain and storm surge. It was the strongest cyclone recorded in Odisha over the last 14 years.[44] It affected 13.2 million people, caused 44 deaths, damaged 256,633 houses and provoked agricultural losses.[45]

Policy and institutional framework

Indian disaster management systems evolved after the 1999 super cyclone in Odisha and the 2001 earthquake in Gujarat. The Disaster Management Act 2005 was passed by a high-powered committee under the leadership of the Prime Minister.[46] Soon afterwards, the National Disaster Management Authority (NDMA) was formed in 2006 to coordinate disaster management activities. NDMA is chaired by the Prime Minister and linked with the Ministry of Home Affairs, the nodal agency for all disasters except for droughts, for which the Ministry of Agriculture is the nodal agency.

National policy on disaster management was developed in 2009 by the Ministry of Home Affairs. A special policy for drought management was developed in 2010.[47] The National Disaster Management Plan was updated in 2016, highlighting the importance of resilient recovery.[48]

The Draft DRF[49] was developed by the Ministry of Home Affairs in 2016, with technical support from the United Nations Development Fund (UNDP). It is a steppingstone to formalize recovery

mechanisms. At the national level, some components of the recovery framework, like the Post-Disaster Needs Assessment (PDNA), have been mainstreamed for assessing risks and damages for resilient recovery.

The State Disaster Management Authority, chaired by the Chief Minister, is responsible for planning, managing, coordinating and implementing disaster response, recovery, preparedness, and mitigation activities. However, the capacities of the State Disaster Management Authorities vary from one state to another.

At the local level, the district governance structure is headed by District Collector or District Magistrate, who oversees sectoral departments, including disaster management staff. Districts are divided into sub-districts or blocks and tehsils. To implement projects, district and sub-districts liaise directly with the Panchayat Raj Institutions (PRIs) in rural areas and with Urban Local Bodies (ULB) in cities and small towns.

The Urban Local Bodies (ULB) are under District Collector's jurisdiction. Urban areas are divided into wards, and ward committees are the decision-makers on development of their respective areas. Panchayat Raj Institutions (PRI) are formed of *gram panchayat,* the grassroots governing structure. The leader of the *gram panchayat is Sarpanch*, who heads the *Gram Sabha*, the mechanism where the *panchayat* holds meetings with village representatives to make decisions on village developments. This system, which is called *Panchayat Raj*, originated from the traditional *Panchayat* system and Mahatma Gandhi's vision of *Gram Swaraj* or village self-governance.[50] Since 2015, central government has been allocating development funds directly to *gram panchayat* institutions for further autonomy and utilization of resources.[51]

Recovery lessons

Positive change in recovery efforts
The evacuation from the Odisha cyclone Phailin is the biggest and most successful evacuation in India's history, compared to the tragic super cyclone in the same region in 1999, which caused 10,000 deaths.

After the 2013 flash flood and cyclone, the governments of Uttarakhand and Odisha requested the World Bank and Asian Development Bank to conduct multi-sectoral PDNAs. Recovery needs in Uttarakhand mostly focused on reconstruction of infrastructure, followed by energy, livelihood and housing. Based on this, the World Bank provided financial assistance for housing recovery and other priority areas such as risk assessment and institutional capacity building of the State Disaster Management Authority. Recovery needs in Odisha were concentrated in the housing sector, followed by agriculture, horticulture, irrigation, livestock and energy.

Recovery is not a standalone activity. Preparedness and mitigation activities need to be done in parallel. Cyclone preparedness efforts of the Odisha government were praised as nearly a million people were evacuated to safer locations over three days in both Odisha (850,000) and neighboring state Andhra Pradesh (150,000).

Consolidated recovery fund: Currently, there is no designated funding, either at national or state level, for disaster recovery. The national and state disaster response fund only allows compensation to people for short-term rehabilitation. Instead, the Prime Minister's and the Chief Minister's Relief Funds are used. A recovery fund needs to be consolidated both at state and national level.

Sectoral coordination at recovery stage: States in India have the authority to devise their own disaster management policies and plans, based on national ones. However, resources are insufficient to implement these plans and to deploy staff on the ground at district level. Disaster recovery is managed by district staff, which is headed by the district magistrate or district collectors. However, during the recovery phase, their authority was limited, as they could not bring in relevant government institutions in time to implement sectoral recovery activities in sync with housing recovery.

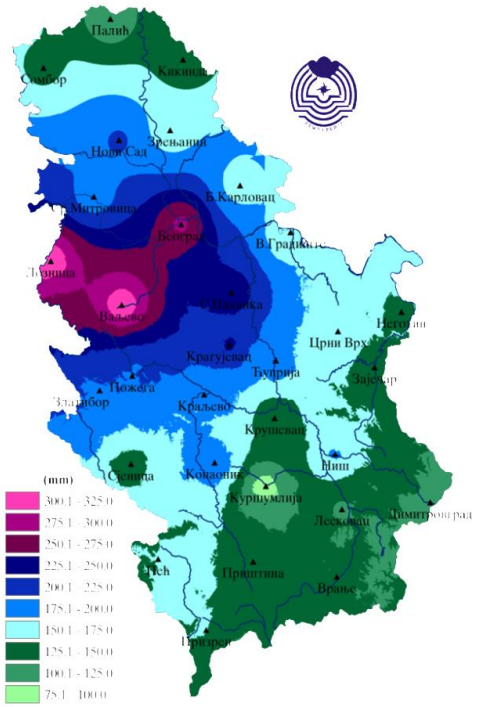
Communication strategy and participatory decision-making process for housing options: In Uttarakhand, the government devised a communication strategy to inform people through public media about a housing recovery compensation process. The government arranged buses for people from remote settlements to see prefabricated houses demonstrated at district centers. This was initially planned by the state to provide houses faster. However, people's decision to build houses by themselves was respected, which ultimately made the process faster, as populations could design, manage and monitor construction, supported by NGOs and district officials.

Participatory settlement planning process: The district government was implementing housing recovery activities in Odisha's and Uttarakhand's rural areas. NGOs were contracted for community mobilization to ensure people could design their own houses as per prototype guidance. However, in both cases, settlement planning processes were absent due to the time pressure faced by the project implementation team of NGOs and district staff. A more participatory approach was needed to ensure solid waste management, drainage, plot allocation, and location of the houses within settlements. Issues like these should be discussed with communities together with relevant service providing agencies prior to the house construction process.

Social, infrastructure and psychological recovery: Recovery must consider not just infrastructure, but also mental and physical well-being, job creation and specific needs of women and men. Four years after the disasters, many relocated communities are still searching for alternative livelihood options.

Figure A1.1: Masons training in Odisha provided men and women with alternative livelihood opportunities (Kabir, 2017).

Case study 2: Flood response - Serbia, 2014



In May 2014, the low-pressure system Storm Yvette formed over the Adriatic and moved east into the Balkans. It brought record rainfall of over 300mm/m^2 over a seven-day period and was estimated to be the largest storm to hit the area in the last 120 years. Intense rainfall led to rapid increases in flow in the main Serbian rivers. Flash floods were recorded, with water levels rising rapidly, by up to seven meters. As ground reached saturation, a second, slower water rise followed, which led to further flooding in areas already hit by earlier flash floods. Flood defenses were breached, and water spread out across towns and countryside. Saturated ground and blocked tributaries led to a series of landslides, with a total of 2,219 landslides recorded across 27 municipalities. The worst-affected areas are located around Krupanj and Valjevo, in western Serbia.

Policy and institutional framework

Serbia has adopted the principles of the Hyogo Framework for Assistance, enshrining them in the 2009 Emergency Management Law. Moreover, the country passed the 2015 Law on Reconstruction from Natural and Other Hazard Recovery, formalizing the July 2014 *Lex Specialis* that was created to enable recovery from the May 2014 floods.

Efforts to mainstream disaster risk management into the legal framework include the draft Law on Natural and other Hazard Risk Reduction and Emergency Management. This draws on recent experience and on the principles of the Sendai Framework for Disaster Risk Reduction. The aim is for the Serbian legal system to provide a framework on which a comprehensive strategy can be built to enhance national and local resilience and enable national and local action.

The legal framework created a national body with the legal authority to lead recovery efforts. The 2014 *Lex Specialis* established the Flood Affected Areas Assistance and Rehabilitation Office, later to become the Public Investment Management Office (PIMO), with mandate to manage and disburse recovery funds, and with cross-party political support to empower delivery of the mandate.

Figure A2.1: Civil service representatives of the Kraljevo city (Steele, 2017).

This national organization is crucial in leading and empowering local recovery effort, facilitating international and national support through local recovery systems. Transparency and accountability are enshrined in its mandate in active partnership with local communities, both in decision-making and implementation[52].

Serbia has a high level of local autonomy. Responsibility for local leadership and administration lies with locally elected government bodies. In emergency response and recovery, these local authorities are the lead actors, with responsibility for actions taken within their jurisdiction. Supported by national institutions, local authorities have demonstrated willingness to carry out emergency response and recovery, but are constrained by insufficient capacity, technical knowledge and budget. Under the current proposed law, they will lead development of local action plans to manage hazards and respond, but will face challenges in implementation, especially in land use planning policies and watershed management.

Historically, the Balkans had a strong civil protection mechanism, formed in all communities, consisting of local volunteers and funded by local government. Civil Protection Units (CPUs) aided their communities daily and in emergencies and were given training to perform specific roles. This system largely collapsed following political change and conflict after 1990. Some consider this system critical to community resilience and national initiatives have been launched to re-establish the civil protection network, with a key role in local response and recovery.[53]

Recovery lessons

The May 2014 floods affected 1.6 million people in nine cities under 31 local governments and damaged 16,200 houses, 74 health facilities and 35 schools. The main economic damage was to the mining and energy sector, with floods affecting the infrastructure systems largely in private ownership. However, this does not reflect widespread impact on low-income households, including those reliant on smallholding agriculture. In a society where over 75% of the population owns a house without any outstanding mortgage[54] and an average non-life insurance premium of USD 76 per capita[55], the loss of a house represented a very real prospect of destitution.[56]

Figure A2.2: Civil Service representatives of Kraljevo (Steele, 2017).

With winter six months away, it was imperative to re-house those affected. This could not begin until houses were accessible, and in a condition to be inspected, which meant dewatering and clearing up waste. Approximately 84,000m^3 of waste was disposed of after the floods in Obrenovac.[57] Beyond critical services, the focus was on restoring homes and livelihoods. This was essential to meet the population's expectations and to mitigate potential risks of winter, but also to restore normal life as quickly as possible, removing people from dependency on state support. The three phases of recovery were the clean-up of houses, businesses and facilities, damage assessment and implementation of the reconstruction and recovery process.

National solidarity in the wake of the May 2014 floods was crucial to developing the momentum and cross-party support for mainstreaming disaster risk management in Serbia's legal and institutional framework. The floods were a costly learning exercise. Although losses were great, people still supported each other. This provided the platform in which the recovery effort was delivered through the community, easing the political process of changes to the disaster risk reduction legal framework.

Prioritizing recovery: It was rightly recognized that support should be provided to those with greatest need, prioritizing affected people's housing, agriculture and livelihoods. This was achieved with a standardized transparent methodology for assessment of impact, which gave a clear method of determining aid disbursement. This approach was critical in delivering an

effective recovery program with limited resources, under local leadership and with national oversight.

Leadership and empowerment: It was critical to have an organization; the Flood Affected Areas Assistance and Rehabilitation Office, with legal authority to deliver the recovery effort. This ensured that a single entity was empowered to effectively coordinate available assistance with recovery needs. The office's political independence and clear operative mandate allowed for effective delivery of the recovery effort. Their approach as a coordinator, facilitator and arbitrator empowered local recovery. Their reputation was strengthened through a commitment to transparency and accountability. They openly published disbursement of all funds and works completion, supported by a comprehensive post-disbursement verification and prosecution of any misuse.

Enhancing financial assistance: The creation of a recovery mechanism which was demonstrated to be effective enhanced international trust of national capacity to manage assistance. It also allowed Serbia to deliver the recovery effort through existing disbursement and procurement systems, which accelerated recovery and empowered local authorities.

Collaboration through informal networks: Informal local government communication networks were used to good effect by national and local actors. They reached agreement on appropriate methods for recovery delivery before the formal launch of the recovery effort.

Local recovery ownership and procurement: Assistance prioritized local housing, businesses and livelihoods. It focused on small-scale infrastructure, including rural roads, bridges, schools and health facilities. All procurement was advertised at a local level under accelerated procurement procedures. With national oversight from PIMO and local construction supervision from local authorities, the entire recovery effort was delivered using local contractors, injecting much-needed capital into local markets to support wider economic recovery.

Case study 3: Colombia: 2010-2011 La Niña event

The prolonged and intense rainy season in 2010-2011 associated with the La Niña phenomenon has been one of the most devastating Colombian disasters in the last 40 years. While the La Niña event started gradually in 2010, by 2011 around 90% of municipalities had been affected by landslides, flash flooding or long-term flooding. Existing deforestation, leading to increased erosion and sedimentation, aggravated the event's impact. In addition, use of high-risk areas for housing and other infrastructure increased damage to the built environment, including from landslides.

Policy and institutional framework

The 2010-2011 La Niña phenomenon marked a major shift in institutional disaster management in Colombia. The National Disaster Response and Prevention Framework (SNPAD) was unable to cope with the magnitude of the emergency.

Colombia's new National Risk Management Policy (Law 1523 of 2012) defined the obligation for all planning instruments to mainstream risk reduction measures. Under this framework, the country has been working on projects to integrate risk management policies into development plans, management plans, territorial planning, environmental planning instruments, investment projects and other local planning instruments.

Figure A3.1 Rio Cauca in Cali 2011 (Source: *Fondo Adaptación*)

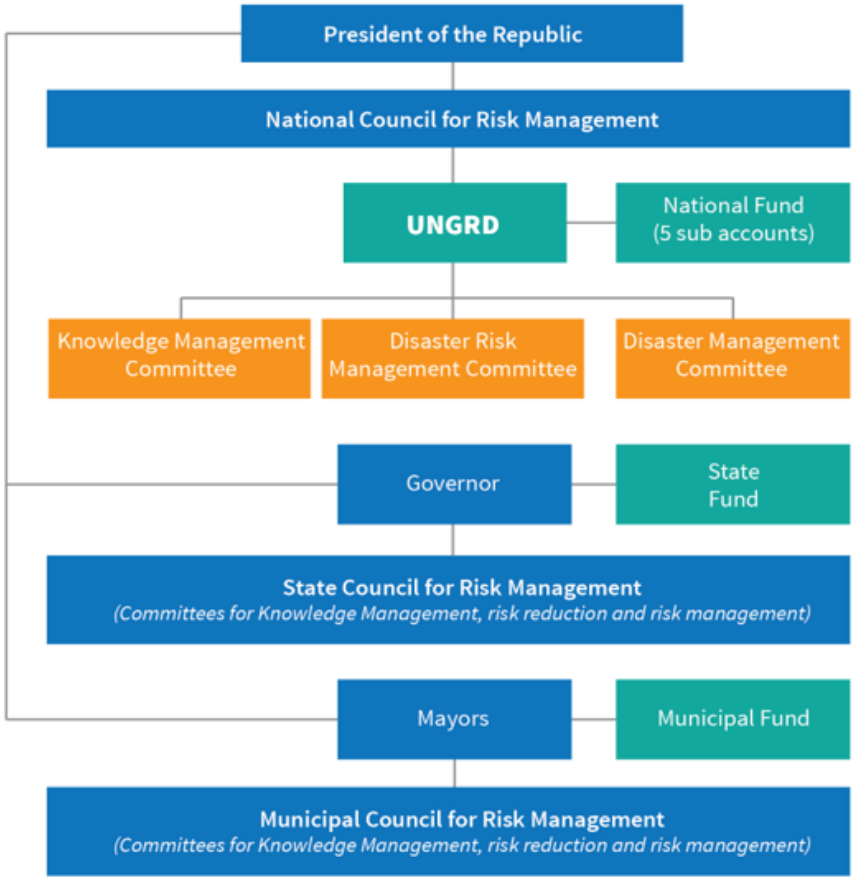


Figure A3.2: Institutional Framework for Disaster Management in Colombia according to Law 1523 of 2012 (Adaptation from UNGRD).

The 2012 policy grants responsibility to local government to manage risk and requires the creation of local funds for disaster risk management. Within the law, each municipality can allocate budget for disaster risk management interventions, although this has not been fully implemented. Colombia assigns local leadership and administration to locally elected government bodies. Under current law, they lead development of local action plans to manage hazards and respond. Mayors are responsible for risk management in respect to local planning, including production of local development plans and environmental management plans[58], but face challenges in implementation, especially in access to information of hazards, land use planning policies and watershed management.

Recovery lessons

Over 3.2 million people were affected[59] and losses represented around 12% of Colombia's annual GDP.[60] The Inter-American Development Bank and United Nations Economic Commission for Latin America and the Caribbean estimated that the sectors most severely affected were housing, transportation, energy, education, health, and agriculture and livestock.

La Niña 2010-2011 exposed Colombia's vulnerability to natural events and raised awareness of the need for a recovery and climate change adaptation plan. It also highlighted shortcomings in territorial organization, watershed management, infrastructure planning, essential infrastructure and institutional weaknesses at regional level (limited planning and coordination).

La Niña 2010-2011 is not only directly linked to effects of climate change on Colombia, but is also associated with environmental degradation, land use changes and watershed planning. Consequently, the overall recovery framework needed a wider perspective for policy integration and cross-sectoral implementation. In December 2010, the Colombian government created a new institutional architecture to deal with the tragedy and provide the framework for long-term recovery.

The response was planned in two phases. The Fund of Calamities (*Colombia Humanitaria* was one of the accounts of Fund of Calamities) was established to coordinate relief and rehabilitation, while *Fondo Adaptación* [61](the Adaptation Fund, FA) was created to oversee long-term recovery. The Adaptation Fund has provided the country with a recovery model that is sustainable in terms of use of resources, social programs and long-term results. It possessed all the elements required to help a recovery program to succeed. The role of these funds allowed the government to plan and manage risks at a national level. The effectiveness of the initial response by *Colombia Humanitaria* set a good foundation for an ongoing reconstruction process. Good practices were collected from past experiences and applied when responding to the emergency.

Local actors have played a crucial role during the relocation process, emphasizing that recovery should combine top-down and bottom-up approaches. Local and regional actors are key in communicating the communities' priorities as part of a participatory governance model.

Every resettlement project must recognize that **land tenure** will be at the center of the process, either to regularize new land for construction or to reclassify land in risk areas. Housing, land and property rights of victims must be adequately addressed, from selection of relocation sites to definition of land and housing rights in the new relocation sites. Regularizing land tenure is a long process that can negatively impact reconstruction. Consequently, local actors should make land tenure a priority before a disaster strikes.

Figure A3.2: Workshop to assign houses within the new town centre in Gramalote, October 2016 (Fondo Adaptación).

The process of changing land use in a municipality from rural to urban and obtaining an environmental license to build a municipality in a new area should be simplified and expedited in case of post-disaster relocation.

Timeframe and visible milestones: A recovery process will benefit from clear and timely communication of goals and milestones to the community. This increases people's engagement and project ownership and allows them to better manage their expectations. It is also necessary to communicate that these types of projects take a long time to develop.

A **communications** plan must be prioritized, to manage community expectations, allow for smoother processes, and enable the participation of local actors in the recovery process.

The recovery process must consider a framework that **empowers communities** and develops the capacity of their leaders and organizations. Hiring organizations to provide people with social support has successfully brought a broader understanding of the region's dynamics in Gramalote and Jarillón de Cali, as well as recognition and credibility of the community. Within projects in Colombia, this has fostered trust between beneficiaries and the Adaptation Fund.

Because of low taxes, most municipalities cannot allocate enough resources to risk management, even though this is required by Law 1523. In small municipalities, institutions struggle to effectively respond to disasters. A clear policy on how to access local funds is recommended as currently local authorities do not know how to do it.

Sustainability and knowledge management: The Adaptation Fund has generated valuable technical knowledge which must be documented and disseminated, both internally and between national and territorial institutions whose competencies are related to risk management and climate change adaptation. This will improve future disaster response.

The role of the Adaptation Fund to **coordinate, implement and monitor** recovery activities provided a coherent scenario for activities and programs that otherwise could have been dispersed within ministries. This process is ongoing.

The preparation of **risk studies, technical manuals and the use of local materials** have been positive, not only in terms of costs, but also sustainability and construction processes. This has supported the institutional framework and has built national and local capacity to prepare for future disasters. It would be important for any recovery process to replicate the process of producing technical studies to support planning and recovery.

Case study 4: Indonesia: 2006 Yogyakarta earthquake and 2010 Merapi volcano eruption

Figure A4.1: An aerial view of destroyed houses in Bantul (Achmad Ibrahim, 2006).

On May 27th 2006 an earthquake measuring 6.2 on the Richter scale hit the Yogyakarta Province and Central Java Province, killing nearly 6,000 people, damaging or destroying some 628,000 homes and leaving 1.5 million people homeless. The lack of disaster preparedness and awareness among the population, along with the collapse of vulnerable brick masonry houses, contributed to a high number of casualties and widespread destruction of homes and other buildings.

Before the eruption of Mount Merapi in 2010, a contingency plan elaborated in 2009 based the hazard zones on the study of eruptions that occurred in the 20th century. However, their magnitude was relatively small. When Mount Merapi erupted on October 26th 2010, it produced a 12km-high ash plume and a fast-moving current of hot gas and volcanic matter that extended 8km down the Gendol and Kuning rivers on the southern side of the volcano. The scale of the above impacts was still covered under the 2009 contingency plan. However, the volcano continued to erupt until November 3rd, and the magnitude of the individual eruptions increased dramatically until November 5th.

The magnitude of the Merapi eruption in 2010 was the largest in over 100 years. It claimed nearly 400 lives in Yogyakarta and Central Java Province, damaged more than 3,500 houses and disrupted roads, bridges, educational, health and public service facilities.

Policy and institutional framework

Since enactment of the National Disaster Management Law in 2007, the configuration of disaster risk management in Indonesia has changed. Previously, the response to an event was reactive and led by the National Coordinating Board for Disaster and Internal Displaced Persons (BAKORNAS PBP). In 2008, the Disaster Management Law created a National Disaster Management Agency, responsible for managing the full cycle of disasters, including recovery.

In 2008, the Ministry of Home Affairs Decree 46/2008 mandated the creation of Provincial Disaster Management Agencies (BPBDs). Today, all 33 provinces have a BPBD office, and over 90% of the 497 districts have a local BPBD.

The National Disaster Management Agency is responsible for collaborating with district and provincial disaster management agencies, line ministries, international donors, NGOs and private sector in the process of Post-Disaster Needs Assessment (PDNA), subsequent formulation and implementation of the recovery action plan and oversight of monitoring and evaluation systems.[62] It does not have direct authority over local disaster management agencies because these agencies are under the umbrella of local and provincial governments, which in turn are responsible to the Ministry of Home Affairs.

At local level, disaster management agencies have a similar coordinating role with all local stakeholders. In case of a disaster, they may be supported by the National Disaster Management Agency if tasks are beyond their capacity. This is determined by a National Disaster Management Agency assessment following the incident. However, there is no clear definition or policy establishing what can be considered a major or minor disaster and, therefore, what should be fully managed at local level.

Recovery lessons

National ownership of disaster management: Indonesia has not made an international call for assistance since the West Sumatra earthquake in 2009. This shows confidence in managing disasters on its own, which the country gained through post-disaster recovery experiences since the 2004 tsunami and 2005 Nias events and progress on disaster risk financing since 2009 (*e.g.* creation of contingency funds for disasters, on-call fund for emergencies, fiscal protection against disasters, and insurance of public assets).

Disaster risk reduction commitments: Investment in disaster risk reduction (DRR) is lower than the internationally accepted ratio of 1-2% of national budget. On average, DRR investments at the regional level are also lower than 1% of the regional budget and much smaller at local and village level. Leadership from disaster risk management actors is needed to encourage the prioritization of effective and sufficient DRR investment. However, concerns have been raised around whether Indonesia is losing momentum with the disbandment of the National RED+ Agency and the National Council on Climate Change in 2015. These agencies were merged with the Ministry of Environment and Forestry as an Advisory Board. This might indicate that these bodies have been relegated to the backstage.

The post-disaster **community-driven housing reconstruction model** differs from traditional delivery of post-disaster reconstruction support through contractors. The model, called “Rekompak”, is based on transparency and accountability and involves affected households in all aspects of the construction process. They also oversee fund management to reduce risk of corruption.

The post-disaster reconstruction experience in Yogyakarta and Central Java after the earthquake in 2006 is recognized as **one of the fastest housing recoveries** in recent times. The Java Reconstruction Fund (JRF) project, which was funded by international agencies and managed by the World Bank, resulted in the construction of 15,199 earthquake-resistant houses, with an average weighted satisfaction of 96% and almost 100% occupation.

In parallel, Yogyakarta and Central Java provinces implemented their own Rehabilitation and Reconstruction program (“RR”) with funding from the Indonesian government. This facilitated reconstruction and rehabilitation of 281,555 housing units. The two projects were coordinated by provincial governments and implemented by the Ministry of Public Works as part of the

government's recovery program. Although the "RR" project was very successful overall, a stronger monitoring system would have ensured that earthquake-resistant building codes and standards were consistently respected.

Figure A4.2: Community-driven reconstruction houses with basic to more elaborated finishing (World Bank 2012).

Facilitators are catalyst between government and affected communities. Investing in quality facilitation is fundamental, as there is a direct correlation between this and quality of construction, and community ownership and satisfaction.

Experiences shared by key stakeholders demonstrate that **NGOs can play an enhanced role** in recovery if better coordination with local government is ensured. NGOs can act as watchdogs in recovery processes. For example, they can ensure that community-development values are mainstreamed and needs assessment processes for sectoral recovery are conducted with consent from communities and filtered through local government.

Sector coordination among line ministries as well as regional, local authorities and non-government actors is key to ensuring that planning and implementation of recovery is resilient.

Because of Indonesia's decentralization system and geography, the **capacity of local disaster management agencies** should be reinforced. Disaster management stakeholders at national, provincial and district level need to invest in models that reduce staff turnover and embrace partnerships with other local actors before, during and after disasters.

Consolidation and promotion of good practice: The example of Mount Sinabung eruption in 2014, where good practices were set aside in favor of more rapid but less effective approaches, *e.g.* using the army in housing reconstruction, indicates that consolidation and promotion of good practice, must be strengthened across government institutions more strategically.

Today Indonesia is seen as a **reference in disaster management**, supporting countries in the region, such as Myanmar. This is also an excellent example of South-to-South collaboration. It is important to mention though that since the Merapi eruption in 2010, the national disaster management agency has not faced a major disaster where it could demonstrate its leading role fully. Therefore, the next major disaster will test its disaster recovery capacity.

Case study 5: Flooding – Senegal, 2009 and 2012

Figure A5.1: Severe flooding in the Dalifort suburb of Dakar (Agence de Développement Municipal).

Almost half of Senegal's population lives in urban areas, with over 76% of them classified as informal settlements. Dakar, which only occupies 0.3% of the territory, is home to 21% of Senegal's dwellers. Urban sprawl has resulted in reduced permeability of ground surfaces and increased run-off rates. This, together with lack of drainage infrastructure and rising groundwater levels, provoked floods in Dakar's peri-urban areas in 2000s, with the most severe being recorded in 2009 and 2012.

Policy and institutional framework

The post-disaster needs assessment[63] (PDNA) which was conducted following 2009's floods by the government of Senegal, along with the World Bank, United Nations agencies and the European Commission with support from the Global Facility for Disaster Reduction and Recovery (GFDRR) was a good starting point to plan for recovery. It provided Senegal with an economic and multi-sectoral estimate of flood damages and losses as well as recovery and reconstruction needs. The priority measures identified by the PDNA laid the groundwork for the Ten-Year Flood Management Program, known as PDGI in French. For the first time, the PDGI provided a strategic action plan for recovery and reconstruction over the emergency, short, medium and long term (2012-2022). Its shift in focus from emergency measures to prevention was crucial.

The Project for Management of Storm Water and Adaptation to Climate Change or PROGEP[64], which is part of the PDGI, was launched in November 2012 with much funding from the World Bank. The PROGEP, which is implemented by the Municipal Development Agency (Agence de Développement Municipal or ADM), supports the achievement of the PDGI's medium and long-term objectives through the following interventions in the peri-urban areas of Dakar: integration of flood risk in urban planning; construction of drainage facilities; involvement of local communities in reducing risks of floods and adapting to climate change; coordination, management, monitoring and evaluation.

Recovery lessons

Both the PDGI and the PROGEP formally recognize the role of local communities and local authorities in flood risk reduction and prevention. To maintain the drainage facilities funded by the PROGEP, local communities' awareness should be raised. The PROGEP has established local committees for flood management and climate change adaptation, called COLIGEP. They represent civil society and are tasked with the implementation of PROGEP's community involvement component in the towns where drainage facilities are being built

Right of scrutiny: In Yeumbeul Nord, a town in the suburbs of Dakar, the COLIGEP[65] regularly inspects the drainage facilities under construction to check their quality. A complaint mechanism is in place so COLIGEP's members can raise concerns with the Municipal Development Agency, which in turn refers the issue to the company in charge of works quality and the contractor. This right of scrutiny is increasing the community's sense ownership.

Figure A5.2: Site inspections carried out by COLIGEP provide an opportunity to raise children's awareness of flood prevention (Lucie Sané, coordinator of Yeumbeul Nord's COLIGEP).

Awareness-raising activities: In Yeumbeul Nord, COLIGEP's members[66] go door-to-door to inform households of their roles and responsibilities in flood risk reduction. The COLIGEP also organizes neighborhood meetings with women's organizations and neighborhood representatives, so they can in turn promote a culture of risk management and prevention in their area. During site inspections, the COLIGEP raises awareness of local people about how to contribute to the maintenance of drainage facilities. A sharp focus is on children aged 7-15 so they become ambassadors of the PROGEP and role models, driving change in their community in the preservation of drainage basins.

Capacity building of civil society: In Yeumbeul Nord, the Municipal Development Agency[67] organizes training sessions and capacity-building workshops every four months, on issues such as social and environmental management. These meetings, which are attended by actors from the municipal up to the government level, such as mayors, ministries' delegates, the army and academics, provide civil society organizations such as the COLIGEP with the opportunity to communicate with state actors. The PROGEP involvement of populations could be used as a blueprint for the development of a national strategy, which formalizes and better organizes this engagement. PDGI could replicate this model and develop strategies with communities and local authorities to promote the preservation of no-go areas, fight against urbanization and uncontrolled land use.

Limited resources: Local authorities, such as mayors[68], are key decentralized actors in the implementation of the disaster risk management framework. However, their limited human, financial and logistical resources hinder their preparedness, post-disaster response and recovery activities. Affiliation to opposition political parties can also penalize some municipalities over the allocation of funds. Civil society organizations (CSOs) are also underfunded. PDGI should take this aspect into account so when the PROGEP will be complete, the COLIGEP and other CSOs can continue carrying out flood prevention activities.

Communication and coordination: The multitude of institutions involved in risk reduction and flood management in Senegal, their overlapping mandates and competencies, and poor coordination has resulted so far in a fragmented disaster response. Moreover, the lack of a formal communication mechanism between the state and mayors hinders coordination during both the emergency and recovery activities.

Counselling and psychological support to affected populations[69] is an important aspect in the recovery process, which the PDGI should prioritize.

Endnotes

[1] UNDP Guidance Note. Restoration of Local Governance Functions. 2016

[2] Developing Disaster Recovery Frameworks. GFDRR. 2015

[3]About the GFDRR - the GFDRR helps to make disaster risk management a development priority. Its Resilient Recovery initiative helps governments to prepare for, respond to and recover from major disasters. It also helps to implement the Recovery Framework methodology, an emerging approach to post-disaster recovery and reconstruction that focuses on longer-term resilience to future disasters. www.gfdrr.org

[4] GFDRR, Disaster Recovery Guidance Series, Process for Preparing Disaster Recovery Frameworks. 2016

[5] More information can be found in International Recovery Platform www.recoveryplatform.org/pdna

[6] UNDP 2008, Guidance Note on Early Recovery: www.unocha.org/sites/dms/Documents/Guidance%20note%20on%20Early%20Recovery.pdf

[7] Guidelines for post-disaster needs assessment are available online - see the International Recovery Platform website for detailed guidelines for www.recoveryplatform.org/pdna.

[8] Guide to Developing Disaster Recovery Frameworks, Sendai Conference Version, March 2015, World Bank, GFDRR, 2015, p5.: www.gfdrr.org/sites/gfdrr/files/publication/DRF-Guide.pdf

[9] The Global RApid post-disaster Damage Estimation (GRADE) approach is available for download from https://www.gfdrr.org/sites/default/files/publication/DRAS_web_04172018.pdf

[10] The Inter-Agency Standing Committee's (IASC) Multi-Sector Initial Rapid Assessment is available for download from (MIRA)[10].https://www.humanitarianresponse.info/sites/www.humanitarianresponse.info/files/documents/files/mira_revised_2015_en_1.pdf

[11] "International Rescue Committee (2017), 2017, p.3

[12] The Emergency Market Mapping and Analysis (EMMA) toolkit is is available for download from https://www.emma-toolkit.org/

[13] Federal Emergency Management Agency (FEMA), Pre-Disaster Recovery Planning Guide for Local Governments 2017 P.13

[14] UN General, Sendai Framework 2015-2030. P. 9

[15] Wates. N, 2006, The Community Planning Handbook: How people can shape their cities, towns and villages, Earthscan p112

[16] Local Disaster Recovery Case Study Colombia. GFDRR. 2017.

[17] Davis and Alexander, 2016, p.311

[18] Disaster Management in Japan, White paper by Cabinet Office Japan. 2016: www.bousai.go.jp/kyoiku/panf/pdf/WP2016_DM_Full_Version.pdf

[19] Local post-disaster recovery Indonesia: Lessons from the 2006 Yogyakarta earthquake and the 2010 Mounty Merapi eruption. GFDRR. 2018.

[20] LDRF Serbia Case Study, 2017

[21] Senegal Case Study Interview with Mr. Idrissa Diallo, 26 April 2017

[22] Pakistan Earthquake 2005. The Case of Centralized Recovery Planning and Decentralized Implementation. GFDRR. 2014: www.gfdrr.org/sites/default/files/publication/rfcs-2014-pakistan.pdf

[23] Safer Homes, Stronger Communities: A handbook for Reconstructing after Natural Disasters, GFDRR, 2010: hdl.handle.net/10986/2409

[24] These EMReF monitoring reports (2016) are publicly available at https://emref.org/sites/emref.org/files/publication-docs/qsem_english_version_5_0.pdf

[25] LDRF Colombia Case Study. 2017.

[26] Department of Homeland Security (2016), Crisis Communications Plan. Available at: www.ready.gov/business/implementation/crisis

[27] India's Recovery from Uttarakhand Flash Flood and Odihsa Cyclone Phailin 2013, Local Disaster Recovery Case Study. India. GFDRR. 2017

[28] The World Bank's Approach to Social protection in a Globalizing World, World Bank

[29] Khan, S.M, and Arefin T.M.S, October 2013, Safety Net, Social Protection and Sustainable Poverty Reduction

[30] Davis, I. (2014) and Jha, A.K. et al (2010) pp. 285-302

[31] Adapted from Bringing Resilience to Scale GFDRR 2017 report.

[32] GFDRR Guidance Note on Financing Post-Disaster Recovery and Reconstruction Operations: Developing an institutional mechanism to ensure the effective use of financial resources

GFDRR (2013) https://openknowledge.worldbank.org/handle/10986/22418

[33] Hallegate, S., Vogt-Schilb, A., Bangalore, M., Rozenberg, J. 2017

[34] Towards Human Resilience: Sustaining MDG Progress in an Age of Economic Uncertainty, UNDP 2011 chapter 4

[35] Mohapatra. S, Joseph G and Ratha D, World Bank, 2009

[36] World Bank, Disaster Risk Financing and Insurance (DRFI) Program https://www.worldbank.org/en/programs/disaster-risk-financing-and-insurance-program

[37] India's Recovery from Uttarakhand Flash Flood and Odihsa Cyclone Phailin 2013, Local Disaster Recovery Case Study. India. GFDRR. 2017

[38] Local post-disaster recovery Indonesia: Lessons from the 2006 Yogyakarta earthquake and the 2010 Mounty Merapi eruption. GFDRR. 2018.

[39] ASEAN Disaster Recovery Reference Guide, Association of Southeast Asian Nations 2016

[40] GFDRR, 2013

[41] Adapted from Disaster Recovery Toolkit, 2015

[42] India Uttarakhand Disaster June 2013: Joint Rapid Damage and Needs Assessment Report, Government of Uttarakhand, The World Bank and Asian Development Bank, 2013, p17

[43] Ibid.

[44] Odisha Disaster Recovery Project Appraisal Document, World Bank, February 2014

[45] India Cyclone Phailin in Odisha, October 2013: Rapid Damage and Needs Assessment Report, Government of Odisha, ADB and World Bank, December 2013

[46] National policy on Disaster Management India

[47] National Disaster Management Guidelines: Management of Drought, National Disaster Management Authority, Government of India, September 2010

[48] National Disaster Management Plan 2016, p17

[49] Draft India Disaster Recovery Framework, Ministry of Home Affairs, Government of India, 16 February 2016

[50] Ibid.

[51] Meeting with S.K. Nayak, OSDMA, Government of Odisha, 8 March 2017

[52] Public Investment Management Office

[5353] Interview with Darko Drndic, SKGO, Belgrade, January 2017

[54] Eurostat (2014) Distribution of population by tenure status, 2014 (% of population) YB16

[55] IMF (2010) Financial Sector Assessment Program Update; Serbia, p5

[56] GFDRR (2014) Recovery Needs Assessment

[57] Interview with Obrenovac municipal representatives, Obrenovac, January 2017

[58] Fondo Adaptación (2016b), Presentation: Los Nuevos Retos del Fondo Adaptación: Conocimimiento al servicio del desarrollo sostenible del país.

[59] Comisión Económica para América Latina y el Caribe (CEPAL) and Banco Interamericano de Desarrollo (BID) (2011), Valoración de danos y perdidas: Ola Invernal en Colombia 2010-2011.

[60] Ibid.

[61] Ministerio de Hacienda y Crédito Público (2013), Documento Conpes 3776: Declaratoria de Importancia Estrategia del Proyecto "Construcción y Reconstrucción de las zonas afectadas por la Ola Invernal – Decreto 4580 de 2010 Nacional".

[62] GFDRR (2014) Institutionalizing Post-Disaster Recovery: Learning from Mentawai Tsunami and Merapi Eruption. Recovery framework case study

[63] GFDRR, Post-Disaster Needs Assessment, French version: Rapport d'évaluation des besoins post catastrophe, Inondations urbaines à Dakar 2009, 2010, https://www.gfdrr.org/sites/gfdrr/files/documents/GFDRR_Senegal_PDNA_2010_FR.pdf

[64] GFDRR, Senegal: urban floods. Recovery and Reconstruction since 2009, Recovery Framework Case Study, 2014, https://www.gfdrr.org/sites/gfdrr/files/Senegal_English_August%202014.pdf

[65] Interview with Ms. Lucie Sané, coordinator of the local committee for flood management and climate change adaptation (COLIGEP) of Yeumbeul Nord, Pikine department, Dakar region, on 3 May 2017.

[66] Ibid.

[67] Ibid.

[68] Interview with Mr. Idrissa Diallo, Mayor of Dalifort, Pikine department, Dakar region, on 26 April 2017.

[69] Ibid.