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Disaster Recovery

ASEAN Training of Trainers (TOT) on Disaster Recovery

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Yangon, Myanmar

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References

Agreement on the Establishment of the ASEAN Coordinating Centre for Humanitarian Assistance on Disaster Management, ASEAN Secretariat, Jakarta, November 2011

ASEAN Agreement on Disaster Management and Emergency Response (AADMER), ASEAN Secretariat, Jakarta, published 26 July 2005, ratified 24 December 2009

ASEAN Agreement on Disaster Management and Emergency Response Work Programme for 2010 – 2015, Section 4: Recovery, ASEAN Secretariat, Jakarta; May 2010; Fourth Reprint, December 2013

ASEAN Training of Trainers on Damage and Loss Assessment (DaLA), ASEAN Secretariat, Jakarta, 2015

ASEAN Communication Master Plan—ASEAN: A Community of Opportunities, ASEAN Secretariat, Jakarta, October 2014

Post-Nargis Joint Assessment, prepared by the Tripartite Core Group (Government of the Union of Myanmar, ASEAN, and the United Nations with support of the Humanitarian Development Community), July 2008

Communicating in Recovery, Australian Red Cross, Victoria, Australia, 2010

Community Recovery, in the series "Australian Emergency Management Handbook Series: Building a Disaster Resilient Australia," Handbook 2, third edition, Australian Emergency Management Institute, Commonwealth of Australia, 2011

10 Management Lessons for Host Governments Coordinating Post-disaster Reconstruction, the Executing Agency for Rehabilitation and Reconstruction (BRR) of Aceh-Nias 2005-2009, Badan Rehabilitasi dan Rekonstruksi (BRR), Nias and Jakarta, Indonesia, 2009

Finance: The Seven Keys to Effective Aid Management, The BRR Book Series, Badan Rehabilitasi dan Rekonstruksi (BRR); Lueng Bata, Banda Aceh; Nias; and Jakarta, Indonesia, 2009

Institution: Laying the Foundation of Good Government, The BRR Book Series, Badan Rehabilitasi dan Rekonstruksi (BRR); Lueng Bata, Banda Aceh; Nias; and Jakarta, Indonesia, 2009

BRR, The Agency of Rehabilitation and Reconstruction for Aceh & Nias, a presentation by Said Faisal, Deputy for Economy and Business Development, at the International Forum on Tsunami and Earthquake; records of the International Forum on Tsunami and Earthquake (and elsewhere online); Japan; International Recovery Platform (IRP) Secretariat, Asian Disaster Reduction Center (ADRC), UN-ISDR, UNDP, UN OCHA, UN-HABITAT, ILO, The World Bank (WB), IFRC, Cabinet Office of Japan, Ministry of Foreign Affairs of Japan, Hyogo Prefecture, et al., January 2007

Developing and Maintaining Emergency Operations Plans, Comprehensive Preparedness (CPG) 101, Version 2.0, Federal Emergency Management Agency (FEMA), Washington, DC, U.S., 2010

IS-242.B: Effective Communication, an independent study course, Federal Emergency Management Agency (FEMA), Washington, DC, U.S., 2014

National Disaster Recovery Framework: Strengthening Disaster Recovery for the Nation, Federal Emergency Management Agency (FEMA), Washington, DC, U.S., updated and reprinted in 2011

Disaster Recovery Framework: Guide to Developing Disaster Recovery Frameworks, World Reconstruction Conference Version; Outcomes of the World Reconstruction Conference, Global Facility for Disaster Reduction and Recovery (GFDRR), The World Bank, Washington, DC, U.S., 2014

Guide for Developing Disaster Recovery Frameworks, World Reconstruction Conference Version, Global Facility for Disaster Reduction and Recovery (GFDRR), The World Bank, Washington, DC, U.S., 2014

Post-Disaster Needs Assessments, Volume A: Guidelines, Global Facility for Disaster Reduction and Recovery (GFDRR) with contributions from the European Union, The World Bank, and the United Nations Development Group, The World Bank, Washington, DC, U.S., 2013

Typhoon Yolanda Ongoing Recovery: Recovery Framework Case Study (Post-Yolanda Reconstruction Case Study), revised final version, The World Bank, and the United Nations Development Group, The World Bank, Washington, DC, U.S., 2015

From Safer Homes, Stronger Communities: A Handbook for Reconstructing after Natural Disasters, The International Bank for Reconstruction and Development / The World Bank, Washington, DC, U.S., 2010

Disaster Management Course, "Session 3.7: Overview of Recovery and Reconstruction," pp. 109–116 and others; Myanmar Relief and Resettlement Department; Ministry of Social Welfare, Relief and Resettlement, Naypyidaw, Myanmar, September 2012

"The elusive 'window of opportunity' for risk reduction in post disaster recovery," a discussion paper by Ian Christoplos, retrieved 21 December 2010 from ProVention Consortium online at proventionconsortium.org, ProVention Consortium, Bangkok, February 2006.

Tsunami Global Lessons Learned Project (TGLLP) Handbook for Disaster Recovery Practitioners, TGLLP Disaster Recovery Toolkit series, Asian Disaster Preparedness Center (ADPC), Bangkok, 2015

Tsunami Global Lessons Learned Project (TGLLP) Training Manual: Learning Workshop on Recovery and Reconstruction, TGLLP Disaster Recovery Toolkit series, Asian Disaster Preparedness Center (ADPC), Bangkok, 2015

Guidance Note on Recovery: Pre-Disaster Recovery Planning, International Recovery Platform and UN ISDR, UN Office for Disaster Risk Reduction, 2012

Post-Disaster Recovery Guidelines, *Version 1*, UNDP Bureau for Crisis Prevention and Recovery, Disaster Reduction Unit, 2005

Project Facts: Aceh Government Transformation Program, (originally online at http://www.undp.or.id/factsheets/2008/ACEH%20Aceh%20Government%20Transformation.pdf; more recently, see https://www.yumpu.com/en/document/view/29145048/aceh-government-transformation-programme-undp), UNDP Indonesia, 2008

Monitoring and Evaluation in a nutshell, www.sswm.info/sites/default/files/reference_attachments/RED%20CROSS%20and%20RED%20CRESCENT%202007%20Monitoring%20and%20Evaluation%20in%20a%20Nutshell.pdf, International Federation of Red Cross and Red Crescent Societies, Geneva, Switzerland, 2007

Rebuilding after Earthquakes: Lessons from Planners, Portola Valley, William Spangle & Associates, Inc., Menlo Park, California, 1991

An Overview of Disaster Management, Second Edition, UNDP/ United Nations Disaster Relief Organization (UNDRO) Disaster Management Training Programme, University of Wisconsin Disaster Management Center, Madison Wisconsin, U.S., 1992

Standards for Evaluation in the UN System, retrieved from www.unevaluation.org/unegstandards, United Nations Evaluation Group (UNEG) Secretariat, New York City, U.S., 2005

"**Catastrophe economics: The national flood insurance program,"** by Erwann O. Michel-Kerjan in *The Journal of Economic Perspectives*, Vol. 24, No. 4 (Fall 2010): pp. 165-186

State Disaster Recovery Planning Guide, U.S. Department of Homeland Security; Coastal Hazards Center of Excellence; University of North Carolina, Chapel Hill, NC, U.S., 2012

Holistic Disaster Recovery: Ideas for Building Local Sustainability after a Natural Disaster, Natural Hazards Center; Public Entity Risk Institute, Fairfax, Virginia, U.S., 2005

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CONTENTS

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DISASTER RECOVERY

COURSE DESCRIPTION

The purpose of this course is to advance the capabilities of ASEAN Member States (AMS) for planning and conducting disaster recovery activities. This course builds upon existing training standards and course curricula pertaining to disaster recovery, and provides participants with opportunities to apply acquired knowledge through practical application of skills. The course uses a variety of training methods and interactive techniques to introduce concepts and reinforce learning. This course offers a standardized and repeatable training curriculum that takes into account the socio-cultural uniqueness of the ASEAN region and reflects the needs, learning culture, and goals of ASEAN National Disaster Management Organizations (NDMOs).

Target Audience	▪ The primary audience for this course includes national/central and sub-national government officials with responsibility for managing disaster recovery operations and formulating and/or implementing policies in support of recovery processes. International and regional humanitarian assistance organizations and development partners will also benefit.
Prerequisites	It is recommended that training participants are familiar with, or have completed training on the topics of: ▪ Disaster management principles. ▪ Disaster risk reduction (DRR) and disaster risk management (DRM) concepts. ▪ Post-disaster assessment methodologies.
Course Duration	▪ Four (4) days
Course Objectives	1. To advance the capacity of ASEAN Member States to plan and conduct disaster recovery activities. 2. To provide an overview of concepts, themes, and guiding principles for recovery planning and implementation. 3. To impart the skills necessary to enable participants to actively engage in the recovery planning, design, monitoring and evaluation process. 4. To provide a forum for the advancement of recovery processes and practice through the sharing of experience, best practices and lessons learned.
Course Delivery	☑ Lecture ☑ Discussion ☐ Demonstration ☑ Group Activities

Methods	☐	Field Trip	☑	Case Studies	☐ Simulated Exercise
Course Certificate	Upon successful course completion participants will receive a Certificate.				

MODULE 1: INTRODUCTION TO DISASTER RECOVERY

This introductory module provides an overview of disaster recovery, including its role in the overall disaster management cycle, key concepts, common challenges, and guiding principles. Cross-cutting themes in recovery are also introduced in this module, and will be periodically revisited throughout the course.

- Introduction to Disaster Recovery
  - What is Disaster Recovery?
  - Group Activity: What is Disaster Recovery?
  - The Role of Recovery in Disaster Management
- Phases of Recovery
  - Short-Term Recovery
  - Long-Term Recovery
  - Group Activity: Puzzle Pieces
- Common Challenges in Recovery
- Core Principles in Recovery
- The Importance of Pre-Disaster Recovery Planning
- Cross-Cutting Themes in Recovery
  - Policy
  - Disasters and Development
  - Integrating Disaster Risk Reduction (DRR) into Recovery Processes
  - Community-Oriented Approaches to Recovery

MODULE LEARNING OUTCOMES

1. Participants will gain an understanding of the disaster recovery process and its role in the overall disaster management cycle.
2. Participants will be able to distinguish between the phases of recovery, and describe key activities and common challenges.
3. Participants will be introduced to cross-cutting themes in recovery.

MODULE DELIVERY METHODS

☑ Lecture	☑ Discussion	☐ Demonstration	☑ Group Activities
☐ Field Trip	☐ Case Studies	☐ Simulated Exercise	

MODULE DURATION

1.5 instructional hours

MODULE 2: MANAGING DISASTER RECOVERY

Module 2 discusses three institutional models for managing large-scale disaster recovery, and the institutional mechanisms and characteristics that contribute to their effectiveness.

- Managing Recovery and Reconstruction
  - Embedding Community-driven Recovery into Institutions
  - Building Back Better
  - The Right Capabilities for the Right Recovery
- Characteristics of Effective Recovery Institutions
  - Organizational Structure
  - Organizational Capacity
  - Summary of Institutional Characteristics
- Group Activity: Does the Recovery Organization Fit?
- Institutional Models for Recovery
  - Recovery According to Existing Agency Responsibilities
  - Task Force or Commission
  - New Recovery Agency
- Case Studies: Institutional Models for Disaster Recovery

MODULE LEARNING OUTCOMES

1. Participants will gain an appreciation for the value of community input to recovery and reconstruction processes.
2. Participants will gain familiarity with different institutional models for managing recovery and reconstruction efforts.
3. Participants will be able to identify the characteristics that contribute to effective recovery institutions.

MODULE DELIVERY METHODS

☑ Lecture	☑ Discussion	☐ Demonstration	☑ Group Activities
☐ Field Trip	☑ Case Studies	☐ Simulated Exercise	

MODULE DURATION

1.5 instructional hours

MODULE 3: POST-DISASTER NEEDS ASSESSMENT (PDNA)

Module 3 introduces one of the more established approaches for conducting post-disaster assessments and its role in recovery planning and implementation. The widely applied Post-Disaster Needs Assessment (PDNA) methodology, which combines Damage and Loss Assessment (DaLA) with Human Recovery Needs Assessment (HRNA), will be the focus for this module.

- Introduction to Post-Disaster Assessments
  - Disasters and Their Impacts
  - Assessing Disaster Effects and Impacts
- The PDNA Process
  - Role in Disaster Recovery and Reconstruction
  - When to Conduct
  - Activating the PDNA
  - Planning and Preparation
  - Data Collection, Consolidation and Analysis
- Group Activity: Assessing the Post-Disaster Situation
- PDNA Deliverables
  - The PDNA Report
  - Recovery Strategy
  - Resource Mobilization
  - Outline for Recovery Implementation
- Next Steps for Recovery
- Issues and Challenges in PDNA
- Case Studies: Using PDNA Results in Recovery Planning

MODULE LEARNING OUTCOMES

1. Participants will gain an understanding of the overall purpose and objectives of post-disaster assessments, and their relevance to recovery processes.
2. Participants will be introduced to the Post-Disaster Needs Assessment (PDNA) methodology, and be able to recognize the primary goals and distinguishing features of HRNA and DaLA as part of the PDNA process.
3. Participants will gain insight into common issues and challenges in conducting PDNA.

MODULE DELIVERY METHODS

☑ Lecture	☑ Discussion	☐ Demonstration	☑ Group Activities
☐ Field Trip	☑ Case Studies	☐ Simulated Exercise	

MODULE DURATION

2 instructional hours

MODULE 4: DISASTER RECOVERY FRAMEWORKS

Module 4 describes the purpose of a Disaster Recovery Framework (DRF) and its role in guiding the recovery process. Key considerations for the development of a DRF, and the recovery support arrangements that should be taken into account are examined. Case studies will review two Disaster Recovery Frameworks developed and implemented in ASEAN countries.

- Introduction to Disaster Recovery Frameworks
  - What is a Disaster Recovery Framework?
  - Purpose of the DRF and its Role in the Recovery Planning Process
- Key Considerations for Framework Development
  - Stakeholder Engagement
  - Recovery Vision, Goals and Priorities
  - Group Activity: Disaster Recovery Interventions
  - Recovery Support Arrangements
  - Group Activity: Recovery Support Arrangements
  - Framework Structure
  - Case Studies: Recovery Frameworks for Cyclone Nargis and Typhoon Yolanda

MODULE LEARNING OUTCOMES

1. Participants will gain an understanding of the purpose and application of Disaster Recovery Frameworks.
2. Participants will explore a variety of recovery support arrangements that promote effective disaster recovery.

MODULE DELIVERY METHODS

☑	Lecture	☑	Discussion	☐	Demonstration	☑	Group Activities
☐	Field Trip	☑	Case Studies	☐	Simulated Exercise		

MODULE DURATION

2 instructional hours

MODULE 5: DISASTER RECOVERY PLANNING & PLAN DEVELOPMENT

Module 5 provides an introduction to disaster recovery planning. Key elements and steps of the disaster recovery planning process will be explored, including examples of planning resources and methods for plan implementation and maintenance.

- Introduction to Disaster Recovery Planning
- Principles of Disaster Recovery Planning
- Pre- vs. Post-Disaster Recovery Planning
    - Pre-Disaster Recovery Planning (PDRP)
    - Group Activity: Benefits of Pre-Disaster Recovery Planning
    - Post-Disaster Recovery Planning
    - Group Activity: Challenges of Post-Disaster Recovery Planning
- The Recovery Planning Process
    - Adopting a Standard Planning Approach
    - Group Activity: The Value of PDRP
- The Disaster Recovery Plan
    - The Role of Policy in Plan Development and DRF Implementation
    - Basic Structure of a DRP
    - Group Activity: Information Sources for Recovery Planning
    - Case Studies and Discussion: Cyclone Nargis and Typhoon Yolanda

MODULE LEARNING OUTCOMES

1. Participants will become familiar with the concept of disaster recovery planning, including the differences between pre- and post-disaster recovery planning.
2. Participants will gain an understanding of the benefits and challenges of disaster recovery planning.
3. Participants will gain a working knowledge of the steps and key considerations of the recovery planning process.

MODULE DELIVERY METHODS

☑ Lecture	☑ Discussion	☐ Demonstration	☑ Group Activities
☐ Field Trip	☑ Case Studies	☐ Simulated Exercise	

MODULE DURATION

2.5 instructional hours

MODULE 6: MOBILIZING AND MANAGING FINANCIAL RESOURCES

Module 6 elaborates on the mobilization of funds from various sources, the different modalities for disbursement and channeling, and national and local budgeting for recovery needs within the complexity of the recovery process.

- Funding Post-Disaster Recovery
  - Introduction to Resource Mobilization
  - Typical Sources of Post-Disaster Funding
- Characteristics of Funding Sources
  - Group Activity: Planning for Funding Acquisition
- Mobilizing and Managing Financial Resources
  - Funding Acquisition Planning
  - Choosing the Right Agency
  - Multi-Partner Trust Fund or Multi-Donor Trust Fund
- Challenges in Disbursement

MODULE LEARNING OUTCOMES

1. Participants will become familiar with primary funding sources for recovery efforts.
2. Participants will be able to appreciate key characteristics of finance sources.
3. Participants will examine strategies to mobilize and manage financial resources for recovery.
4. Participants will be able to develop a strategy for resource mobilization and finance management.

MODULE DELIVERY METHODS

☑ Lecture	☑ Discussion	☐ Demonstration	☑ Group Activities
☐ Field Trip	☐ Case Studies	☐ Simulated Exercise	

MODULE DURATION

1.5 instructional hours

MODULE 7: COMMUNICATION IN RECOVERY

Module 7 discusses the communication process, and factors that influence the effectiveness of disaster communications. It also emphasizes the important role of communication in recovery processes, and how this can be strengthened to boost the credibility and trustworthiness of the recovery program.

- Effective Communication During a Disaster
  - Effective Oral Communication
  - Communicating During a Disaster
  - Technology as a Communication Tool
- Key Elements of Communication in Recovery
  - Developing a Communication Plan
  - Group Activity: Develop a Communication Plan

MODULE LEARNING OUTCOMES

1. Participants will be able to discuss elements of, and factors that influence effective disaster communications.
2. Participants will be able to develop a basic communication plan for recovery.

MODULE DELIVERY METHODS

☑ Lecture	☑ Discussion	☐ Demonstration	☑ Group Activities
☐ Field Trip	☐ Case Studies	☐ Simulated Exercise	

MODULE DURATION

1.25 instructional hours

MODULE 8: RECOVERY MONITORING AND EVALUATION

Module 8 covers the considerations in designing a monitoring and evaluation (M&E) system for large-scale recovery based on the information requirements of various stakeholders. Best practices in M&E, and key constraints will also be discussed.

- Recovery Monitoring and Evaluation
  - Rational for Monitoring and Evaluation (M&E)
- Developing an M&E System
  - Project Planning Matrix using a Logical Framework Approach
  - Special Considerations in Developing an M&E System
  - Levels of Monitoring and Evaluation
  - Group Activity: Developing SMART Objectives and Means of Verification
- Best Practices in Monitoring and Evaluation
  - Strategies for Measuring Progress During Recovery
- Key Constraints in Monitoring and Evaluation
- Undertaking an Evaluation
  - Planning an Evaluation
  - Format of an Evaluation Report
  - Characteristics of a Good Evaluation Report
  - Dissemination of the Evaluation Report
- Case Studies and Discussion: M&E of Recovery Processes

MODULE LEARNING OUTCOMES

1. Participants will be able to appreciate the importance of M&E in large-scale recovery.
2. Participants will be able to explain the basic components and process of M&E.

MODULE DELIVERY METHODS

☑ Lecture	☑ Discussion	☐ Demonstration	☑ Group Activities
☐ Field Trip	☑ Case Studies	☐ Simulated Exercise	

MODULE DURATION

1.5 instructional hours

MODULE 9: TRANSITION AND EXIT STRATEGY

Module 9 discusses the importance of developing exit strategies to promote a smooth transition from disaster recovery to development.

- Transition and Exit Strategy
  - What is an Exit Strategy?
  - Why are Exit Strategies Important?
  - What Main Points Should an Exit Strategy Cover?
- Key Considerations for Program Transfer
  - The Changing Status of Recovery Agencies During Transition
  - Handing Over of Projects
  - Exit Strategy Monitoring and Evaluation
  - Group Activity and Discussion: Formulating an Exit Strategy

MODULE LEARNING OUTCOMES

1. Participants will be introduced to transition and exit strategies as they relate to disaster recovery.
2. Participants will gain insight into the process and considerations for transitioning from recovery to development.

MODULE DELIVERY METHODS

☑ Lecture	☑ Discussion	☐ Demonstration	☑ Group Activities
☐ Field Trip	☐ Case Studies	☐ Simulated Exercise	

MODULE DURATION

1 instructional hour

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MODULE 1: INTRODUCTION TO DISASTER RECOVERY

MODULE DESCRIPTION

This introductory module provides an overview of disaster recovery, including its role in the overall disaster management cycle, key concepts, common challenges, and guiding principles. Cross-cutting themes in recovery are also introduced in this module, and will be periodically revisited throughout the course.

MODULE LEARNING OUTCOMES

- Participants will gain an understanding of the disaster recovery process and its role in the overall disaster management cycle.
- Participants will be able to distinguish between the phases of recovery, and describe key activities and common challenges.
- Participants will be introduced to cross-cutting themes in recovery.

INTRODUCTION TO DISASTER RECOVERY

WHAT IS A DISASTER?

A "disaster" is defined by UNISDR as, "a serious disruption of the functioning of a community or a society involving widespread human, material, economic, or environmental losses and impacts, which exceeds the ability of the affected community or society to cope using its own resources."

UNISDR further comments that, "disasters are often described as a result of the combination of: the exposure to a hazard; the conditions of vulnerability that are present; and insufficient capacity or measures to reduce or cope with the potential negative consequences. Disaster impacts may include loss of life, injury, disease and other negative effects on human physical, mental, and social well-being, together with damage to property, destruction of assets, loss of services, social and economic disruption, and environmental degradation."

The definition above provides us with a glimpse of the often complex circumstances that result from disasters, and the factors that contribute to the degree of damage, losses, and extent of impacts. Disasters affect not only our physical environment, but that which sustains us physically, emotionally and economically. Lives are lost, livelihoods destroyed, and social fabric weakened. Development is halted or significantly set back. And governance systems are challenged to equitably and efficiently meet urgent needs and restore services. Recovering from a disaster is a daunting task that requires leadership, coordination, planning, communication, resources, partnership, and engagement at all levels of government, with nongovernmental organizations, the public and private sector, and communities. Disasters that exceed a nation's ability to manage them will require additional engagement with international humanitarian assistance partners to effect recovery.

The process by which we recover from disasters, and the practices and support structures that help make the process of recovery successful, have become topics of increasing interest as the frequency of disasters and the severity of their impacts steadily increases around the world.

GROUP ACTIVITY: WHAT IS DISASTER RECOVERY?

Recovery is defined by UNISDR as: “the restoration, and improvement where appropriate, of facilities, livelihoods and living conditions of disaster-affected communities, including efforts to reduce disaster risk factors.”

UNISDR further comments that, “the recovery task of rehabilitation and reconstruction begins soon after the emergency phase has ended, and should be based on pre-existing strategies and policies that facilitate clear institutional responsibilities for recovery action and enable public participation. Recovery programmes, coupled with the heightened public awareness and engagement after a disaster, afford a valuable opportunity to develop and implement disaster risk reduction measures and to apply the ‘build back better’ principle.”

THE ROLE OF RECOVERY IN DISASTER MANAGEMENT

Disaster management, also referred to as “emergency management,” is defined by UNISDR as:

“The organization and management of resources and responsibilities for addressing all aspects of emergencies, in particular preparedness, response and initial recovery steps.”

UNISDR further comments that, “a crisis or emergency is a threatening condition that requires urgent action. Effective emergency action can avoid the escalation of an event into a disaster. Emergency management involves plans and institutional arrangements to engage and guide the efforts of government, non-government, voluntary, and private agencies in comprehensive and coordinated ways to respond to the entire spectrum of emergency needs. The expression ‘disaster management’ is sometimes used instead of emergency management.”

As described above, disaster management consists of a broad range of activities and interventions that take place before, during, and after a disaster which seek to prevent or minimize loss of life and property, reduce human suffering, and hasten recovery. These activities are typically grouped into phases of a disaster management cycle, which can take many forms. Figure 1 is a typical example, showing four phases: preparedness, response, recovery and mitigation. Some disaster management activities are associated with a single phase of the cycle, while many span multiple phases.

The disaster management cycle may be best described as a continuum (indicated by arrows), with parallel and overlapping activities, as distinctions between where one phase begins and where another

ends are not always apparent. It is useful, however, to consider the primary activities associated with each, and how they intersect with, and support other phases, particularly with regard to recovery.

Figure 1: Disaster Management Cycle

Recovery and Preparedness

Disaster recovery ideally begins before a disaster occurs. Emergency managers frequently develop plans for warning, evacuation, and sheltering, and may even consider plans for debris removal, the restoration of utilities, and how donations and volunteers will be managed. These pre-disaster planning activities can have a dramatic impact on a community's ability to respond and recover from a disaster.

In addition, pre-disaster planning activities specific to post-disaster recovery such as the formulation of recovery policies, institutional arrangements and organizational structures, as well as the capacity building necessary to coordinate and implement recovery programs, will go a long way toward a successful recovery. Recovery planning that takes place outside the stressful, emotionally-charged, and time-sensitive post-disaster environment is more likely to be based on sound practices and good decisions.

Recovery and Mitigation

Disasters have a way of revealing vulnerabilities and weaknesses, not only in physical elements, but in societal and governance structures as well. They also offer opportunities to improve and strengthen these components during the recovery process, thereby increasing resilience to future hazard events.

Risk and vulnerability assessments are highly effective tools that help communities understand their exposure to hazards and the potential vulnerabilities, and provide the justification needed to take actions to reduce them. While risk assessments and the identification and implementation of mitigation projects typically take place as part of preparedness, pre-defined mitigation activities will prove valuable as risk reduction options are explored in recovery planning efforts.

Furthermore, realistic hazard scenarios provide disaster managers, policy makers and planners with the information needed to more effectively educate the populace, improve warning systems, and plan response and recovery operations.

Recovery and Response

Short-term recovery (discussed below) is typically viewed as an extension of the response phase in which basic services and functions are restored. Sometimes referred to as "disaster relief," response actions, such as the supply of temporary housing, food, and water, may continue well into the recovery stage. How local governments plan and conduct response activities has a direct bearing on early recovery.

Recovery

Figure 2 provides another example of the disaster management cycle, which illustrates the recovery phase as encompassing response/relief, rehabilitation, and reconstruction, where the latter two activities make up much of the disaster recovery phase. Some nations distinguish between, and develop specific plans for rehabilitation and reconstruction during the recovery phase.

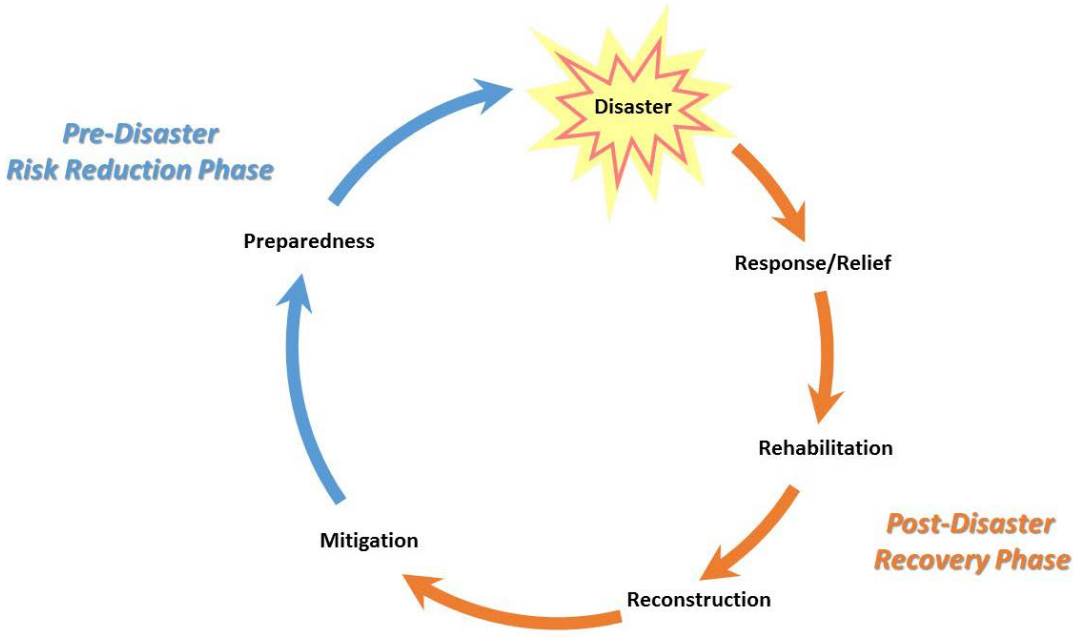


Figure 2: Disaster Management Cycle, adapted from UNDP[1]

[1] *An Overview of Disaster Management*, 2nd Edition, 1992. UNDP/UNDRO Disaster Management Training Programme, University of Wisconsin Disaster Management Center. P. 62

Rehabilitation and reconstruction activities constitute most of the disaster recovery phase. This period following the emergency phase focuses on activities that enable those affected by the disaster to resume normal, viable lives and restore livelihoods. It also includes the restoration of infrastructure, services and the economy in a manner appropriate to long-term needs and defined development objectives. While recovery processes should strive to be comprehensive and encompassing, there may be a need for continued humanitarian assistance for selected vulnerable groups following some disasters.

Rehabilitation

Rehabilitation consists of actions taken in the aftermath of a disaster that:

- Enable basic services to resume functioning,
- Assist individual and community-driven efforts to repair dwellings and community facilities, and
- Facilitate the revival of economic activities.

Rehabilitation focuses on enabling disaster-affected populations (families and local communities) to resume more-or-less "normal," pre-disaster patterns of life. It may be considered a transitional phase between immediate relief, and long-term reconstruction, as well as the pursuit of ongoing development.

Reconstruction

Reconstruction involves:

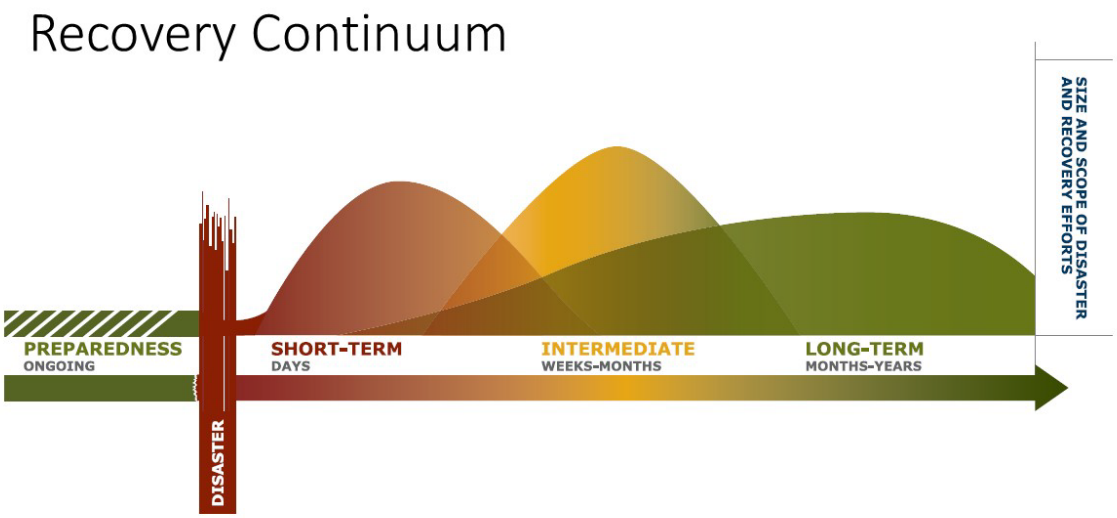
- Permanent construction or replacement of severely damaged physical structures,
- Full restoration of services and local infrastructure, and
- Revitalization of the economy (including agriculture).

Reconstruction must be fully integrated into ongoing long-term development plans, and take into account future disaster risks. It must also consider ways of reducing those risks by applying appropriate mitigation measures. For example, damaged or destroyed structures and services may be relocated to areas of lower risk, or restored in a manner than strengthens their abilities to withstand future hazard impacts. Reconstruction may also include the replacement of temporary arrangements established as a part of the emergency response or early recovery activities.

PHASES OF RECOVERY

Like the disaster management cycle, the recovery process is often discussed as a "continuum," due to the interdependent and often concurrent activities that ultimately help a disaster-affected community regain a sense of normalcy.

In the example shown in Figure 3, recovery is divided into three overlapping phases; short-, intermediate-, and long-term recovery.



Source: *National Disaster Recovery Framework*; Federal Emergency Management Agency (FEMA); 2011

Figure 3: FEMA's Depiction of the Recovery Continuum

In this course, we will distinguish between short-term and long-term recovery, and discuss the typical activities that are associated with each phase.

SHORT-TERM RECOVERY

Short-term recovery involves the restoration of basic functions and services in the disaster-affected community, also referred to as "lifeline" services. Short-term recovery can include:

- Mobilizing recovery organizations and resources,
- Restarting and/or restoring essential services for recovery decision-making, and
- Responding to health and safety needs that extend beyond rescue, such as
    - Debris management,
    - Assessment of the scope of damage and needs, and
    - Restoring basic infrastructure.

LONG-TERM RECOVERY

Long-term recovery includes actions that lead to restoration of normal life, and of the social and economic functioning of the disaster-affected community. These may include:

- Establishing policies, plans, and institutional frameworks to organize and manage recovery,
- Redeveloping and revitalizing the impacted area,
- Rebuilding and/or relocating damaged or destroyed infrastructure and buildings,
- Restoring social, economic, and natural systems, and
- Establishing the means for self-sufficiency and sustainability, and for the resilience of organizations and individuals.

GROUP ACTIVITY: "PUZZLE PIECES" BUILD A DISASTER MANAGEMENT CYCLE

COMMON CHALLENGES IN RECOVERY

Common challenges associated with recovery processes include:

- The untimely and inequitable distribution of assistance;
- Recovery and reconstruction processes are conceptualized as "a return to normal," rather than being viewed as opportunities to reduce vulnerabilities and improve resilience;
- The lack of effective coordination and communication across groups and the larger network of aid providers (resulting in a gap between humanitarian relief and recovery activities);
- The tendency of government (at all levels) to be overwhelmed given the multitude of tasks before them, many of which have not been adequately planned for, or have not been effectively assigned to other members of the disaster assistance network beforehand;
- The lack of adequate policies, plans, standards, or institutional mechanisms that can be used or expediently adapted to support recovery processes; and
- The high visibility of the post-disaster situation and demands for action result in rushed solutions to restore a sense of normalcy at the cost of sustainability.

> "The question is, how can a decision maker reshape a process that operates within an emotional, reactionary, time-sensitive, expensive, and politically charged atmosphere and is based upon incomplete information, disproportionate needs, and the worst working conditions imaginable?" *(Source: Holistic Disaster Recovery p. 2-2)*

What other recovery challenges have you encountered?

Module 2 will discuss some of the essential characteristics of a managing institution responsible for recovery, and how they can help overcome these common challenges.

CORE PRINCIPLES IN RECOVERY

The U.S. Federal Emergency Management Agency's National Disaster Recovery Framework[2] outlines the following nine core principles that, when put into practice, maximize the opportunity for achieving recovery success.

[2] FEMA NDRF, 9-11.

Individual and Family Empowerment

All community members must have equal opportunity to participate in community recovery efforts in a meaningful way. Care must be taken to assure that actions, both intentional and unintentional, do not exclude groups of people based on race, color, national origin (including limited language proficiency), religion, sex or disability.

Care must be taken to identify and eradicate social and institutional barriers that hinder or preclude individuals with disabilities and others in the community historically subjected to unequal treatment from full and equal enjoyment of the programs, goods, services, activities, facilities, privileges, advantages and accommodations provided.

A successful recovery is about the ability of individuals and families to rebound from their losses in a manner that sustains their physical, emotional, social and economic well-being. The restoration of infrastructure systems and services is critical during recovery. It is vital that all individuals who make up the community are provided with the tools to access and use a continuum of care that addresses both the physical losses sustained and the psychological and emotional trauma experienced.

Leadership and Local Primacy

Successful recovery requires informed and coordinated leadership throughout all levels of government, sectors of society and phases of the recovery process. It recognizes that local governments have the primary responsibility for the recovery of their communities and play the lead role in planning for and managing all aspects of community recovery. This is a basic, underlying principle that should not be overlooked by government entities at higher levels, or other disaster recovery managers. Higher levels of government act in support of their communities, evaluate their capabilities and provide a means of support for local governments overwhelmed by a large-scale disaster or catastrophic incident.

Pre-Disaster Recovery Planning

The speed and success of recovery can be greatly enhanced by establishment of the process and protocols prior to a disaster for coordinated post-disaster recovery planning and implementation. All stakeholders should be involved to ensure a coordinated and comprehensive planning process, and develop relationships that increase post-disaster collaboration and unified decision-making. Another important objective of pre-disaster recovery planning is to take actions that will significantly reduce disaster impacts through disaster-resilient building practices.

Partnerships and Inclusiveness

Partnerships and collaboration across groups, sectors and governments promote a successful recovery process. Partnerships and inclusiveness are vital for ensuring that all voices are heard from all parties involved in disaster recovery and that all available resources are brought to the table. This is especially critical at the community level where non-governmental partners in the private and non-profit sectors play a critical role in meeting local needs. Inclusiveness in the recovery process includes individuals with disabilities and others with access and functional needs, advocates of children, seniors and members of

underserved populations. Sensitivity and respect for social and cultural diversity must be maintained at all times. Compliance with equal opportunity and civil rights laws must also be upheld.

Public Information

Clear, consistent, culturally appropriate and frequent communication initiatives promote successful public information outcomes. These incorporate a process that is inclusive and ensures accessibility to all, including those with disabilities, persons who are deaf or blind and those with limited language proficiency. Public information messaging helps manage expectations throughout the recovery process and supports the development of government-led communications plans. This ensures stakeholders have a clear understanding of available assistance and their roles and responsibilities; makes clear the actual pace, requirements and time needed to achieve recovery; and includes information and referral help-lines and websites for recovery resources.

Unity of Effort

A successful recovery process requires unity of effort, which respects the authority and expertise of each participating organization while coordinating support of common recovery objectives. Common objectives are built upon consensus and a transparent and inclusive planning process with clear metrics to measure progress.

Timeliness and Flexibility

A successful recovery process upholds the value of timeliness and flexibility in coordinating and efficiently conducting recovery activities and delivering assistance. It also minimizes delays and loss of opportunities. The process strategically sequences recovery decisions and promotes coordination; addresses potential conflicts; builds confidence and ownership of the recovery process among all stakeholders; and ensures recovery plans, programs, policies and practices are adaptable to meet unforeseen, unmet and evolving recovery needs.

Resilience and Sustainability

A successful recovery process promotes practices that minimize the community's risk to all hazards and strengthens its ability to withstand and recover from future disasters, which constitutes a community's resiliency. A successful recovery process engages in a rigorous assessment and understanding of risks and vulnerabilities that might endanger the community or pose additional recovery challenges. Resilience incorporates hazard mitigation and land use planning strategies; critical infrastructure, environmental and cultural resource protection; and sustainability practices to reconstruct the built environment, and revitalize the economic, social and natural environments.

Psychological and Emotional Recovery

A successful recovery process addresses the full range of psychological and emotional needs of the community as it recovers from the disaster through the provision of support, counseling, screening and treatment when needed. These needs range from helping individuals to handle the shock and stress

associated with the disaster's impact and recovery challenges, to addressing the potential for and consequences of individuals harming themselves or others through substance, physical and emotional abuses. Successful recovery acknowledges the linkages between the recovery of individuals, families and communities.

THE IMPORTANCE OF PRE-DISASTER RECOVERY PLANNING

Pre-disaster recovery planning provides a procedural and action-oriented avenue to prepare in advance of a disaster for the many complex challenges that follow extreme events. Recovery planning helps to identify and put into place the institutional arrangements and resources necessary to expedite post-disaster recovery and reconstruction activities in a thoughtful and coordinated manner. Furthermore, if adopted by local to national governing bodies before a disaster, a pre-existing recovery plan can be immediately acted upon after a disaster.

Depending upon the breadth of the pre-disaster recovery planning process, it can serve to accomplish several important aims, including:

- Improving resilience to future disasters;
- Improving the speed and quality of disaster recovery through more effective use of available resources;
- Building national capacity to assist local governments in the recovery process through the delivery of pre- and post-disaster training, education, and outreach initiatives;
- Maximizing the coordinated distribution of assistance pre- and post-disaster;
- Providing a collaborative decision-making framework;
- Improving the efficient and equitable distribution of resources before and after disasters;
- Providing a process to inject disaster risk reduction (DRR) into the recovery process; and
- Establishing a means to monitor the implementation of recovery planning policies and projects over time, including the development of measureable benchmarks.

Pre-disaster planning for post-disaster recovery will be discussed in more detail in Module 5.

CROSS-CUTTING THEMES IN RECOVERY

A number of recurrent themes have been identified by recovery practitioners that are pertinent to multiple aspects of recovery, and more broadly, to disaster management in general. Those discussed briefly here will be discussed in more detail in later modules.

POLICY

The role of policy as it relates to recovery, encompasses multiple aspects, providing overarching guidance for recovery and reconstruction processes. A **recovery policy** sets objectives, expected time-lines for delivery, provides an implementation approach, and sets forth the roles of various stakeholders, budgetary provisions, monitoring, and the exit strategy. The policy articulates the underlying principles guiding the recovery process by which the national government, as the lead facilitator of disaster recovery, carries out its mission. Ideally, a recovery policy would:

- State the main measures that would be involved in recovery and reconstruction;
- Include a shared, long-term vision for the affected community;
- Clarify the responsibilities of individual departments, agencies, and the affected population for the implementation of the policy, and recovery and reconstruction programs;
- Encourage community-based involvement in recovery and reconstruction activities;
- Build local capacity for sustainable economic, social, and physical development after the disaster;
- Undertake to involve all relevant stakeholders in the recovery and reconstruction process, namely communities, private and public sector, NGOs, media, etc.
- Prioritize community recovery needs and restoration of services;
- Provide guidance for integrating DRR into recovery and reconstruction processes; and
- Incorporate a detailed plan of action, including an exit strategy for gradually reducing recovery interventions.

DISASTERS AND DEVELOPMENT

While disasters impede and disrupt development programs and processes, they also provide development opportunities by creating a political and economic atmosphere in which significant changes can be made more rapidly than under normal circumstances. For example, after a disaster there may be opportunities to institute land-use and building code reforms to discourage development in hazardous areas and improve the structural integrity of new structures. There may be opportunities to create new jobs, improve job skills, or modernize the economic base of an affected community. Opportunities like these can only gain ground through the collective will and enactment of policies and principles on the part of government in partnership with communities and other stakeholders.

Unfortunately, recovery and reconstruction processes do not always take into account the lessons taught by disasters. In an effort to rebuild quickly after a disaster, the construction techniques used and the locations of new developments may actually increase risk to future disasters.

The linkages (both positive and negative) between disasters and development may be illustrated using the following graphic, and are described below.

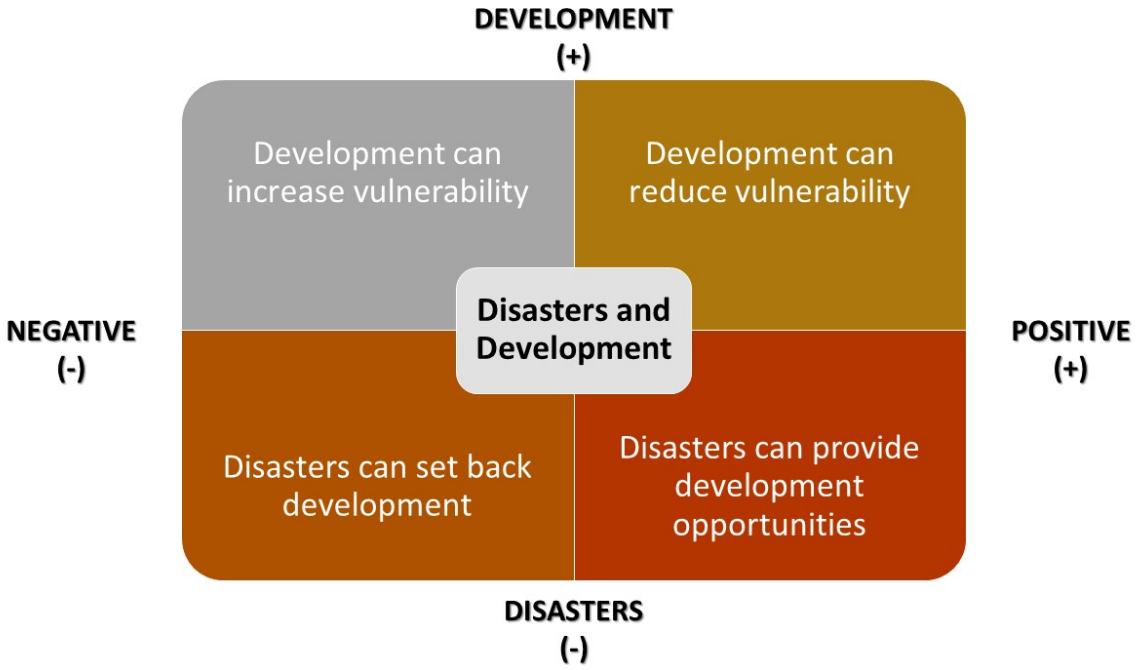


Figure 4: Linkages between Disasters and Development[3]

Development can increase vulnerability. Development has the potential to increase vulnerability to disasters. Inadequate planning that is short-sighted or fails to consider potential hazard impacts, may result in poor quality development susceptible to future impacts, or unforeseen circumstances that indirectly increase vulnerability. For example, a major increase in livestock could lead to overgrazing, subsequently causing desertification and increased vulnerability to famine.

Disasters can set back development. Disasters can destroy years of development initiatives that were aimed at improving quality of life, social welfare, transportation and utility systems such as access to clean water and sanitation, and information networks. Disasters can interrupt education, put extra demands on health care systems, destroy livelihoods, and drastically interfere with the delivery of goods and services. A community may no sooner regain a sense of normalcy after one disaster, than experience the effects of another, resulting in little or no lasting development gains.

Disasters can provide development opportunities. As mentioned above, rebuilding after a disaster provides opportunities to initiate development programs. One example might be a self-help housing program to rebuild housing destroyed by an earthquake that teaches new skills, strengthens community pride and leadership, and retains development dollars that would otherwise go to large construction companies.

[3] Adapted from UNDP/UNDRO, 25.

Development can reduce vulnerability. Development programs can be informed by risk and vulnerability assessments and take appropriate measures that conform to building codes and regulations that take into account potential hazard impacts.

INTEGRATING DRR INTO RECOVERY PROCESSES

As mentioned previously, and in the above discussion about the relationships between disasters and development, disaster recovery processes offer opportunities for the integration of disaster risk reduction initiatives. Actions that reduce risk and enhance resilience against future disasters can take many forms, including strengthening governance structures, improving or passing new legislation, building the skills and capacities of individuals and organizations, constructing hazard-resistant housing and infrastructure, developing hazard warning systems, implementing hazard education and awareness programs, and protecting the environment. The phrase "build back better" is used to broadly encompass many of these DRR activities that can address chronic needs, reduce vulnerability, and promote sustainable development in recovering communities.

COMMUNITY-ORIENTED APPROACHES TO RECOVERY

As highlighted in the above account, community participation in recovery and reconstruction processes has the capacity to not only restore physical necessities (e.g., homes, schools), but to heal and strengthen the social fabric of a community torn apart by disaster.

While recovery processes are government-led, they benefit greatly from direct community input and participation. Engaging with local

For **Badan Rehabilitasi dan Rekonstruksi** (BRR), the Executing Agency for the Rehabilitation and Reconstruction of Aceh and Nias, after the 2004 earthquake and tsunami, the widely used catchphrase "Build Back Better" has several meanings. In terms of physical facilities, the goal of reconstruction was to achieve a result that was superior in quantity and quality to what existed before the disaster. But the phrase also highlighted the importance of "how" reconstruction happened, not just "what" was reconstructed. BRR explicitly intended the process of reconstruction to strengthen social capital and community capacities, as well as to innovate and improve public sector delivery and effectiveness.

BRR used the reconstruction planning and rebuilding process to strengthen social capital and to aid in trauma healing. It gathered the community together and facilitated discussions that gave marginalized constituents a voice and everyone a stake in the rehabilitation and reconstruction activities. It also worked to improve governance and the efficiency of the rebuilding processes by increasing transparency and accountability and fast-tracking both finance and procurement processes.

Taking into account the post-disaster needs of the community, BRR's goal was to build back more than what was physically destroyed. For example, ten times more teachers were trained than the number lost during the tsunami; however, fewer schools were rebuilt in some regions because there were fewer students in those areas after the tsunami.

Furthermore, BRR's goal was to build higher quality facilities than the previous ones that were also better suited to the needs of the beneficiaries. For example, it equipped the housing estates with sanitation facilities and established guidelines for disaster-resilient housing.

(Source: Training Manual: Learning Workshop on Recovery and Reconstruction. TGLLP. Page 35)

communities can better align recovery efforts with local needs, give communities a sense of ownership of recovery outcomes, and leverage local communities as resources to support recovery efforts.

What are some other cross-cutting themes in recovery?

MODULE 2: MANAGING DISASTER RECOVERY

MODULE DESCRIPTION

Module 2 discusses three institutional models for managing large-scale disaster recovery, and the institutional mechanisms and characteristics that contribute to their effectiveness.

MODULE LEARNING OUTCOMES

- Participants will gain an appreciation for the value of community input to recovery and reconstruction processes.
- Participants will gain familiarity with different institutional models for managing recovery and reconstruction efforts.
- Participants will be able to identify the characteristics that contribute to effective recovery institutions.

MANAGING RECOVERY AND RECONSTRUCTION

INTRODUCTION

National governments have the primary responsibility in managing recovery efforts following disaster events occurring in their territory. It is the government's role to provide leadership, organization, and expertise that are directly connected to the needs of local communities affected by the disaster. In this way there should be a clear relationship between the government entities in charge of recovery efforts and local communities. In cases of large-scale disaster, government organizations must also work with other stakeholders that can provide needed resources and expertise to the recovery effort. The complex interaction between external stakeholders (NGOs, foreign nations, international governing bodies, financial institutions, etc.), managing institutions, and local communities can have an enormous influence on the effectiveness of recovery efforts. This module will discuss various institutional models that can be used to manage recovery efforts while interacting with both local communities and international organizations. The effectiveness of an institutional model will depend on the size and complexity of the disaster event as well as the characteristics of the institutional model itself.

EMBEDDING COMMUNITY-DRIVEN RECOVERY INTO INSTITUTIONS

While government entities should manage recovery actions, they are ultimately working for the benefit of local communities affected by disaster events. Sustainable recovery can only occur where local communities are given the opportunity to provide input and gain ownership of the results of the recovery.[4] Involving local stakeholders can also lead to increased capacity for disaster-affected communities through the transfer of knowledge from lead agencies with disaster risk reduction (DRR)

[4] GFDRR, 29. Guide to Developing Disaster Recovery Frameworks. 2014

experience. In this way an integrated institutional approach between lead organizations and local communities supports the AADMER goals of socially inclusive mechanisms for recovery.[5]

The benefits of the integration of local communities and government institutions could be seen in Myanmar during the aftermath of Cyclone Nargis. The explicit use of integrated community-based recovery led to a recovery effort that focused on improving the well-being and livelihoods of affected-communities. Shelter options, economic recovery programs, and equipment were all influenced by communication with local communities. Specific recovery needs such as the development of micro-finance loans and power tillers were met to improve not just the basic needs of the affected communities, but also to provide them with long-term food and livelihood security.[6] Local communities, instead of being viewed as victims of the disaster, were treated as resources that could provide needed information and guidance in the long-term recovery of the country. These communities, supported by local NGOs and the National Disaster Preparedness Central Committee (NDPCC), mobilized thousands of volunteers to distribute essential goods to affected populations.[7] These examples reinforce the need to engage with local communities in order to align recovery efforts with local needs, make local communities feel ownership of recovery results and leverage local communities as resources to support recovery efforts.

ASEAN Support of Institutional Models for Recovery

ASEAN, as a regional organization acknowledges the need for member states to lead recovery efforts within their borders. As a regional organization, ASEAN can assist in facilitating coordination for recovering nations that have requested support following disaster events. Support for institutional models of recovery from ASEAN would include the development of training and compilation of good practice on behalf of member states. ASEAN can also act as a coordinating body between institutional models for recovery and relevant international agencies. In this way ASEAN and the AHA Centre work to support recovering countries and joint activities.

BUILDING BACK BETTER

In the same way that lead institutional models should include local communities throughout the recovery effort, they should support programs that increase the overall resilience of the community beyond levels that existed prior to the onset of the disaster. The concept of "building back better" views recovery efforts both as an opportunity to improve the base resilience of communities, and as a way to connect post-disaster recovery with wider development goals. To accomplish this, recovering nations must move beyond the mindset of "a return to normal," towards a framework of reducing vulnerability and increasing coping capacity.

[5] AADMER Work Programme, 41.
[6] Community-Driven Recovery: Cyclone Nargis One Year On
[7] ICVA Strength in Numbers

A movement towards the philosophy of "building back better" is also a response to the observed gap between relief operations and long-term development operations following disasters.[8] This distinction between disaster relief and disaster recovery can lead to a wider range of innovative policies beyond the immediate needs of affected communities (e.g. food, water, shelter). Disaster Risk Reduction (DRR) projects are a key component of "building back better" along with infrastructure and livelihood projects with the goal of increasing the capacity of local communities to cope with future disaster events. Institutional improvements, such as participatory processes and equitable distribution of services, can also be included in long-term resilience-building efforts.[9] These example policies require specific expertise and careful coordination between government institutions tasked with managing recovery of affected populations.

Overarching Institutional Goals:

- National government-led recovery
- Explicit coordination with local communities and international actors
- Local communities treated as a resource for recovery efforts
- Long-term vision of increasing resilience of local communities and wider development goals

THE RIGHT CAPABILITIES FOR THE RIGHT RECOVERY

Institutional models can take many forms, including the use of an existing government agency, a multi-agency group, or an entirely new agency. Many different organizations will participate in recovery efforts following a natural disaster. The lead agency or governing body responsible for recovery outcomes should be tasked with the coordination of a wide range of actors including domestic organizations, local communities, international aid agencies, and foreign governments. It will also require certain mandated powers to accomplish its purpose among the multitude of government and international actors participating in recovery efforts.

In many cases the search for a suitable institutional model for recovery begins with local disaster management agencies. Table 1 shows the national disaster management organizations (NDMO) that are represented in the ASEAN Committee on Disaster Management (ACDM). These agencies have general responsibility for disaster management in their respective countries and represent government agencies with mandated responsibilities regarding recovery actions.

Table 1: National Disaster Management Agencies – ASEAN Member States

Country	National Disaster Management Organization (NDMO)
Brunei Darussalam	National Disaster Management Centre
Cambodia	National Committee for Disaster Management
Indonesia	National Disaster Management Agency, (Badan Nacional Penanggulangan Bencana (BNPB)
Lao PDR	National Disaster Management Office – Department of Social Welfare
Malaysia	National Security Council – Disaster Management and Relief Committee (DMRC)
Myanmar	Relief and Resettlement Department
Philippines	National Disaster Risk Reduction and Management Council and Administrator

[8] Linking relief, rehabilitation and development: Towards more effective aid.
[9] GFDRR, 21. Guide to Developing Disaster Recovery Frameworks. 2014

Singapore	Singapore Civil Defense Force
Thailand	Department of Disaster Prevention and Mitigation
Vietnam	Central Committee for Disaster Prevention and Control (CCDPC)

Each of these institutions has a legislated responsibility in disaster management in its respective country. There are also instances where the identified organization's responsibilities go beyond a disaster management focus (e.g., Malaysia's National Security Council). The capacity of these organizations will often be sufficient for smaller, localized disaster events. Catastrophic events, however, may require a larger institutional model that draws more heavily on other relevant agencies in the country or even international actors. An assessment of the mechanisms already in place, and the characteristics of existing organizations can provide insight into their capability to manage larger disaster events. In any case, the choice of institutional model and the evaluation of underlying capabilities of those models should be accomplished well in advance of a disaster event. The right institutional model for recovery efforts will require a closer look at a much wider set of institutional characteristics that are important in managing a recovery effort that includes community-driven input and looks to build long-term resilience in affected areas.

CHARACTERISTICS OF EFFECTIVE RECOVERY INSTITUTIONS

The following institutional characteristics can lead to positive recovery outcomes. These characteristics largely look at the combination of the *organizational structure* of these institutions and their existing *organizational capacity* to manage large, complex recovery efforts. In the case of organizational structure, lead institutions should be legally mandated as responsible for recovery efforts, have formal relationships with supporting government organizations in recovery, and have a level of flexibility that allows adaptation in the face of possible changes to recovery plans. The recovery institution should also have a level of capacity and expertise that facilitates recovery efforts. In many cases this includes context specific knowledge of at-risk areas, appropriate skills and logistical capacities to execute recovery plans and the ability to procure needed resources from sources given the results of post-disaster needs assessments.

The right institutional model for recovery is vital to accomplish long-term goals established in national disaster recovery plans. The characteristics that can lead to effective institutional models are shown in Figure 5.

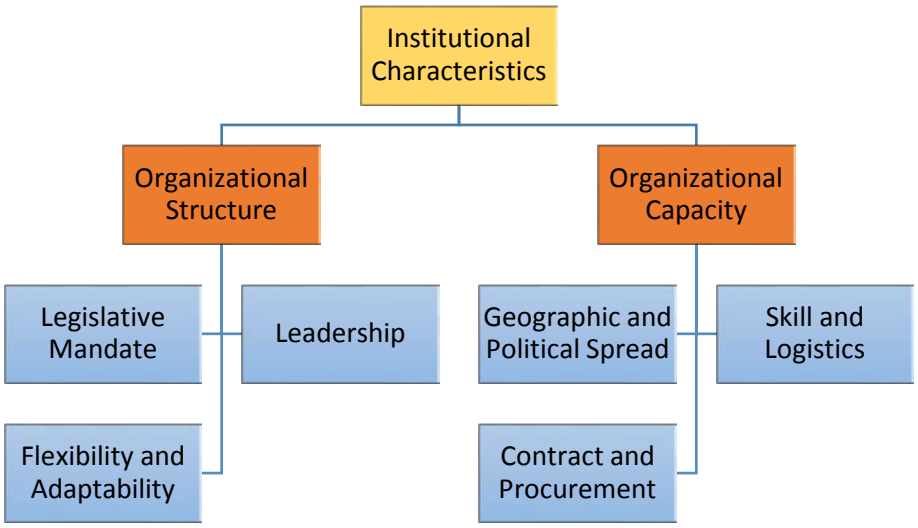


Figure 5: Institutional Characteristics for Recovery Agencies

Each characteristic will now be discussed along with examples illustrating how they can improve recovery outcomes. When developing national disaster recovery plans it is possible to have different institutional models that are dependent on the specifics of the disaster.

Why might we need different institutional models for different disaster scenarios?

Can you think of other characteristics that would influence the ability to manage recovery efforts?

ORGANIZATIONAL STRUCTURE

Legislative Mandate

Institutional models should include a legal mandate to manage and coordinate recovery efforts. The key component of this is the idea that the institutional model, whatever it may be, has the weight of a sovereign nation behind its role. The explicit legislation of lead recovery agencies produces a sense of stability and order for the various national stakeholders within the affected nation.

An institution with the legal authority to act is even more important in the coordination of international actors during recovery actions. According to Article 3 of the AADMER "Affected party (member state) shall have the primary responsibility to respond to disasters occurring within it territory and external assistance or offers of assistance shall only be provided upon the request or with the consent of the affected party".[10] Legislative mandates for institutional models should include both the method of coordination with national stakeholders and how they will interact with international actors. For

[10] AADMER Framework

developing nations this can be very important as they will often require assistance from international entities to support recovery efforts.

The legislative mandate stipulating an institutional model should include not only the point at which it becomes in force, but also when it will be dissolved. In cases of large-scale disaster an institutional mechanism will often require a wide range of powers that may not be appropriate outside of immediate recovery efforts. In such cases, the failure to clearly define the lifespan of an institutional model may lead to resentment between government agencies or opportunities for the abuse of power.

IDRL Guidelines

Due to the need for international support in large-scale recovery efforts, the International Federation of the Red Cross and Red Crescent societies (IFRC) created a document outlining guidelines for the domestic facilitation and regulation of international disaster relief and initial recovery assistance. These guidelines build on observations of international recovery efforts and the aspects of domestic governments that affected the speedy, efficient injection of foreign support. Common problems in interaction between domestic governments and international aid organizations include:

1. Delays in the delivery of resources and expertise due to government regulation on the entry of goods and services into the country.
2. Poor quality and coordination from international providers

In order to overcome these issues the IDRL proposes a set of actions that can be taken by both domestic governments and international aid organizations to improve interaction in response and recovery tasks. The lists below outline the proposed responsibilities of affected nations and assisting actors. (*Source: Guidelines for the domestic facilitation and regulation of international disaster relief and initial recovery assistance, pp. 8, 15–22*)

Responsibilities for Actors in International Recovery

Affected State

- Lead recovery efforts
- Be the initiator of aid from international actors
- Provide information on recovery needs (e.g. monetary or specific resources)
- Provide legal facilities to protect international aid agencies
- Facilitate the entry of international aid workers (e.g., visa acquisition)
- Exempt financial and in-kind aid from all customs, duties, taxes, tariffs or government fees
- Facilitate logistical transport activities for the reception of aid material
- Ensure security and basic public services to aid workers

Assisting Actor

- Abide by laws of the affected state
- Provide assistance according to principles of humanity, neutrality and impartiality
- Only provide aid that is requested by the affected state
- Take every reasonable precaution to remain safe and able to perform work
- Verify the credentials of aid workers (e.g. doctors, nurses, engineers)
- Appropriately pack, classify and mark disaster relief goods and equipment.

These responsibilities outline the basic expectations between domestic governments and international aid organizations. Many of the responsibilities mentioned in these guidelines for domestic governments can only be possible through legislated mandates that change existing laws on the entry of goods and people into the country. Explicit trade-offs will need to be made concerning the amount of access granted to these organizations and laws set to protect the integrity of national borders. These discussions should occur well in advance of catastrophic disaster events and should be an integral part of the development of proper institutional models for recovery efforts.

Leadership

The need for leadership in an institutional model for recovery includes two different meanings of the term "leadership." The first refers to the way in which a lead government agency works with other foreign and domestic organizations. These relationships, necessary for the execution of national disaster recovery plans, should be a part of continued interaction between recovery stakeholders. An attempt to establish these links in the immediate aftermath of a disaster can lead to confusion. It is recommended that multi-organizational training and exercises be conducted on a regular basis to support and strengthen roles and the relationships between stakeholders. The same kinds of relationships can also be developed with international organizations and NGOs that support recovery efforts. National disaster recovery plans that define engagement with both international organizations and NGOs can limit duplication of effort and confusion that often occur in complex recovery efforts. This situation was encountered in the recovery aftermath of the 2010 Haiti Earthquake. The relatively low capacity of the Haitian government to coordinate recovery efforts led to waste and inefficiency despite the unprecedented level of international support offered to the country.[11] Ultimately, the lack of clear organizational leadership hampered recovery efforts.

Leadership: BRR Dr. Kuntoro Mangkusubroto

Following the 2004 Indian Ocean Tsunami, Indonesia faced an immense recovery effort in the Aceh region of the country. Prior to the earthquake and tsunami Aceh was steeped in a 30-year conflict between separatist rebels and the central government claiming thousands of lives and displacing hundreds of thousands of individuals. The existence of conflict in the area coupled with a relatively low level of governance was of particular concern for international agencies looking to provide recovery aid to the area.

Due to the complexity of the disaster and affected region the Government of Indonesia created a new agency (BRR) to manage recovery efforts in the area. Dr. Kuntoro Mangkusubroto, a former Minister of Mines, was selected as the director of the recovery agency due to his esteemed reputation within the Indonesian Government and reputation for accountability. (Building Back Better, 7) His leadership brought a vision of recovery efforts that looked to not only repair damage caused by the tsunami but also improve the social and security problems in the region. He was able to draw on his public and private experience to hire highly qualified deputies from across the country. This focused leadership included constant monitoring and evaluation to meet the reporting requirements of international donors and ensure that local communities were receiving the aid promised them by government officials. (ADPC TGLLP handbook, 25) This vision was integral to the development of an institutional model that took into account local dynamics and focused on a vision of increasing the capacity of the region to manage future hazard events.

[11] Haiti Humanitarian Assistance Evaluation: From a Resilience Perspective, 11.

A second important role taken by lead recovery agencies considers the role of the agency as defining the overall culture of the recovery effort. "The government leader should be able to embrace partnerships, consult widely, mediate between competing interests of different stakeholders, explain the rationale for major decisions, understand local conditions and needs, guide achievement of set goals and see the 'endgame' clearly".[12] Adherence to the national disaster recovery plan falls on the leader of the institutional model for recovery. The tone set by institutional models should be inclusive of communities affected by disaster and look beyond simply returning to normal towards long-term resilience-building.

Flexibility and Adaptability

While recovery planning and organizational structure are important for lead recovery agencies, the ability to react to new situations and information can be just as important. Many factors may influence the tactical goals and priorities of national disaster recovery plans including the availability of recovery resources and damage-and-needs assessments. Government procedures may be too rigid to account for the fluid nature of recovery efforts. Careful consideration in the formulation of these procedures can ensure that the institutional model is able to adapt according to the needs of the recovery effort in times of disaster. Clearly established channels of communication providing access to timely and reliable information will ensure that good decisions in support of recovery efforts can be made and acted upon, provided the organization has the flexibility to do so.

ORGANIZATIONAL CAPACITY

Geographic and Political Spread

The reach of the institutional model for post-disaster reconstruction will depend on the magnitude and nature of the disaster, but must be identified at the start of the recovery process. Institutional models should be made up of agencies with existing presence in at-risk areas that have the ability to take action in those areas. There should also be explicit relationships between all stakeholders participating in the recovery effort. Geographic and political spread is something that should be assessed prior to the onset of a disaster event. Recovery institutions without a geographic presence or political connections may find themselves unable to coordinate properly with other stakeholders and be marginalized in complex recovery efforts.

Skill and Logistical Capacity

"There are two main criteria to measure the capacity of an entity to manage recovery: staff capacity and skill capacity. Capacity assessments provide an opportunity to examine sector-specific requirements. It may be the case that sufficient (perhaps even excessive) expertise and manpower to successfully conduct recovery resides in one sector, while another sector might be under-skilled and understaffed. Prior experience or involvement in disaster recovery is not a pre-requisite; more important is its proven

[12] ADPC TGLLP handbook, 25.

ability to produce results under tight deadlines, multi-task and be flexible about working within quickly evolving circumstances".[13]

Staffing for response and recovery efforts should also be considered within the institutional model. In particular, the ability of the recovery entity to procure additional manpower for specific, short-term tasks according to the national disaster recovery plan. Surge staffing procedures are common in institutional models in the Unites States and other countries where individual agencies may not have sufficient staff due to the size of the recovery effort or where the disaster itself has diminished the capacity of local agencies.[14]

Contract and Procurement Ability

"Considerations of the capacity to handle contract management are important for procurement of reconstruction equipment and material, evaluation of tenders and the oversight of recovery projects. These require dedicated time and human resources as well as specific technical knowledge. In recovery operations where third party contractors form a substantial bulk of the implementers, the skill and logistical capacity to manage contracts can become central to the successful recovery implementation".[15]

SUMMARY OF INSTITUTIONAL CHARACTERISTICS

The characteristics described above illustrate the operational needs of institutional models. By focusing on the needed characteristics of lead recovery organizations it is possible to see that existing agencies may be challenged when it comes to successfully managing large-scale, complex recovery operations. It is possible that the agencies that are best suited for leading recovery efforts may not be the ones that traditionally have a place in small-scale recovery efforts. In either case it is important that the powers and responsibility of the chosen institutional model fit the scale and goals of national disaster recovery plans. Table 2 briefly sums up each of the institutional characteristics that can help promote the integration of community-driven recovery with long-term development goals.

Table 2: Institutional Characteristics of Lead Recovery Organizations

Organizational Structure	
Legislative Mandate	Government authority to manage recovery efforts
Leadership	Available structure to coordinate stakeholders in recovery efforts. Vision of recovery according to recovery frameworks and NDRP.
Flexibility/Adaptability	Able to adapt to changing recovery environments.
Organizational Capability	
Geographic/Political Spread	Capabilities across at-risk areas and between partner agencies.
Skills and Logistics	Proper technical skills and logistical capability for recovery actions
Contract and Procurement	Experience with contract and program management

[13] GFDRR, 33. Guide to Developing Disaster Recovery Frameworks. 2014
[14] Ibid, 38
[15] Ibid

GROUP ACTIVITY: DOES THE RECOVERY ORGANIZATION FIT?

INSTITUTIONAL MODELS FOR RECOVERY

An institutional model demonstrating all the mentioned characteristics, and capable of managing recovery in the aftermath of a large-scale, complex disaster may seem unattainable. On the one hand, the entity should have a wide range of technical and administrative skills that go far beyond most government ministries. On the other hand, an agency with wide-reaching powers, control over significant resources, and the ability to change its mandate should not be one that retains those powers beyond the immediate needs of the recovery effort. The following three institutional models represent ways in which countries have combined the different capabilities of existing government agencies to create entities that work for their recovery context. While these institutional models are general in nature they represent the most common models used by nations in recovery situations.

RECOVERY ACCORDING TO EXISTING AGENCY RESPONSIBILITIES

The simplest institutional model for recovery is one where existing agencies adhere to their normal operating procedures to provide government services affected by a disaster event. This institutional model has been broadly adopted by many nations around the world. Small-scale, disruptive events can occur daily and local agencies with clear public service responsibilities are well trained in delivering continuity of service.

This institutional model leverages the capabilities of individual agencies and local knowledge to recover from minor, disruptive events. Contingencies are ideally in place where each agency is able to draw from resources in neighboring locations if capabilities are insufficient for local recovery efforts. As the size of a disaster event increases, clear processes have been established to increase the resources available to local agencies to lead recovery for their normal sector of responsibility.

In cases where more than one agency is needed to recovery from an event, a national recovery plan should be in place that provides guidance on the way in which different agencies interact. National governments are strengthened by engaging in regular training and capability-building programs that enable them to manage recovery of larger and larger hazard events.

Would this institutional model work for a disaster affecting one house in your country? Would it work for a disaster affecting several homes? A city block? A small town? At what point would local agencies be unable to manage recovery efforts? What is the role of national disaster management agencies in this institutional model?

TASK FORCE OR COMMISSION

A task force or commission formalizes the inter-agency aspects of disaster recovery. The most typical description for this institutional model would be a group of interconnected agencies that individually provide some set of expertise and resources to the recovery effort. The task force or commission is then led by a lead agency that is ultimately responsible for recovery outcomes. The exact timeframe for this body to exist can vary. In some cases it can be legislated that these bodies only exist for a specific period of time surrounding a disaster event. In other cases these inter-agency bodies may have a more permanent role in building resilience at the local level.

Legislative mandates would stipulate the timeframe necessary for this body of participating agencies to complete its work. This can be an important way to ensure that there is a wider body of participants in recovery efforts including civil society organizations and local communities. Support between agencies can be facilitated in these groups that would not normally occur if the agencies were to work in their respective areas of responsibility without formal coordination.

NEW RECOVERY AGENCY

In some cases a disaster scenario may require the development of a new agency to oversee recovery efforts. This is usually due to either an unprecedented, catastrophic event or an overall lack of capacity within government agencies. Because the new agency is typically created by legislative mandate, it tends to have strong powers that enable coordination of very specific recovery efforts. "As a central point of coordination, it brings in a single voice of command and communication… This model provides a unified approach to recovery and

UK Resilience Forums

The United Kingdom uses an institutional model that focuses on inter-agency groups to manage disaster recovery efforts. The Civil Contingencies Act (2004) mandates the creation of Local Resilience Forums (LRF) as multi-agency groups that meet regularly to manage the emergency management tasks outlined in legislation. (*Emergency Response and Recovery 2013*) The members of the LRF are explicitly stated including first responder organizations, national health services, environment agencies, utility services, local military and civil service groups. National guidance, through the Civil Contingencies Secretariat, uses LRFs to disseminate guidance on planning and recovery from disaster. The forums are also used to develop consistent training and interaction in preparation of disaster events. While the overall goal of the LRF is to act as a coordinating body for all emergency management events, it is also tasked with recovery efforts by establishing a Recovery Coordination Group (RCG) at the onset of a hazard event. (*The role of LRFs*) This group, with members from the LRF, is tasked with the collection of impact assessments and the development of a recovery plan, which includes explicit community involvement. LRFs represent a multi-agency institutional model for recovery efforts. This model establishes a long-term body that works together on a range of issues regarding emergency management at the local level. The responsibility for recovery is therefore retained within local communities and necessary expertise is readily available due to the wide range of agencies included in the LRF. While this body may lack flexibility, the goal of its creation was to provide a mechanism where multi-agency coordination was practiced well in advance of disaster events.

reconstruction efforts, and since the agency has dedicated recovery and reconstruction functions, it is able to act more effectively".[16]

The key characteristics in the development of a new recovery agency is in the clear autonomy and purpose embodied in this institutional model. A clear line of responsibility and communication between organizations is established and the capabilities of the agency are typically in-line with the recovery needs of the hazard event leading up to its creation. In many cases the high levels of authority that these new agencies have are tempered by the clearly defined lifespans. Examples of the creation of new agencies following catastrophic disaster include:

1. The Ministry for Restructuring and Managing Flood Zones (MRAZI) in Senegal following massive flooding in the capital of Dakar.
2. The Orissa State Disaster Mitigation Authority (OSDMA) which was created at a sub-national level as a charitable institution with local jurisdiction over recovery efforts following Cyclone Odisha.
3. The Executing Agency for Rehabilitation and Reconstruction (BRR) of Aceh Nias which was tasked with the reconstruction of areas affected by the Indian Ocean Tsunami of 2004.

CASE STUDIES: INSTITUTIONAL MODELS FOR DISASTER RECOVERY

[16] ADPC TGLLP Handbook, 23

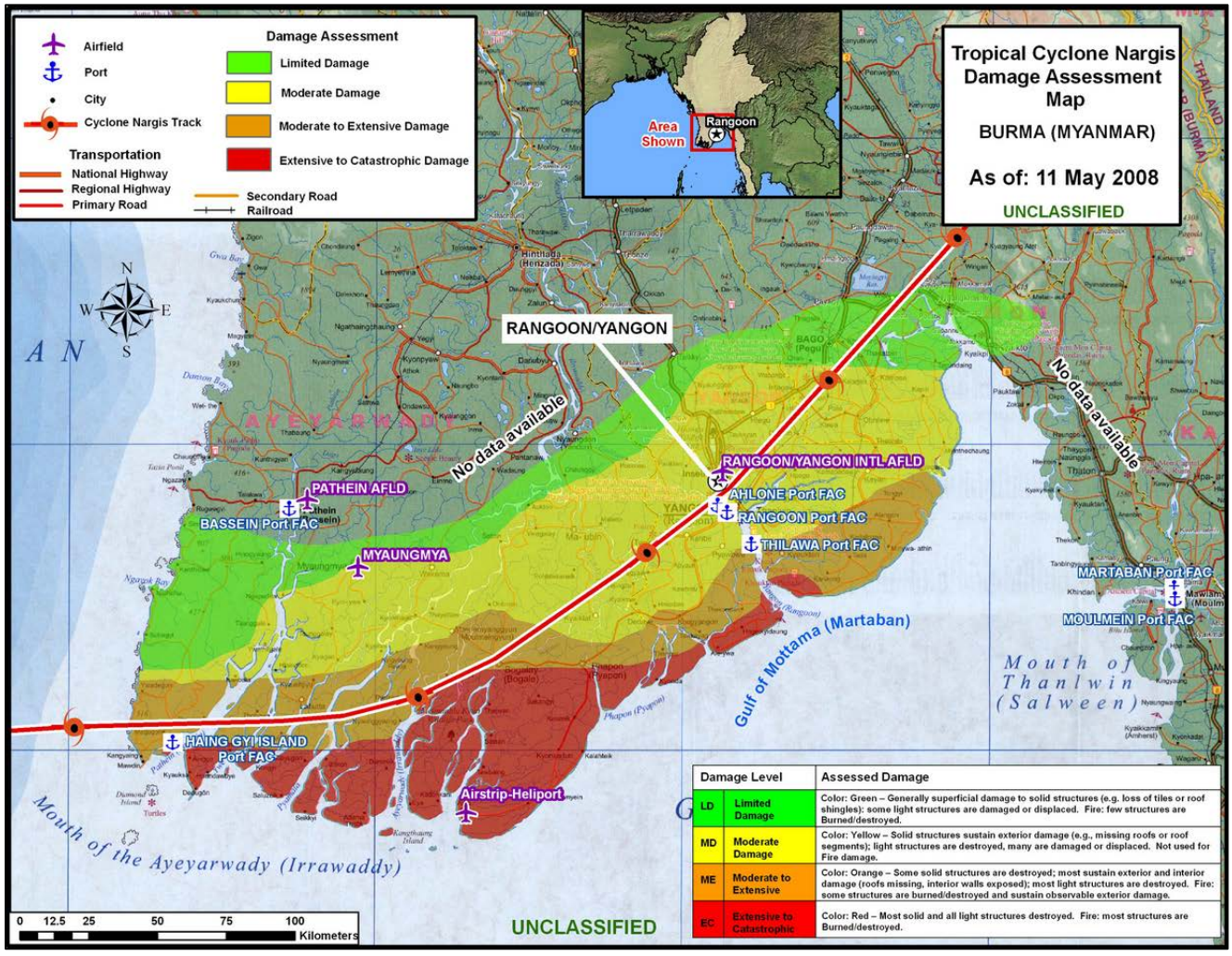
CASE STUDY: CYCLONE NARGIS—MYANMAR

(Source: Post-Nargis Recovery and Preparedness Plan, 2008*)*

On 2 and 3 May 2008, Cyclone Nargis struck the delta coastal area of Myanmar before moving inland across the Ayeyarwady and southern Yangon Divisions. In the Delta, wind speeds reached 240 kilometers per hour, and the southern part of the Delta experienced a 3-4 meter high storm surge.

Cyclone Nargis caused extensive loss of life and physical damage: an estimated 84,537 people died, another 53,836 went missing, and 33,754 suffered injuries. One-third of the estimated total population of 7.35 million people in the area impacted by the cyclone suffered severe losses.

- *From the Post-Nargis Recovery and Preparedness Plan (The Tripartite Core Group, 2008)*



Tropical Cyclone Nargis Damage Assessment Map, as of 14 May 2008

(Source: *Myanmar Information Management Unit/Office of the UN Resident Coordinator, Myanmar)*

THE NATURAL DISASTER PREPAREDNESS CENTRAL COMMITTEE

(Source: *Cyclone Nargis 2008: Rehabilitation in Myanmar, UNISDR and Burma (Myanmar) Disaster Management Reference Handbook, 2014)*

The Natural Disaster Preparedness Central Committee (NDPCC) serves as Myanmar's national level body for the formulation of policy and provisions of guidance on disaster preparedness within the country. The NDPCC, chaired by the Prime Minister, consists of 37 members:

- The Chairmen of the 16 State and Division Peace and Development Councils,
- Senior Ministers from 17 Ministries, and
- The Chairmen (2) of the Yangon and Mandalay City Development Councils.

The purpose of the NDPCC is to:

- Constitute committees at various government levels to implement disaster management, develop disaster management policy and guidelines, and review progress
- Formulate policy and guidelines for the utilization of natural resources for emergency relief measures
- Provide basic principles for receiving foreign aid
- Provide relief assistance where necessary by managing State budgets and resources
- Enact/issue laws, acts, decrees, rules and regulations for effective disaster management activities.

The National Disaster Preparedness Management Working Committee was formed to coordinate and supervise the implemented disaster management activities in support of NDPCC. The Working Committee consists of 10 subcommittees headed by senior Ministers:

- News and Information
- Search and Rescue
- Confirmation of Damage
- Reduction of Risk and Establishment of Emergency Shelter
- Rehabilitation and Recovery
- Emergency Communication
- Information on Damage and Emergency Support
- Transportation and Road Clearing
- Health
- Security

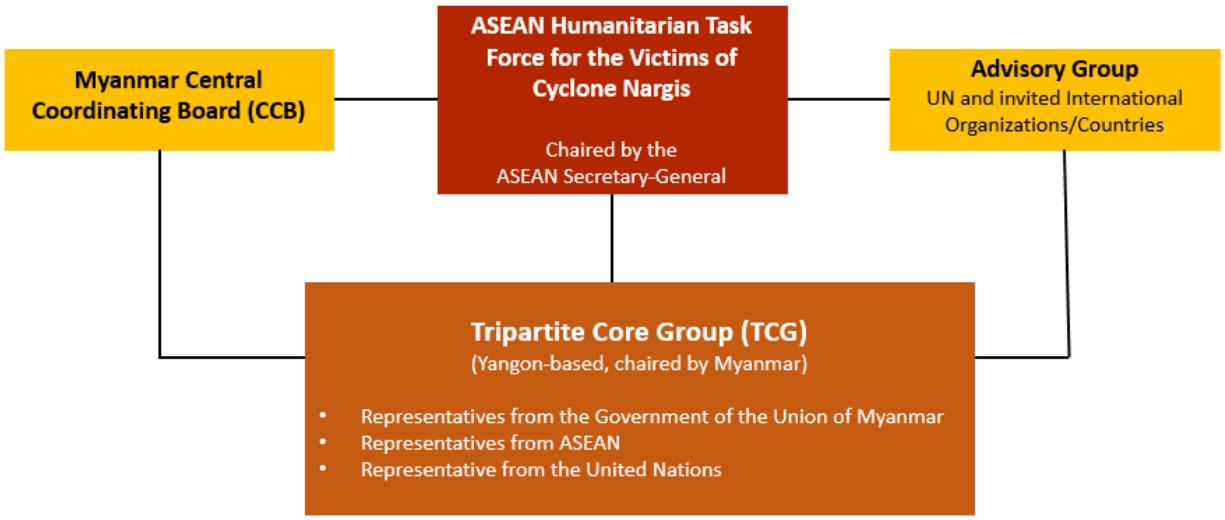
The Ministry of Social Welfare, Relief, and Resettlement is the principal agency that oversees relief operations during an emergency, in particular through the Department of Fire Services and the Department of Relief and Resettlement. The Department of Meteorology (Ministry of Transportation) is mandated with disaster forecasting and early warning dissemination.

At the sub-national level, relief and recovery operations usually fall under the responsibility of State/Division/Township Peach and Development Councils, headed by Chairmen, and often with very little or no external assistance. In response to the severe damaged caused by Cyclone Nargis, the NDPCC also assigned Ministers to take control of the overall coordination of relief and recovery activities in each of the 12 most-affected townships.

POST-NARGIS COORDINATION: THE TRIPARTITE CORE GROUP

(Source: *Post-Nargis Joint Assessment, 2008)*

In late May 2008, the Tripartite Core Group (TCG) was developed in Myanmar as a post-disaster coordination mechanism to manage day-to-day operations, as well as facilitate and monitor the flow of international assistance.



The TCG consisted of nine representatives from the Government of the Union of Myanmar, ASEAN, and the United Nations, and was chaired by the Union of Myanmar. In keeping with post-disaster assessments and recovery operations being government-led and government-owned, the TCG was based in Yangon and chaired by the Union of Myanmar.

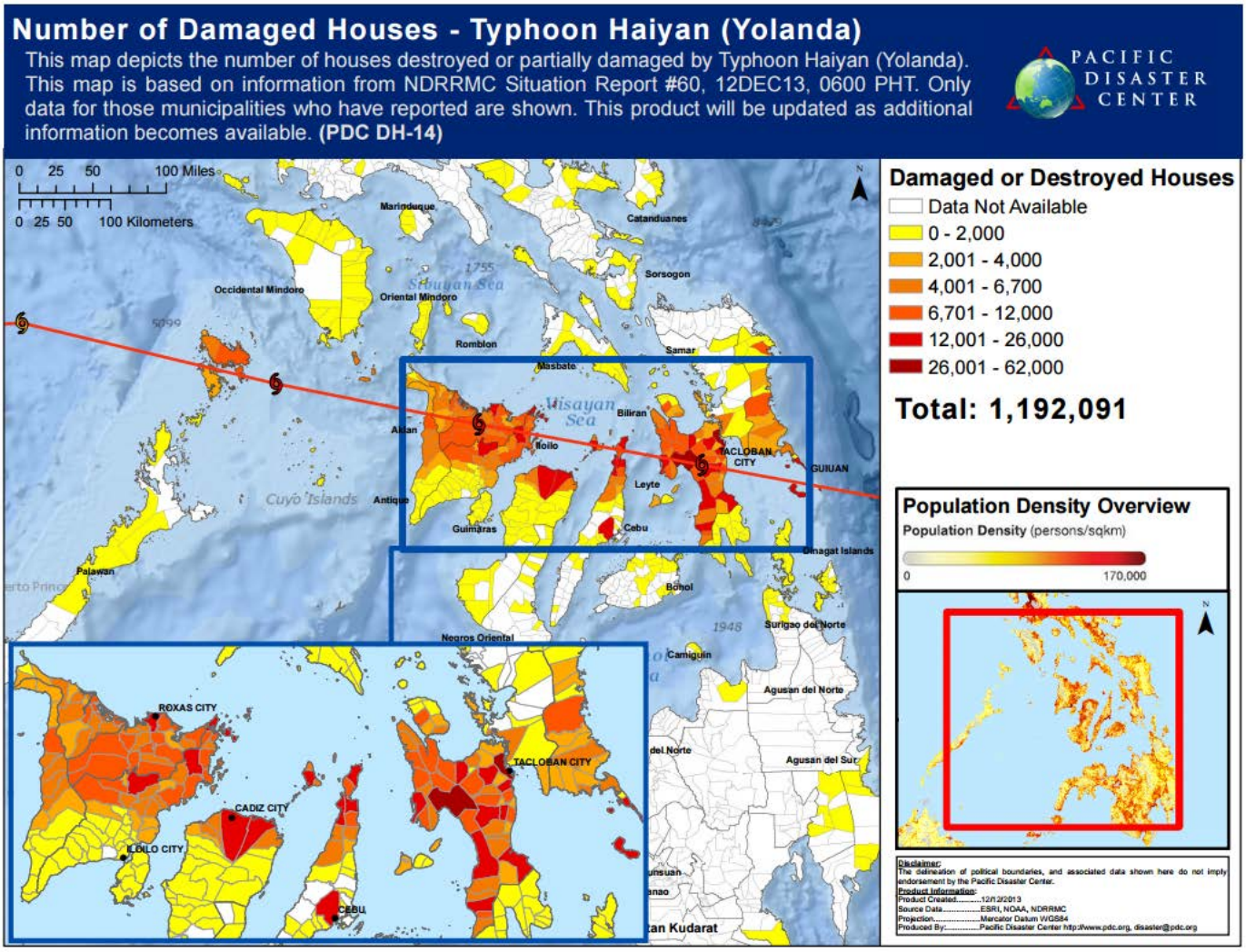
Lessons Learned

(Source: *Lessons for ASEAN—from Post-Nargis Humanitarian Operation in Myanmar, 2009)*

- The TCG provided a good forum for building trust and confidence between the government and the international humanitarian community to work together to support affected communities.
- The TCG demonstrated ASEAN's role as a regional organization to serve as a bridge between the host government and the international humanitarian community; and a nexus for the transfer of knowledge and local and regional expertise.
- The presence of an operational body on the ground proved strategically important, as it translated high-level policy into operational action in the field.
- The TCG mechanism streamlined horizontal and vertical coordination, and provided capacity building support to government counterparts, in particular, at the township level, where most decisions and discussions of direct relevance and importance to communities take place.

CASE STUDY: TYPHOON YOLANDA—THE PHILIPPINES

Typhoon Yolanda, known internationally as Haiyan, made landfall in the Philippines on November 8, 2013 with wind speeds of more than 300 kilometers per hour and storm surges of over four meters. Yolanda "caused unprecedented damage to nine regions, covering 591 municipalities and 57 cities spread across 44 provinces. An estimated 16 million people were affected, of which approximately 4 million were displaced.



The sheer strength of the typhoon damaged 1.1 million houses, of which more than 550,000 houses were totally destroyed. Eighty percent of the reported 6,000 casualties occurred in Eastern Visayas—the second poorest region in the country. Countless people, especially those in the rural communities, lost their livelihoods. Vital infrastructure and private investments were similarly damaged. The Government placed the initial estimates of total damage and losses from the typhoon at around USD$12.9 billion.

- From the *Post-Yolanda Reconstruction Case Study*
(Global Facility for Disaster Reduction and Recovery, 2015)

NATIONAL DISASTER RISK REDUCTION AND MANAGEMENT COUNCIL

(Source: *Philippine Disaster Risk Reduction and Management Act of 2010, and the National Disaster Risk Reduction and Management Plan 2011-2018)*

The National Disaster Risk Reduction and Management Council (NDRRMC) is composed of around 40 government agencies and local government units, private sector, and civil society organizations. With the enactment of the *Philippine Disaster Risk Reduction and Management Act of 2010*, the NDRRMC (formerly known as the National Disaster Coordinating Council) was mandated to develop a framework to serve as the principal guide to disaster risk reduction and management. The National Disaster Risk Reduction and Management Framework (NDRRMF) provides a comprehensive, all-hazards, multi-sectoral, inter-agency, and community-based approach to disaster risk reduction and management.

Consistent with the NDRRMF, the National Disaster Risk Reduction and Management Plan (NDRRMP) was formulated and implemented by the Office of Civil Defense, following approval by the NDRRMC. The NDRRMP provides the legal basis for policies, plans, and programs to deal with disasters.

Four thematic areas are covered in the NDRRMP:

1. Disaster Prevention and Mitigation
2. Disaster Preparedness
3. Disaster Response
4. Disaster Rehabilitation and Recovery

The NDRRMP sets down the expected outcomes, outputs, key activities, indicators, lead agencies, implementing partners and timelines under each of the four distinct, yet mutually reinforcing, themes. The lead agency identified in the NDRRMP with overall responsibility in carrying out recovery operations is the National Economic and Development Authority (NEDA).

Identified recovery objectives include:

- To restore people's means of livelihood and continuity of economic activities and business
- To restore shelter and other buildings/installation
- To reconstruct infrastructure and other public utilities
- To assist in the physical and psychological rehabilitation of persons who suffered from the effects of disaster

The overarching goals of rehabilitation and recovery are to restore and improve facilities, livelihood and living conditions and organizational capacities of affected communities, and reduced disaster risks in accordance with the "building back better" principle.

One of the activities identified to achieve rehabilitation and recovery objectives is the assessment of damage, losses, and needs through a Post-Disaster Needs Assessment (PDNA). The NDRRMP identified the Office of Civil Defense (OCD) as the lead agency for conducting the PDNA, and indicated the timeframe in which the assessment should be conducted in order to begin formulating the Strategic Action Plan for disaster-affected areas.

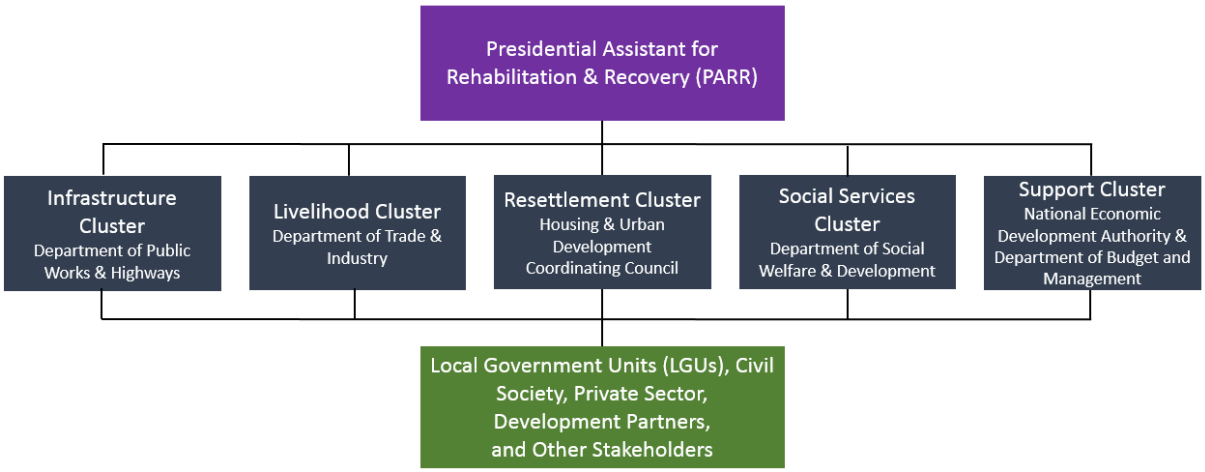
OCD was also mandated with the primary mission of administering a comprehensive national civil defense and disaster risk reduction and management program, as well as reviewing and evaluating Local Disaster Risk Reduction and Management Plans to ensure that the framework established at the national level was carried down to local level planning.

POST-YOLANDA COORDINATION: OFFICE OF THE PRESIDENTIAL ASSISTANT FOR REHABILITATION & RECOVERY

(Source: *Post-Yolanda Reconstruction Case Study, 2015)*

Although the *Philippine Disaster Risk Reduction and Management Act of 2010* mandated that the NEDA oversee recovery operations in the Philippines, in the wake of Typhoon Yolanda, the government recognized the need to create an ad-hoc structure for recovery coordination due to the magnitude of the disaster and the scale of recovery needs.

The Presidential Assistant for Rehabilitation & Recovery (PARR) was appointed to develop an overall strategy for recovery, with integrated short-, medium-, and long-term recovery plans and programs. The PARR was also tasked with proposing funding support to the President for the implementation of recovery plans and programs, and monitoring and evaluating implementation with NEDA and other oversight agencies such as the Department of Budget Management (DBM) and the Commission on Audit (COA).



The Office of the Presidential Assistant for Rehabilitation & Recovery (OPARR) served to bridge the gap between the national government and other stakeholders by coordinating with the NDRRMC and its member agencies, and directly consulting with affected Local Government Units. The PARR also established multi-agency clusters to lead coordination among the sectors, as well as a Support Cluster tasked with coordinating policies and providing oversight in support of the sectoral clusters.

Other Considerations

- With a rank equivalent to a cabinet secretary, the PARR possessed authority and influence over the implementing agencies—government institutions were required to comply with the PARR's mandates.
- Taking a cluster approach maximized the coordination among the different agencies and promoted complementation among sectoral needs and interventions.
- The magnitude and scale of Typhoon Yolanda prompted the Philippines government to exercise flexibility in reorganizing its institutional structures for more efficient recovery coordination.

MODULE 3: POST-DISASTER NEEDS ASSESSMENT (PDNA)

MODULE DESCRIPTION

Module 3 introduces one of the more established approaches for conducting post-disaster assessments and its role in recovery planning and implementation. The widely applied Post-Disaster Needs Assessment (PDNA) methodology, which combines Damage and Loss Assessment (DaLA) with Human Recovery Needs Assessment (HRNA), will be the focus for this module.

MODULE LEARNING OUTCOMES

- Participants will gain an understanding of the overall purpose and objectives of post-disaster assessments and their relevance to recovery processes.
- Participants will be introduced to the Post-Disaster Needs Assessment (PDNA) methodology, and be able to recognize the primary goals and distinguishing features of DaLA and HRNA as part of the PDNA process.
- Participants will gain insight into common issues and challenges in conducting PDNA.

INTRODUCTION TO POST-DISASTER ASSESSMENTS

Post-disaster damage assessments and needs analyses are essential means by which governments gain an understanding of the social, economic, and financial implications of disasters, which in turn, can be used to inform disaster recovery, reconstruction, and risk reduction activities. To understand when assessments are conducted and why, we first need to have an understanding of disasters and their impacts.

DISASTERS AND THEIR IMPACTS

In recent years, the frequency and impact of disasters have steadily increased worldwide. This trend is illustrated in Figure 6, which shows disaster events for which losses have been recorded by Munich RE over the past 35 years.

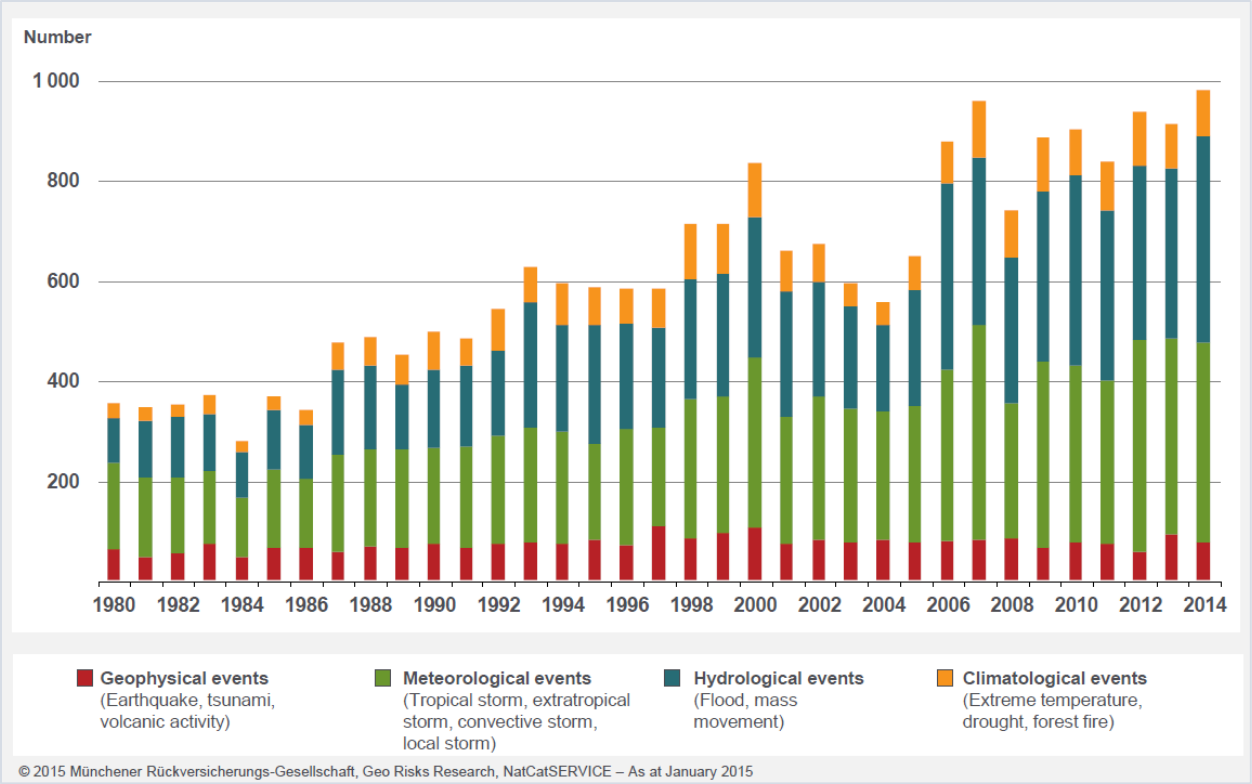


Figure 6: Number of Disaster Occurrences Worldwide 1980-2014

Asia experiences a disproportionate number of the world's disasters. This is due mainly to its large and varied geography, including multiple river basins, flood plains, mountains, active seismic and volcanic zones, as well as high population densities in disaster-prone regions.

The Association of Southeast Asian Nations (ASEAN) countries of Brunei, Cambodia, Indonesia, Laos, Malaysia, Myanmar, Philippines, Singapore, Thailand, and Vietnam (see Figure 7), are located in this disaster-prone region, and are susceptible to almost every type of hazard, including tropical cyclones (typhoons), floods, earthquakes, tsunamis, volcanic eruptions, landslides, wildfires, epidemics, and droughts. All threaten life and property and cause significant damage and losses. Most ASEAN countries are either partially or completely surrounded by the waters of the Pacific and Indian oceans, contributing to their exposure to tropical cyclones and tsunamis.

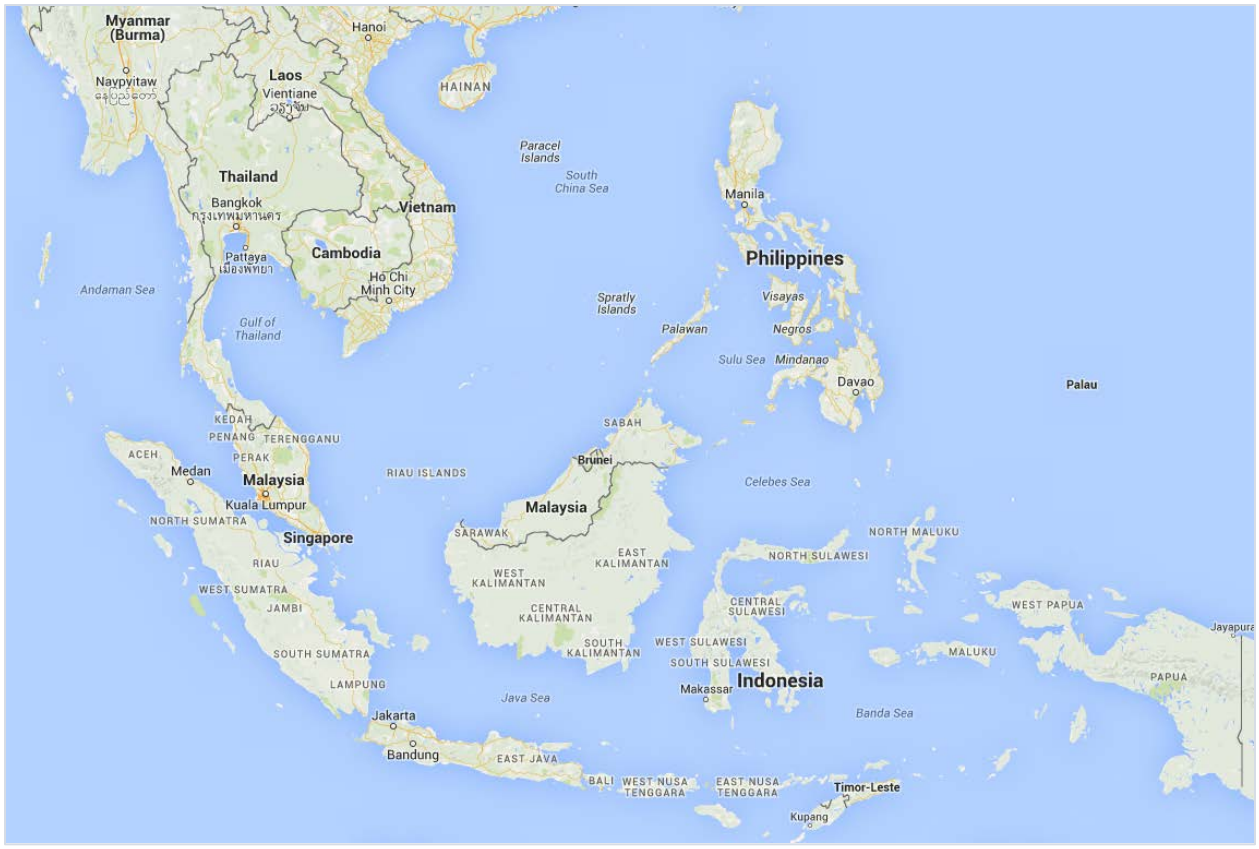


Figure 7: Countries in the ASEAN region

Over the period 1980 to 2015, the EM-DAT CRED[17] database recorded 1,319 disaster occurrences for ASEAN Member States, resulting in:

- 413,380 deaths
- 660,418 injuries
- 13,478,033 homeless

Over 400 million people were affected by these disasters, with damage totaling nearly US$118 billion.

As shown in Figure 8, the hazards most prevalent in ASEAN countries between 1980 and 2015 were floods and storms (including tropical storms).

[17] The Emergency Events Database of the Centre for Research on the Epidemiology of Disasters (EM-DAT/CRED) distinguishes between five sub-groups of natural hazards (geophysical, meteorological, climatological, hydrological and biological), breaking them down into 15 disaster types and over 30 subtypes. In order to be recorded as a natural disaster in the EM-DAT database, an event must meet at least one of the following criteria: Ten (10) or more people reported killed; 100 or more people reported affected; Declaration of a state of emergency; or Call for international assistance.

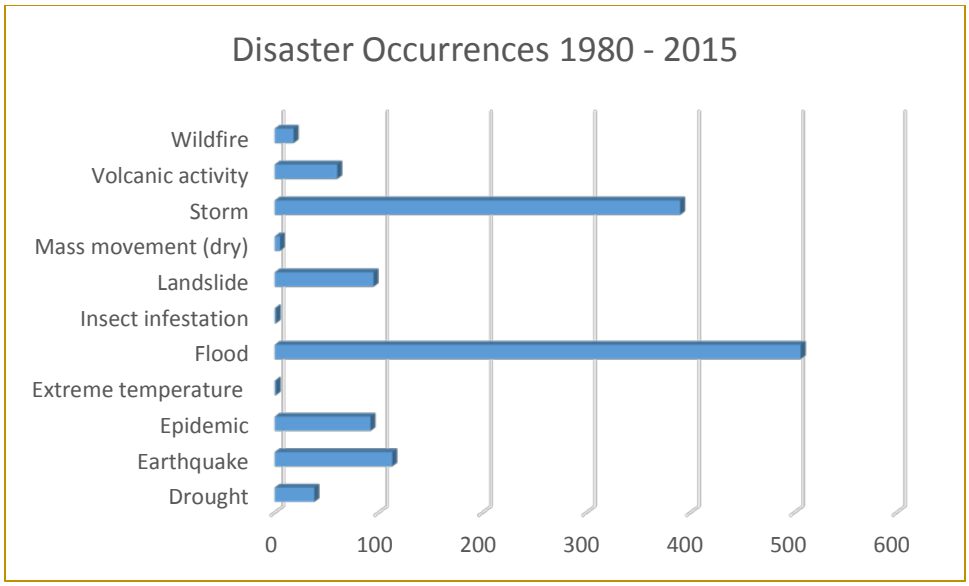


Figure 8: Disaster Occurrences

Based on the same data, earthquakes (including tsunamis) and storms caused the most deaths (see Figure 9) during this same period.

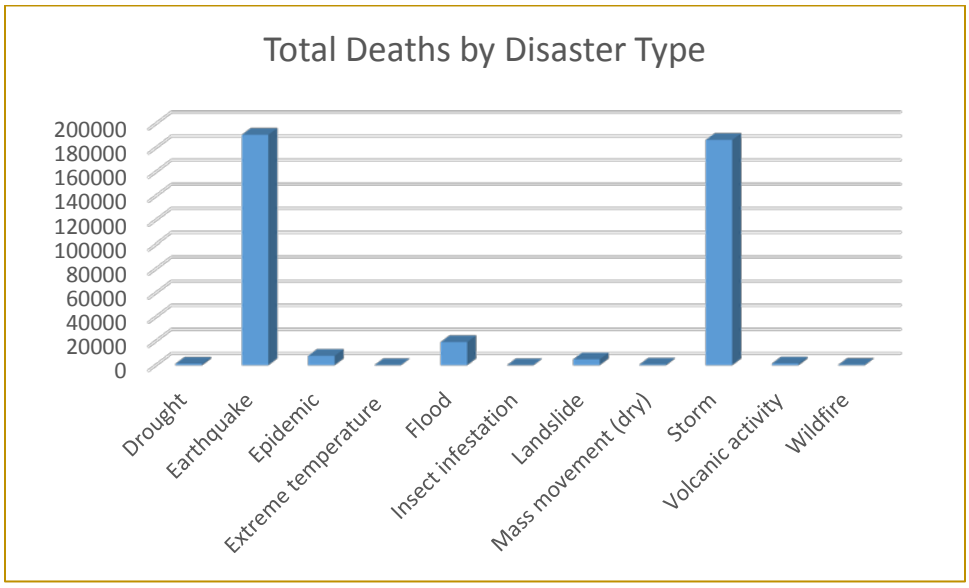


Figure 9: Deaths by Disaster Type

Floods (as illustrated in Figure 10) surpassed all other hazard types in terms of total dollar value of damage.

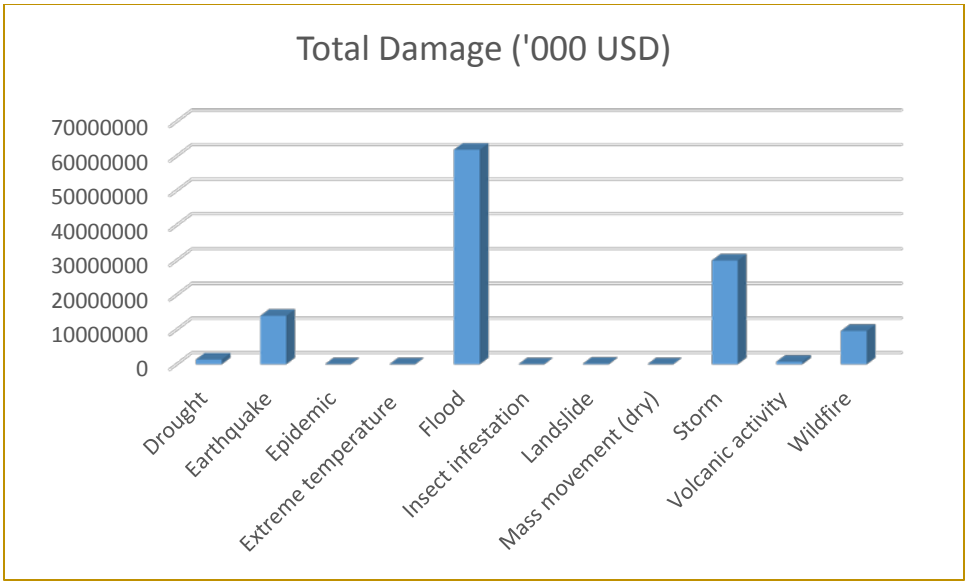


Figure 10: Damage in U.S. Dollars

ASSESSING DISASTER EFFECTS AND IMPACTS

Not all hazards result in disasters, however, many do, and disaster impacts differ depending upon the type of hazard, its intensity and the characteristics of the area affected. Major disasters are generally followed by a variety of assessments carried out by numerous agencies and focusing on a broad range of sectors. Assessments vary in timing and in scope, from those conducted in a matter of hours or days in the immediate aftermath of a disaster to identify where life-saving assistance is needed, to very comprehensive assessments that take weeks or months to complete, detailing needs for long-term recovery and reconstruction.

The scope of the disaster, extent of damage, focus and level of experience of the affected country, and available expertise play a role in determining the type of assessment employed. In general, all have the purpose of describing what happened as a result of the disaster, who and what was affected, and what may be required for the affected area to recover. Post-disaster assessments assist the government of the affected country to:

- Understand the spatial extent of the disaster;
- Determine the disaster effects and impacts within the affected area;
- Identify critical needs that will require international disaster relief assistance; and
- Facilitate a timely and appropriate response by the international community.

Various methodologies for post-disaster assessment are in use around the world, and it is not uncommon for multiple assessments to be conducted for the same disaster. In recent years, dialogue among humanitarian partners and those implementing post-disaster assessments has focused on the need for a consistent approach to post-disaster assessment that produces comparable results, and is based on agreed-upon principles. The Post-Disaster Needs Assessment (PDNA) methodology is one such approach, and will be discussed in more detail in this module.

Figure 11: Examples of Post-Disaster Assessments Conducted within ASEAN Member States

THE PDNA PROCESS

A Post-Disaster Needs Assessment (PDNA) is used to determine the extent of damage and losses, and to estimate recovery needs after a disaster. The methodology came about in an effort to assist governments in assessing the full extent of a disaster's impact on a country and, on the basis of these findings, to produce an actionable and sustainable Recovery Strategy for mobilizing financial and technical resources. PDNA results are used to form the basis of a rehabilitation and reconstruction plan.

Joint efforts by the United Nations Development Group, The World Bank and European Commission in support of governments and in furtherance of a series of institutional agreements on post-crisis cooperation, have developed guidance documents on the conduct of PDNAs in an effort to standardize

"Effective recovery and transition from relief to development in a post-disaster situation requires a nationally-led needs assessment and recovery planning process, often with international support, to determine damage, losses and recovery needs and, in many cases, the development of a recovery framework, through an inclusive and multi-stakeholder process, that would serve as a tool for planning, coordination and management of recovery efforts. Underpinning this is not only the need for effective recovery assessment and planning at the national level, but also the how-to of connecting national plans with effective means of delivering recovery programs at the local level." (Source: Annex 1 of the Joint Declaration on Post-Crisis Assessments and Recovery Planning by the European Commission, the United Nations Development Group and the World Bank; 2008.)

assessment processes and results.

The PDNA has, in recent years, become the primary tool by which national governments, with the support of the international community, assess the physical, economic, and human impacts of a disaster and identify recovery needs and priorities.

ROLE IN DISASTER RECOVERY AND RECONSTRUCTION

In addition to assessing disaster impacts on the population, physical assets, and the economy, post-disaster assessments play a significant role in determining the recovery and rehabilitation needs of each sector in the affected area. They help define the priorities for recovery and reconstruction (e.g., geographic areas, sectors, special populations), and determine the types of short-, medium-, and long-term assistance that may be required. They also provide quantitative justification for disaster risk management and disaster risk reduction activities, helping to identify the type of actions required to minimize the effects of future hazard occurrences.

WHEN TO CONDUCT

After a disaster, assessment results are urgently needed to plan post-disaster interventions, and recovery and reconstruction activities. However, the following preconditions must be met to be able to safely and efficiently conduct an assessment:

- Emergency relief activities and search and rescue operations must be completed or nearly completed;
- The natural phenomenon that caused the disaster must be over, such that the effects of the disaster are visible (e.g., flood waters receded), and there is adequate road access to affected areas; and
- Local government staff, sector specialists, and other subject matter experts are available to participate in the assessment. A PDNA typically begins one to two weeks after the disaster has occurred. The time prior to starting the assessment can be used to gather baseline information and provide “just-in-time” training to those participating in the assessment.

Key steps of the PDNA process, incorporating best practices from past disaster responses are outlined in Figure 12 and discussed in detail below. In this example, the PDNA process is estimated to take between 6 and 12 weeks, however, multiple factors such as the scale of the disaster, the extent of damage, the capability and expertise of the local government, etc. can influence the time it takes to complete a PDNA. Depending on the disaster and country context, only a subset of the PDNA processes and procedures outlined here may be applicable.

Rapid and relief-oriented assessments conducted in the immediate aftermath of the disaster by humanitarian assistance organizations can provide a first glimpse into the scale of the disaster, and the likely scope of the PDNA.

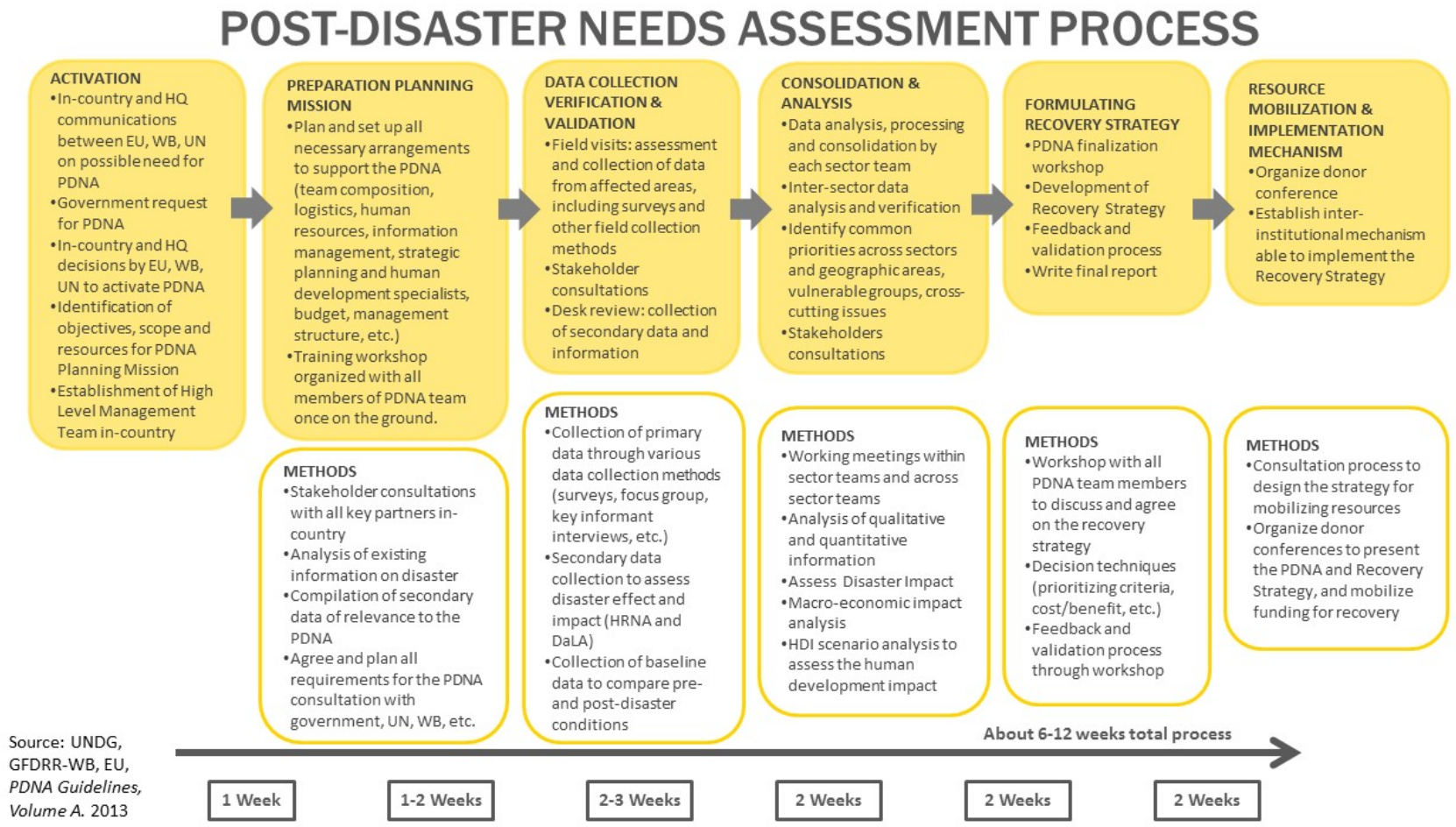


Figure 12: PDNA Process

ACTIVATING THE PDNA

As a government-led and government-owned process, the decision to activate a PDNA lies with the government of the affected country. However, PDNAs are often carried out with the participation of national agencies, nongovernmental organizations and the international humanitarian assistance community. The United Nations, The World Bank, and European Commission are routinely called upon in the aftermath of a disaster to help conduct assessments and support recovery activities.

ASEAN Member States have the added benefit of the support arrangements as outlined in the ASEAN Agreement of Disaster Management and Emergency Response (AADMER). At the request of the affected Member State, the ASEAN Coordinating Centre for Humanitarian Assistance on disaster management (AHA Centre) can help facilitate communication and engagement with humanitarian assistance partners in support of a PDNA. In addition, ASEAN's Emergency Rapid Assessment Teams (ERAT) may be called upon to participate in the rapid damage assessments conducted immediately after the disaster.

From the AADMER

Article 20: ASEAN Coordination Centre for Humanitarian Assistance

"The ASEAN Coordinating Centre for Humanitarian Assistance on disaster management (AHA Centre) shall be established for the purpose of facilitating cooperation and coordination among the Parties, and with relevant United Nations and international organizations, in promoting regional collaboration."

Table 3 lists the national, regional and international participants that may be engaged in the PDNA process.

Table 3: PDNA Participants

National-level Participants	Regional and International Participants
Presidential Office or equivalent	ASEAN
The Ministry of Finance	Regional International Organizations
The Ministry of Planning or equivalent	International NGOs
Line Ministries	Other bilateral donors
National Disaster Management Offices	The World Bank and other international financial institutions (IFI)
Governors, senators, and mayors	
National Red Cross	
National NGOs	
Civil society organizations	
Community-based organizations	
Affected population	
Private sector	

A High-Level Management Team led by senior-level representatives of the national government is established at the beginning of the PDNA process to manage and coordinate post-disaster assessment activities, and is responsible for:

- Providing strategic guidance and direction to participating organizations and individuals;
- Ensuring that the objectives of the assessment are met;
- Making key management decisions; and
- Securing resources and support arrangements for the PDNA planning mission.

From the AADMER

Article 11: Joint Emergency Response through the Provision of Assistance

"If a Party needs assistance in the event of a disaster emergency within its territory, it may request such assistance from any other Party, directly or through the AHA Centre, or, where appropriate, from other entities… Assistance can only be deployed at the request, and with the consent, of the Requesting Party, or, when offered by another Party or Parties, with the consent of the Receiving Party."

PLANNING AND PREPARATION

Once the decision to conduct a PDNA has been made, and the management structure and coordination mechanism have been defined, planning and preparation for the assessment can begin. Two key products are developed in the initial planning and preparation phase, the **Situation Report** (SitRep) and the **PDNA Terms of Reference** (ToR).

The SitRep is a brief situational analysis providing updates on the disaster situation based on rapid assessment reports, government data, available maps and imagery, and stakeholder consultations. SitReps provide the necessary understanding of the scale of the disaster, its impact on the population, and any rapid assessment activities that are taking place. It is also through the development of the SitRep that the planning team is able to confirm the need to conduct a PDNA. Once the need is confirmed, the SitRep will guide the definition of the assessment's scope and arrangements required for success.

The TOR is the plan which outlines all the arrangements necessary to undertake the PDNA. Based on the findings of the SitRep, the ToR defines:

- The scope of the PDNA
  - Objectives
  - Sectors to be assessed
  - Geographic areas
  - Timeframe
  - Work plan
- PDNA management arrangements
  - Management structure
  - Team composition

Sectors typically assessed in the PDNA are listed in Table 4 below. While sector designations and categorization may vary from country to country, those listed may be used as a starting point for discussion.

Table 4: PDNA Sectors

Social Sectors	Infrastructure Sectors	Productive Sectors	Cross-Cutting Themes
Housing, Land and Settlements	Water, Sanitation and Hygiene	Agriculture, Livestock, Fisheries	Governance
Education	Community Infrastructure	Employment and Livelihoods	Disaster Risk Reduction
Health	Energy and Electricity	Industry, Commerce and Trade	Environment
Culture	Transport and Telecommunication	Tourism	Gender
Nutrition			

Once the SitRep and ToR have been developed, subsequent planning and preparation activities take into account the human resources, support arrangements, and training needs that must be considered for the assessment to be successful.

In this stage of the process, a timeline for the PDNA is established. This will help those engaged in the PDNA to understand the level of commitment that will be required.

The Assessment Team

The composition of the assessment team should be multi-disciplinary, and reflect all sectors of the economy. A multi-agency approach will ensure that all relevant sectors are covered, and will support a more coordinated approach to recovery and reconstruction after the assessment is concluded.

The assessment team is primarily composed of national and sub-national government officials and technical staff from government agencies, ministries, or departments including disaster management, planning and development, trade and investment, public works, home affairs, agriculture, forestry, fisheries, environmental and natural resources management, health, housing, and education. Subject matter experts and/or specialists in each sector or area of concern are also engaged. These may include economists for each sector or discipline, engineers, architects, medical doctors, public health specialists, sociologists, psychologists, religious leaders, statisticians, biologists, etc.

Other personnel may be required, for example, to provide coordination assistance to assessment team members, or assist with report writing.

Support Arrangements

To ensure the safety and effectiveness of the assessment team, support arrangements that take into account the following will be necessary:

- Logistics
    - Access
    - Transportation and movement of resources
    - Workspace
    - Travel and accommodations

    - Equipment, office supplies, information technology support
    - Telecommunications
- Safety and Security
    - Physical
    - Best practices – team work, familiarization, conduct, communication, equipment
    - Health – food, water
    - Mental/emotional – managing stress
- Information Management
    - Supports data collection, processing, analysis and dissemination
    - Technical support
    - Data sharing and cooperation
- Budget
    - Costs associated with human resources, management, and coordination needs
    - Logistical arrangements
    - Training expenses
    - Workshops, meetings, conferences
    - Administration

From the AADMER

Article 12: Direction and Control of Assistance

"The Requesting or Receiving Party shall provide, to the extent possible, local facilities and services for the proper and effective administration of the assistance. It shall also ensure the protection of personnel, equipment and materials brought into its territory by or on behalf of the Assisting Entity for such purposes."

Training

A "just-in-time" training workshop also takes place at this stage of the assessment process. The training is organized for the PDNA team to brief members on the assessment plan, methodology, support arrangements, and timing. It also defines roles and responsibilities, and establishes leadership and coordination agreements. The training equips team members with the tools and information needed for the assessment, including relevant reports, maps, and contact lists.

DATA COLLECTION, CONSOLIDATION AND ANALYSIS

The data collection and analysis segments of the PDNA have two main parts:

- The valuation of physical damage and economic losses as accomplished through a Damage and Loss Assessment (DaLA), and
- The identification of human recovery needs based on information obtained from the affected population through a Human Recovery Needs Assessment (HRNA).

DAMAGE AND LOSS ASSESSMENT (DALA)

The DaLA methodology, originally developed by the Economic Commission for Latin America and the Caribbean (ECLAC), provides an overview of post-disaster damage, losses, and macro-economic impacts.

Damage figures quantify the total or partial destruction of physical assets in the disaster-affected area, and are expressed in terms of replacement costs according to prices prevailing prior to the event.

Losses describe the changes in economic flows arising from the disaster. Typical losses include the decline in output in productive sectors (agriculture, livestock, fisheries, industry, and commerce), and lower revenues and higher operational costs in the provision of services (education, health, water and sanitation, electricity, transportation, and communications). The unexpected expenditures necessary to meet humanitarian needs during the post-disaster emergency phase are also considered losses. Losses are expressed in current monetary values.

DaLA entails a detailed assessment, which identifies and quantifies damage and losses for all sectors of the economy as defined by the system of national accounts of the affected country.

DaLA also includes a socio-economic impact analysis to estimate the disaster's effects on economic performance, the temporary macro-economic imbalances that may arise, and the temporary decline in employment, income, and well-being of the individuals and households affected by the disaster. Cross-cutting issues, such as gender and the environment are also examined.

The value of damage is used as the basis for estimating reconstruction needs, while the value and type of losses provide the means for estimating the overall socio-economic impact of the disaster and the needs for economic recovery.

DaLA relies heavily on the availability of baseline data and information to allow a comparison of pre-disaster conditions with the post-disaster reality as determined through field surveys or other data collection methods. The baseline also serves as a gauge by which recovery processes can be measured. Because of its crucial role in post-disaster assessment, the importance of establishing policies and procedures for routine collection, management, and maintenance of baseline data in non-disaster times cannot be stressed enough.

DALA RESULTS

DaLA results include a summary of the total value of damage to physical assets and losses in economic flows, macro-economic impacts, as well as impacts to personal and household income. It describes the spatial extent of disaster effects and their distribution across sectors. Assessment results are typically summarized by geo-political or administrative boundaries such as province, district, or village, and may also be broken down by ownership, gender, or socio-economic status.

Results of a DaLA provide an estimate of the timeline and resources needed to rebuild destroyed assets and restore pre-disaster economic flows. It also helps to focus recovery efforts on the areas that suffered the greatest impact. In the short-term, DaLA results help define government interventions with the aim of reducing people's suffering and initiating economic recovery. In the medium- to long-term, the assessment assists in defining the financial resources necessary to achieve overall recovery and reconstruction.

HUMAN RECOVERY NEEDS ASSESSMENT (HRNA)

The Human Recovery Needs Assessment (HRNA) uses both quantitative and qualitative approaches to 1) understand the perspectives and concerns of those most affected by the disaster, and 2) assess the impact of the disaster on human development. "Human development" in the context of social impact

assessment, is defined by the World Bank and the Global Facility for Disaster Reduction and Recovery as "measures that revitalize people's abilities to realize their potential to lead productive, creative lives in accordance with their needs and interests."[18]

HRNA has evolved over time from the methods used by humanitarian partners at local, national, and international levels to measure disaster impacts on affected population and identify resources needed for recovery and reconstruction in key sectors (e.g., livelihoods, community infrastructure, health, education) and cross-cutting areas (e.g., gender, youth, environment, disaster risk reduction, governance).

The objectives of a HRNA (as identified by UNDP) focus on the following:

- Revival of livelihoods,
- Restoration of local governance systems,
- Re-establishing community infrastructure,
- Restoring access to schools and hospitals,
- Clean-up of the local environment,
- Providing special assistance to women and children, and
- Inclusion of socially disadvantaged and excluded groups in the scheme of recovery.

The HRNA methodology uses participatory approaches such as household surveys, questionnaires, focus group discussions and key informant interviews to understand how the disaster has affected people's abilities to meet basic needs and access social services. It assesses the people's capacity to cope with, and recover from the impacts of the disaster. HRNA addresses several concepts that are not typically included in the DaLA approach, such as gender equity, human rights, and social justice.

"Whereas the DaLA will estimate the cost to rebuild a school, HRNA will address those measures required to ensure the re-enrollment of children, the proper placement of teachers, and related (often multi-year) social mobilization efforts required to promote an enabling environment for the education of all children."

(*Source: 2015, Disaster Recovery Toolkit, Tsunami Global Lessons Learned Project. Page 76. www.adpc.net/tgllp/drt*)

HRNA RESULTS

HRNA results are used to design early recovery interventions, such as:

- Estimating resources for recovery interventions,
- Mobilizing resources for early recovery,
- Identifying institutions and agencies that can support recovery,
- Improving access to resources for the affected population, and
- Developing accountability measures.

[18] World Bank, GFDRR. 2011. Analyzing the Social Impacts of Disasters, Volume 1: Methodology, p. 6.

GROUP ACTIVITY: ASSESSING THE POST-DISASTER SITUATION

Estimating Recovery Needs

Upon completion of the DaLA and HRNA, it will be possible to calculate recovery needs, which are defined by TGLLP[19] as, "the requirements for overcoming negative disaster impacts and reducing future disaster risk." Comprehensive PDNA results are essential for an accurate estimate of needs, which can be facilitated by the aggregation and/or breakdown of data by geographic area, ownership, gender, age, or other relevant factors. An estimation of needs can be broken down into the following four categories:

- Reconstruction of damaged infrastructure and physical assets,
- Resumption of economic and social activities, service delivery and access to goods and services,
- Restoration of governance and social processes, and
- "Building back better" and risk reduction.

Reconstruction of Infrastructure and Physical Assets

The financial requirements (needs) for reconstruction of infrastructure and physical assets are derived from the DaLA, which estimated damage, including reconstruction costs based on the partial or complete destruction of those elements. Recovery needs for reconstruction also take into account the additional costs associated with "building back better." A sample equation for determining reconstruction needs may consider the following:

Value of Damage + Cost of (Quality improvement +Technological modernization + Relocation, when needed + Disaster risk reduction features + Multi-annual inflation).

Resumption of Service Delivery and Access to Goods and Services

Complementing the rebuilding of physical assets described above, this category includes the human resources and expertise, supplies, information systems and/or technology required to delivery basic services.

It also includes restoring access to goods and services that help individuals, families and communities regain access, for example, to markets, employment, sources of water, health care, food, education, and religious and cultural centers.

Estimating the needs to restore service delivery and access to goods and services takes into account both:

[19] Ibid.

- The additional costs to service providers to restore services to pre-disaster levels (or better), and
- The additional costs to the population associated with obtaining access to those services.

Restoration of Governance and Social Processes

Recovery needs focused on the restoration of governance and social processes aim to revitalize and improve formal and informal institutions and policies, as well as public administration and governance functions essential for livelihood restoration, basic service delivery, and community and cultural life.

Also considered are the costs associated with restoring and/or strengthening the capacity of sector authorities to lead and manage recovery processes, including decentralized local capacities, human resources, information systems, capacity building trainings, etc.

Needs for restoring governance and social processes take into account the:

- Costs for additional human resources needed to support recovery (e.g., those with enhanced technical skills, improved capacity of service providers),
- Costs for replacing lost records and upgrading documents, and
- Costs associated with the disruption of government or social cohesion issues.

"Building Back Better" and Risk Reduction

As mentioned previously, the costs associated with "building back better," with regard to reconstruction of physical assets and infrastructure, are factored into the needs required to reconstruct those assets.

In addition, the costs of integrating risk reduction measures are estimated for the following:

- Addressing immediate risks;
- "Building back better" across sectors;
- Fostering the use of technologies and practices that enhance resilience and develop safer infrastructure, such as spatial/territorial or land-use planning, hazard and risk maps, and technical expertise;
- Enhancing preparedness capacities of the various sectors to manage the impact of future disasters;
- Providing equitable and affordable services to vulnerable groups; and
- Strengthening overall risk reduction to lessen the exposure to disasters, reduce vulnerability, and promote resilience of individuals and communities.

Needs associated with "building back better" are calculated as follows:

- Costs for addressing immediate risks;
- Costs for upgrading preparedness measures in each sector;
- Costs of studies or assessments, technologies and practices, technical expertise, etc. required to facilitate the implementation of building back better approaches; and
- Cost of specific measures to strengthen disaster risk reduction.

The estimation of needs, based on the DaLA and HRNA outputs, is a crucial part of the PDNA process, and provides essential input for the development of the Recovery Strategy, one of the important deliverables of the PDNA.

PDNA DELIVERABLES

This section discusses the final two activities outlined in the PDNA process (refer to Figure 12 above), which are deliverables or outputs of the PDNA process.

A PDNA results in the following core deliverables:

- A PDNA Report
- A Recovery Strategy
- Resource Mobilization Strategy
- Outline for recovery implementation

THE PDNA REPORT

Sectoral linkages, cross-cutting themes, and issues identified during the PDNA will have important implications for post-disaster recovery. One consolidated assessment report that includes detailed sector assessments and recovery needs for each, and that highlights areas where cross-sectoral collaboration and interventions are needed, will support a unified approach to recovery.

RECOVERY STRATEGY

A Recovery Strategy is developed based on the PDNA results, and refines the vision for national recovery. It outlines objectives and interventions for the recovery of each sector affected by the disaster, and the timeline required to accomplish them. It also determines the costs associated with the recovery of each sector and identifies the actors who will be involved.

As appropriate, the Recovery Strategy may also be aligned with the country's strategic development goals and priorities, or inform existing development plans and policies.

RESOURCE MOBILIZATION

The PDNA and resulting Recovery Strategy will serve as the basis for the mobilization of the resources necessary to support the affected country's recovery processes. A resource mobilization strategy should be developed that identifies and describes potential funding opportunities and outlines the actions and steps necessary to secure resources for recovery. Actions may include the advocacy and communications needed to raise awareness of recovery needs among policy makers, potential donors, the media, key population groups, and other stakeholders. If the resources required to meet recovery needs exceed the internal capacity of the affected nation, the national government may request assistance in organizing a donor conference.

OUTLINE FOR RECOVERY IMPLEMENTATION

Another important aim of the Recovery Strategy is to promote national ownership of the recovery process. While recovery processes will be best served by participatory, multi-stakeholder engagement, an outline for a country-led implementation mechanism providing oversight and guidance is essential.

NEXT STEPS FOR RECOVERY

The Recovery Strategy, as the primary output of the PDNA, provides the basis for next steps, which entail more comprehensive recovery planning. The magnitude of this task will depend on whether or not pre-disaster recovery planning has taken place. If a Disaster Recovery Framework and Disaster Recovery Plan already exist, only modifications that take into account the specifics of the current disaster will be needed. If no pre-disaster planning has been conducted, the post-disaster recovery planning processes will be significantly more involved and time-consuming.

As will be discussed in Module 4, a Disaster Recovery Framework articulates the national recovery policy, and provides strategic guidance for recovery planning and implementation.

ISSUES AND CHALLENGES IN PDNA

The post-disaster setting can be overwhelming, and fraught with competing priorities and urgent needs. While a well-coordinated, comprehensive, and timely PDNA is the ideal, the process is not without its challenges. The following list of issues and challenges has been adapted from the *Disaster Recovery Toolkit Training Manual*. With these points in mind, strategies to meet these challenges can be developed.

Ownership: As stated previously, PDNAs are or should be government-owned and government-led. A sense of ownership is key to driving the PDNA and recovery processes forward. Along with ownership, comes also the need for transparency in the assessment and decision-making processes, which will in turn, promote a sense of ownership among stakeholders, without whom the PDNA would be less effective.

Involvement of Government Line Ministries: While some of the expertise necessary to conduct the PDNA may come from external sources, the involvement of local government departments and subject matter experts is essential. In addition to building local capacity for future assessment activities, the local knowledge and qualitative insights gained from their involvement contribute to the development of realistic reconstruction and recovery requirements.

Methodology: The methodology used for the assessment should not detract from the process being led by the government, involving multi-sectoral government agencies and being sensitive to the recovery needs of the most affected, the marginalized, and the less visible.

Conflicting Priorities: Upon completion of the DaLA and HRNA and the estimation of recovery needs, there may be conflicting priorities as to the final selection of sectors and the plans for their recovery. In

such cases, the government of the affected nation must make final and binding decisions to be able to move forward.

Lack of Reliable Information: There is a tendency, at all levels, to inflate the estimates of damage and losses after a disaster. This is increasingly seen as an opportunity to access all available resources that are forthcoming (e.g., during a fire in a temporary shelter after the Aceh tsunami, first responders were taken aback to see 60 cooking stoves in one house – all taken from different NGOs who had come to provide support for tsunami victims). Similarly, local, district or regional government ministries may exaggerate the damage to access larger shares of relief funds from the central government.

Need for Baseline Data: Aspects of the PDNA rely heavily on the availability of baseline data to provide a comparison of pre-disaster conditions with the post-disaster reality on the ground. Baseline data provides information on the physical, demographic, social and economic characteristics of a country or region, as well as detailed sectoral information. Without comprehensive data, the relief and recovery needs for certain population groups such as migrants, for example, may not be factored into the assessment, and will therefore go unmet. Because of its crucial role in post-disaster assessment, the importance of establishing policies and procedures for routine collection, management and maintenance of baseline data in not-disaster times cannot be stressed enough.

Regular Monitoring: After the worst of the crisis has abated, there may be an inclination to adopt a "business as usual" mind-set. Regular monitoring to ensure timely completion of stated interventions is crucial to keep the momentum of the recovery work moving forward at the same pace and with the same enthusiasm.

CASE STUDIES: USING PDNA RESULTS IN RECOVERY PLANNING

POST-NARGIS ASSESSMENT METHODOLOGIES: DALA AND VTA

(Source: *Post-Nargis Joint Assessment, 2008)*

Reports indicate that in the immediate aftermath of Cyclone Nargis, local authorities, international non-government organizations, and community-based organizations made various rapid assessments of the post-disaster situation. These assessments guided the very early humanitarian response—however, they were neither consistent in their content nor comprehensive in their geographical coverage, and this resulted in significant knowledge gaps.

The Post-Nargis Joint Assessment (PONJA) was commissioned by the TCG as a comprehensive assessment of the damaged caused by the cyclone. Released on 21 July 2008, the PONJA was based on extensive fieldwork carried out by experts from the Government, ASEAN, and the United Nations. Two types of assessments were conducted: Damage and Loss Assessment (DaLA) and the Village Tract Assessment (VTA).

- Village Tract Assessment identified the vulnerabilities and capacities of the areas worst affected by the cyclone, and specifically identified relief and early recovery priorities for immediate intervention, by collecting information on a range of sectors/clusters and in a number of communities across the affected areas.

By utilizing both the DaLA and VTA methodologies, the PONJA identified not only the damage caused by the cyclone, but also immediate needs, which then guided the humanitarian and early recovery response in the months following the disaster.

Based on the PONJA and Government assessments, two key documents were developed to guide post-Nargis relief and recovery:

1. Government's *Programme for Reconstruction of Cyclone Nargis Affected Areas and Implementation Plan for Preparedness and Protection from Future Disasters*
2. Post-Nargis Recovery and Preparedness Plan (PONREPP)

Key Findings of the PONJA

(Source: *Cyclone Nargis 2008: Rehabilitation in Myanmar, UNISDR)*

Recommendations for immediate and short-term needs:

- Community-based disaster preparedness and enhancing risk awareness.
- Strengthening local-level elements of early warning systems.
- Introducing disaster risk reduction in reconstruction and recovery efforts to "build back better."

Recommendations for medium-term needs:

- Carry out a comprehensive multi-hazard assessment to guide reconstruction process and development.
- Strengthen the institutional and legislative arrangements to increase capacity to manage risks.
- Foster national public-private partnerships that contribute to a holistic disaster risk reduction approach.

POST-NARGIS ASSESSMENT METHODOLOGIES: DALA AND VTA

(Source: *Post-Nargis Joint Assessment, 2008)*

Health Sector: Healthcare is provided through both the public and private sectors. The public sector is centralized with most basic health services provided at the township level and below, covering 100,000 to 200,000 people. A typical township public medical care system includes:

- A township hospital with 16-50 beds (depending on the population)
- 1-2 station hospitals
- 4-7 rural health centers (RHCs), serving about 20,0000 to 25,000 people each
    - Each RHC has (on average) about four sub-centers (sub-RHCs) operated by a midwife and a community health worker.

By 2008, the Ministry of Health reported having:

- 839 hospitals
- 86 primary and secondary health centers
- 1,473 RHCs
- 6,599 sub-RHCs

Damage to Public Health Facilities by Division/State

Division/State (Facilities)	Full	Partial	Roof	Total Damaged
Ayeyarwady (621)	93	130	149	372
Yangon (548)	33	77	175	285
Bago East (24)	1	4	16	21
Mon State (18)	0	6	8	14
TOTAL (1,211)	**127**	**217**	**348**	**692**

Estimated Damage by Type of Health Facility *(in Kyat million)*

	Damages
Hospitals	
100+ beds	3,380
50-100 beds	659
16-25 beds / Station Hospital	4,093
Rural Health Centers (RHCs)	
RHCs / Other Clinics	1,472
Sub-RHCs	1,894
Other	
Training Schools	47
Private Clinics	1,236
TOTAL	**12,781**

POST-NARGIS ASSESSMENT METHODOLOGIES: DALA AND VTA

(Source: *Post-Nargis Joint Assessment, 2008)*

Education Sector: A total of 302 high schools, 349 middle schools, and 3,261 primary schools were destroyed or damaged with an estimated loss in value of K116 billion. Another 2,403 administrative buildings and offices, as well as 602 tertiary education buildings, were damaged.

The high level of destruction was a product of long-standing infrastructure that had been maintained inadequately or recently-erected buildings where construction standards had not been enforced. While education participation grew steadily over time, capital investments remained limited.

School buildings are a centerpiece in the livelihoods of many of the villages in the affected areas. According to the VTA, 73% of village leaders identified schools as the priority facilities needing immediate support for rebuilding.

Number of School Children (2007)

Division	Primary General Education	Middle School	High School	Total
Ayeyarwady	499,108	135,683	49,532	684,323
Yangon	520,363	288,769	124,222	933,354
TOTAL	**1,019,471**	**424,452**	**173,754**	**1,617,675**

Estimated Damage by Type of Public School: Primary, Middle, and High Schools *(in Kyat million)*

	Damages
Primary General Education	
Totally or partially damaged	59,297
Roof damaged schools	10,407
Furniture, equipment, and learning materials	22,352
Middle School	
Totally or partially damaged	5,118
Roof damaged schools	1,005
Furniture, equipment, and learning materials	1,964
High School	
Totally or partially damaged	3,367
Roof damaged schools	1,105
Furniture, equipment, and learning materials	1,434
TOTAL	**106,049**

POST-NARGIS ASSESSMENT METHODOLOGIES: DALA AND VTA

(Source: *Post-Nargis Joint Assessment, 2008)*

Agricultural Sector: The agricultural sector, encompassing crops, plantations, livestock, and fisheries, comprised 44% of Myanmar's national economy in 2007, and 31% of the regional GDP of Ayeyarwady and Yangon Divisions—the sector is the mainstay of the rural economy in the Ayeyarwady Delta area. Livestock plays an important role in the livelihoods of the rural population, both as a source of food and as draught animals for agriculture. Fisheries are also important, as both a subsistence food source for rural communities and for commercial production.

Crops: Damage was reported to be about 16,200 hectares of the standing summer paddy crop, equivalent to 80,000 metric tons (MT) of production. In addition, paddy and milled rice in farmers' storage was damaged or destroyed, estimated at 251,000 MT. The VTA suggests that as much as 28% of agriculture land (172,200 hectares) was damaged.

Livestock: There was a significant mortality of livestock, including the deaths of approximately 50% of buffalo and 20% of cattle in the worst-affected townships—and many of the surviving animals were severely weakened due to the ingestion of salt water and lack of food. An estimated 55% of buffalo and cattle are used as draught animals in agricultural production.

The impact of the cyclone in terms of losses includes:

- 22,800 MT of beef production
- 4,000 MT of pork production
- 5,400 MT of chicken and duck meat
- 30 million chicken and duck eggs

Fisheries: The damage to capture fisheries, both marine and inland, was mainly caused by the high winds and storm surge. The VTA reports that income from fishing has dropped by half as a result of the cyclone. A total of 136 marine fishing vessels were reported lost, while 168 vessels were damaged but in salvageable condition. Inland fisheries suffered the largest damage in terms of lost or damaged boats, with more than 1,800 licensed boats officially reported lost. The VTA also reports that half of all small boats were lost, as was 70% of fishing gear.

Estimated Damage and Losses in the Agricultural Sector *(in Kyat million)*

	Damages	Losses
Crops & Plantations		
Field Crops	65,336	283,000
Farm Equipment	24,046	
Plantation	22,043	65,209
Livestock		
Livestock	45,190	30,775
Fisheries		
Capture Fisheries	25,609	99,932
Fish Farms	4,120	29,394
TOTAL	**186,344**	**508,310**

POST-NARGIS ASSESSMENT METHODOLOGIES: DALA AND VTA

(Source: *Post-Nargis Joint Assessment, 2008)*

Industry and Commerce Sector: The main components of the industrial sector in the Ayeyarwady and Yangon Districts (the two affected divisions included in the geographic scope of the assessment) are salt farms, dried fish/shrimp and fish paste production, rice mills, factories, and other small and medium industrial enterprises, and micro-enterprises. Damage and losses in industry reflect primarily the impact of the cyclone in Yangon Division, which accounts for almost 40% of national industrial output. The commerce sector includes wholesale and retail markets, as well as trading firms.

Salt Farms: Much of Myanmar's salt production comes from salt farms located in the Ayeyarwady Delta region, with an estimated 30,000 acres of salt fields in the Ayeyarwady Division alone. It is estimated that there were 20,000 salt farm workers, along with their families, at the time of the disaster—Cyclone Nargis not only destroyed almost 80% of the total salt field acreage, but also killed virtually the entire workforce in the affected areas. The cyclone's timing also caused maximum damage to stock, as warehouses in the affected area were completely destroyed, along with full inventories of salt from the just-completed harvest.

Rice Mills: Over half of small mills and two-thirds of larger mills in the affected areas were damaged by Nargis. Large inventories of paddy and rice from the recently harvested summer crop were destroyed or damaged.

Retail and Wholesale Markets: Almost all commercial markets in Ayeyarwady suffered cyclone damage, with a third of these being heavily damaged or destroyed. Shops in most markets, in spite of damage, were back to business within 2-3 days, though sales (on average) were estimated to be 40% lower than pre-cyclone levels and demand was not expected to recovery for another 4-6 months. Most of the customers in Ayeyarwady are farmers and fishermen who will not be able to earn income until next harvest season, or until boats are rebuilt.

Estimated Damage and Losses in the Industry and Commerce Sector *(in Kyat million)*

	Damages	Losses
Industry		
Salt Farms	35,334	15,230
Dried Fish/Shrimp and Fish Paste	26,240	36,080
Rice Mills	23,123	150,184
Rice processing future losses	--	112,000
Factories in industrial parks	209,880	673,200
Other SMEs	218,122	290,250
Micro-enterprise manufacturing	--	206,605
Commerce		
Wholesale Markets	757	13,420
Retail Markets	36,491	123,666
Future rice sales losses	--	22,400
Micro-enterprise (commerce)	--	323,927
TOTAL	**549,947**	**1,966,962**

POST-NARGIS ASSESSMENT METHODOLOGIES: DALA AND VTA

(Source: *Post-Nargis Joint Assessment, 2008)*

Housing Sector

Prior to impact by Cyclone Nargis, there were two main types of housing in the Delta region:

- Traditional Houses: a combination of wooden and bamboo structures. It is estimated that about 50% of all housing units were built of wood and bamboo with wooden or bamboo floors on stilts.

- Modern (solid) Houses: constructed with wooden and/or brick walls, with wooden roof support structures, and corrugated/galvanized iron or zinc sheets. Pillars are either wooden, concrete or brick, and the flooring is mainly stabilized cement. Modern houses are generally two stories, and commonly found in towns rather than villages.

Data collected by the assessment teams show that Nargis destroyed or damaged approximately 450,000 housing units. The results of the VTA reveal that the level of shelter destruction was closely linked to the type of shelter before the cyclone. Bamboo shelters were hardest hit, with 65% among them totally destroyed.

Estimated Damage and Losses in the Housing Sector *(in Kyat million)*

Damages	Losses	Total
660,000	26,000	686,000

At the time of the VTA, over three-quarters of households had rebuilt their homes. Given the available material and financial resources, there was a significant shift to smaller bamboo houses. VTA data indicate an increase in bamboo houses from 46% to 65%, and a decrease in wood houses from 51% to 33%.

Estimated Needs for Building Greater Disaster Resilience

Items to be Replaced	Number of Units	Cost Estimate (*in Kyat million*)
Core Traditional Housing	450,000	243,000
Training and Capacity Development		1,575
Program Management		10,800
TOTAL		**255,375**

- Assumes a traditional rural house of wooden structure, with thatched roof and bamboo or thatch walling.
- Assumes K600,000 for a core unit of 26 square meter, including the support to rebuild provided under the humanitarian appeal.
- Assumes 10% salvageable material from the debris.

POST-HAIYAN (YOLANDA) ASSESSMENT METHODOLOGIES: DALA AND HRNA

(Source: *Yolanda Comprehensive Rehabilitation and Recovery Plan, 2014 and Reconstruction Assistance on Yolanda: Build Back Better, 2013)*

Using an internationally-recognized Post-Disaster Needs Assessment (PDNA) methodology, OCD conducted its initial assessment in December 2013 using a multi-sectoral and multi-disciplinary structured approach. The PDNA included a Damage and Loss Assessment (DaLA) and Human Recovery Needs Assessment (HRNA) in order to assess disaster impacts and prioritize recovery and reconstruction needs.

The PDNA also informed a Strategic Framework for Recovery, and identified policy issues that needed attention during the recovery process.

Total Estimated Damage and Loss *(in Philippine Peso million)*

	Damage		Loss		TOTAL
	Public	Private	Public	Private	
Infrastructure Sectors	16,024	4,285	7,108	6,565	**33,982**
Economic Sectors	3,743	67,560	87	106,716	**178,106**
Social Sectors	23,175	305,472	3,442	22,628	**354,717**
Cross-Sectoral	4,000	--	300	--	**4,300**
TOTAL	**46,942**	**377,317**	**10,937**	**135,909**	**571,105**

The total damage and loss from Typhoon Yolanda had been initially estimated at PhP571.1 billion (equivalent to US$12.9 billion). Yolanda severely impacted the economic and social sectors, together representing nearly 93% of the total damage and loss. The PDNA established that the private sector had borne the brunt of the impact of the disaster, with an estimated 90% of the total damage and loss falling on the private sector.

Total Estimated Recovery and Reconstruction Needs *(in Philippine Peso million)*

	Needs		TOTAL
	Recovery	Reconstruction	
Infrastructure Sectors	3,654	24,670	**28,324**
Economic Sectors	38,201	51,278	**89,479**
Social Sectors	--	220,388	**220,388**
Cross-Sectoral	18,700	4,000	**22,700**
TOTAL	**60,555**	**300,336**	**360,891**

The overall resource needs for recovery and reconstruction were initially estimated at PhP360.8 billion (equivalent to US$8.2 billion). The needs for recovery were defined at the level of resources required to bring the economy back to its normal level of performance. Reconstruction needs represented the level of resources required to repair, build, and retrofit the physical assets destroyed by the disaster. As appropriate, the value of estimated damage was adjusted upwards to incorporate quality improvements, adoption of affordable disaster-resilient standards, and relocation of facilities to safe areas.

POST-HAIYAN (YOLANDA) ASSESSMENT METHODOLOGIES: DALA AND HRNA

(Source: *Reconstruction Assistance on Yolanda: Build Back Better, 2013)*

INFRASTRUCTURE SECTOR

Estimated Damage and Loss in the Infrastructure Sector *(in Philippine Peso million)*

Infrastructure Sector	Damage		Loss		TOTAL
	Public	Private	Public	Private	
Roads, Bridges, Flood Control and Public Buildings	4,255	--	322	--	**4,577**
Transport	6,010	216	24	--	**6,250**
Electricity	5,329	1,500	4,575	4,126	**15,530**
Water and Sanitation	429	2,569	2,186	2,439	**7,623**
TOTAL	**16,023**	**4,285**	**7,107**	**6,565**	**33,980**

Roads, Bridges, Flood Control, and Public Buildings: The affected area included 3,357 bridges and 65,000 kilometers of local roads, and 42% of national primary roads were affected. In general, impact was limited to debris and downed utility poles and lines which blocked the roadway and delayed relief operations, as well as some storm surge- or rain-triggered earth movement and washouts. The cost of restoring and reconstructing roads and bridges represented 3 to 6% of the annual budget in the three worst hit regions.

Electricity: The distribution facilities operated by the electricity cooperatives (ECs) were the hardest hit, amounting to almost 76% of the total damage to the energy sector. Most of the damage was in the supply of electricity to the residential consumers and public buildings. Of the 33 ECs that were affected by Yolanda, 12 were totally damaged and 21 were partially damaged. The National Grid Corporation of the Philippines reported damage to 248 transmission towers, 376 poles, and 7 substations. The Unified Leyte geothermal power plant complex, which supplies one-third of the electricity demand in the Visayas, suffered substantial damage, with the downtime before the plants return to full capacity estimated at 12 months.

Water Supply and Sanitation: According to the Local Water Utilities Administration, 70 water districts serve 91 of the Local Government Units in the affected areas and provide majority of the piped water supply. Damage to water infrastructure was relatively minor, mainly in the above-ground structures and equipment, and some water sources, reservoirs, and transmission pipelines. Of the 70 water districts: 3 were unaffected, 23 were operational (including the 3 largest water districts), 31 were partially operational, and 13 were not operational.

Estimated Recovery and Reconstruction Needs in the Infrastructure Sector *(in Philippine Peso million)*

Infrastructure Sector	Needs		TOTAL
	Recovery	Reconstruction	
Roads, Bridges, Flood Control and Public Buildings	64	5,106	**5,170**
Transport	--	7,472	**7,472**
Electricity	1,740	8,195	**9,935**
Water and Sanitation	1,850	3,897	**5,747**
TOTAL	**3,654**	**24,670**	**28,324**

POST-HAIYAN (YOLANDA) ASSESSMENT METHODOLOGIES: DALA AND HRNA

(Source: *Reconstruction Assistance on Yolanda: Build Back Better, 2013)*

Economic Sector

Estimated Damage and Loss in the Economic Sector *(in Philippine Peso million)*

Economic Sector	Damage		Loss		TOTAL
	Public	Private	Public	Private	
Agriculture, Livestock, Fisheries, and Food Security	3,743	27,560	87	30,716	**62,106**
Trade, Industry, and Services	--	40,000	--	76,000	**116,000**
TOTAL	**3,743**	**67,560**	**87**	**106,716**	**178,106**

Agriculture, Livestock, Fisheries, and Food Security: A total area of about 600,000 hectares of agricultural lands were affected and an estimated 1.1 metric tons (MT) of crops had been lost. Coconut plantations suffered significantly, where damage was recorded over a wide area on 441,517 hectares, of which 161,400 hectares were considered totally damaged. In addition, losses were reported for livestock, agricultural equipment, post-production facilities, and fishing vessels and equipment, as well as damage to irrigation systems and rural infrastructure.

The timing of the typhoon, occurring in early November, was expected to result in significant foregone production of the early 2014 rice crop season, as well as impact the late 2014 crop season due to damage to paddy land and irrigation systems; low viability/availability of rice seed; loss of draught animals, tools, and farm equipment; and reduced availability of labor due to rebuilding requirements and displacement of casual labor. For coconut, given the time required to re-establish plantation production (typically 6-9 years), the losses in terms of foregone production are likely to be significant.

Trade, Industry, and Services: The service and industry sector in the Visayas is comprised of retailing, trading, tourism, agriculture processing, manufacturing, and a wide range of cottage and craft industries. The combined share of the service sector to GDP in these areas was 11.7% in 2012, while the industry sector contributed to 12.2%. The reconstruction of public utilities and restoration of public services such as transport, power, and water was expected to play a significant role in the recovery of the industry. The typhoon caused physical damage to transport, communication, and power infrastructure, and brought destruction to manufacturers, processors, service providers, cottage industries, and informal businesses. These resulted in losses in employment and income, as well as disruption of markets and supply and value chains.

Estimated Recovery and Reconstruction Needs in the Agriculture Sector *(in Philippine Peso million)*

Economic Sector	Needs		TOTAL
	Recovery	Reconstruction	
Agriculture, Livestock, Fisheries, and Food Security	15,401	3,278	**18,679**
Trade, Industry, and Services	22,800	48,000	**70,800**
TOTAL	**38,201**	**51,278**	**89,479**

POST-HAIYAN (YOLANDA) ASSESSMENT METHODOLOGIES: DALA AND HRNA

(Source: *Reconstruction Assistance on Yolanda: Build Back Better, 2013)*

Social Sector

Estimated Damage and Loss in the Social Sector *(in Philippine Peso million)*

Social Sector	Damage		Loss		TOTAL
	Public	Private	Public	Private	
Education	17,953	3,726	1,303	916	**23,898**
Health and Nutrition	1,170	1,959	1,932	510	**5,571**
Housing and Shelter	4,051	299,786	206	21,202	**325,245**
TOTAL	**23,174**	**305,471**	**3,441**	**22,628**	**354,714**

Education: There were about 4,357 elementary schools, 888 secondary schools, 350 higher-education institutions, and 631 technical vocational institutions in the Yolanda-affected areas. About 5,898 classrooms were fully damaged and 14,508 partially damaged in 2,905 public elementary schools and 470 public secondary schools in the most affected areas. The cost of damage also included public school furniture, computers, learning materials, science and math equipment, and technical-vocational tools and equipment, as well as basic facilities. Eastern Visayas sustained the most significant damage in terms of educational facilities and other assets.

Health and Nutrition: In the regions identified as the most affected, partial reports on damage to infrastructure and equipment included 296 barangay (community) health stations, 97 rural health units, 38 hospitals, and a Center for Health Development in the Eastern Visayas (Region VII). Estimations of damage to private health facilities (such as hospitals, drug stores, and wholesale facilities) considered infrastructure, equipment, and medication inventories.

Housing and Shelter: Nearly 30% of the total population of 16 million in the 14 most-affected provinces were displaced. A total of 1,012,790 houses were damaged, of which:

- 493,912 were partially damaged
- 518,878 were totally damaged

The public loss assessment covers immediate home material assistance provided to the affected households and the cost of temporary bunkhouses. The private loss assessment covers temporary shelters provided by international relief organizations, residents' losses due to demolition and debris removal, and landlords' losses due to temporary loss of rental income.

Recovery and Reconstruction Needs *(in* **Philippine** *Peso million)*

Social Sector	Needs		TOTAL
	Recovery	Reconstruction	
Education	--	30,351	**30,351**
Health and Nutrition	--	6,887	**6,887**
Housing and Shelter	--	183,149	**183,149**
TOTAL	**--**	**220,387**	**220,387**

POST-HAIYAN (YOLANDA) ASSESSMENT METHODOLOGIES: DALA AND HRNA

(Source: *Reconstruction Assistance on Yolanda: Build Back Better, 2013)*

Cross-Sectoral

Estimated Cross-Sectoral Damage and Loss *(in Philippine Peso million)*

Cross-Sectoral	Damage		Loss		TOTAL
	Public	Private	Public	Private	
Local Government	4,000	--	300	--	**4,300**
TOTAL	**4,000**	**--**	**300**	**--**	**4,300**

Local Government and Community Infrastructure: Local Government Units across the affected area suffered destruction and damage of physical assets, and widespread disruption of services. The total damage to the local government sector was estimated at PhP4,000 million. The range of infrastructure damaged included: municipal and barangay halls, gymnasia and multi-purpose buildings, public markets, transport terminals, and fire stations.

Coastal towns and cities affected by the storm surge experienced massive destruction, making recovery and reconstruction particularly challenging.

Estimated losses included reductions in tax revenues and other local income, as well as additional operating and restoration costs:

- Reduced own-source revenue collections resulting from the disaster
- Costs of restoring the functions of offices whose operations were disrupted due to the disaster
- Higher operational costs for operating offices in the period following the typhoon

Social Dimensions: Groups that faced particularly difficult challenges in recovery from the typhoon included:

- Informal settlers living in makeshift houses along the coastal easements
- Rural poor living in remote areas
- Farmers (especially coconut farmers from areas where coconut trees had been totally damaged)
- Fisher folk and rural workers whose livelihoods had been depleted

Estimated Cross-Sectoral Recovery and Reconstruction Needs *(in Philippine Peso million)*

Cross-Sectoral	Needs		TOTAL
	Recovery	Reconstruction	
Local Government	300	4,000	**4,300**
Social Protection	18,400	--	**18,400**
TOTAL	**18,700**	**4,000**	**22,700**

MODULE 4: DISASTER RECOVERY FRAMEWORKS

MODULE DESCRIPTION

Module 4 describes the purpose of a Disaster Recovery Framework (DRF) and its role in guiding the recovery process. Key considerations for the development of a DRF, and the recovery support arrangements that should be taken into account are examined. Case studies will review two Disaster Recovery Frameworks developed and implemented in ASEAN countries.

MODULE LEARNING OUTCOMES

- Participants will gain an understanding of the purpose and application of Disaster Recovery Frameworks.
- Participants will explore a variety of recovery support arrangements that promote effective disaster recovery.

INTRODUCTION

Recovery, and its implementation in the context of disaster management is an emerging field of study and practice. Each disaster presents unique challenges for recovering communities. At the same time, disasters provide a window of opportunity to potentially enhance the sustainability and resilience of the communities affected and the livelihoods of residents through disaster risk reduction initiatives.

Past disasters have shown that a delay between response and recovery efforts after a disaster can result in a lengthy period of time in which impacted communities are left without support. When this happens, communities tend to take recovery efforts into their own hands, often rebuilding to levels worse than before the disaster and placing themselves at greater risk. The recovery efforts by the government are then rushed, and as a result, communities are reconstructed to pre-disaster standards in order to meet basic needs.

Experience has shown that in countries impacted by recurring disaster events, the continuous disruption to economic, political, and social systems, as well as damage to infrastructure, results in a downward trend, where losses are continually greater than any gains that may be made.

From the UNDP *Post-Disaster Recovery Guidelines*

"Support to recovery by government organizations, international agencies, NGOs, and others is often done through isolated and uncoordinated interventions, leading to a duplication of efforts in some areas, gaps in others, and again a failure to factor in risk reduction considerations."

Nations are therefore recognizing the value of, and engaging in pre-disaster planning for post-disaster recovery in order to make the most of the window of opportunity that disasters provide, and to facilitate overall recovery processes. One of the most important tools to guide recovery processes and the development of recovery plans is a Disaster Recovery Framework (DRF).

WHAT IS A DISASTER RECOVERY FRAMEWORK?

A **Disaster Recovery Framework** (DRF) is a combination of the recovery policies and arrangements that are developed as the result of pre-planning for recovery and the practices used to develop post-disaster recovery plans, including those of government, and those prepared by the private and non-governmental sectors in a country.

A DRF is typically developed at the central or national level, setting forth high-level policies, priorities and institutional arrangements that subsequently facilitate recovery planning at lower levels of government.

Establishing a DRF prior to a disaster will help to:

- Identify policies and practices to strengthen infrastructure and community livelihoods;
- Convey probable hazard risk, effects and impacts;
- Open an effective line of communication between essential agencies, communities, and potential donors;
- Create and implement new policies to help streamline the recovery process; and
- Design and implement a method of tracking and recording the steps conducted during post-disaster recovery.

PURPOSE OF THE DRF AND ITS ROLE IN THE RECOVERY PLANNING PROCESS

The purpose of the DRF is to organize a country's approach to recovery, and provide clear, strategic guidance to facilitate and plan for coordinated recovery efforts.

The DRF articulates the national recovery policy, which is a key starting point for plan development. The **recovery policy** sets objectives, has an expected timeline for delivery, an implementation approach, and sets forth the roles of various stakeholders. It may also establish budgetary provisions, guidance for monitoring and evaluating recovery processes, and outline a transition and exit strategy. The recovery policy also articulates the underlying principles guiding the recovery process. It should take into account existing land use, coastal zone management, or other policies that will determine where and how homes, government facilities, and businesses are rebuilt after a disaster. Clearly outlining these laws, regulations, and policies in the DRF and incorporating them into subsequent recovery planning efforts will facilitate the rebuilding process, and overall recovery.

Expected Outcomes for the Recovery Component from the AADMER Work Programme 2010-2015

- "Member States are self-sufficient in terms of effectively leading, managing, and coordinating their respective recovery processes; and
- More effective transition from post-disaster recovery process into sustainable development."

KEY CONSIDERATIONS FOR FRAMEWORK DEVELOPMENT

The DRF should be developed during the pre-disaster preparedness phase and implemented as soon as possible following a disaster. As a strategic tool, development of the framework may necessarily take place at the national level. Implementation of the framework, however, must include input and participation at the local level in order to best meet the specific needs and requirements of disaster-affected communities.

STAKEHOLDER ENGAGEMENT

Disaster recovery activities include the participation of numerous stakeholders, including national and local, international, private and public organizations, and NGOs. The DRF develops a strategy for partnership engagement, identifying key stakeholders best able to implement certain recovery activities. Building partnerships and fostering communication between stakeholders prior to a disaster will lead to a smoother recovery process. Engaging multiple stakeholders in DRF development will not only infuse experience and institutional knowledge in the process, but also establish channels for partnership, coordination and information sharing among stakeholders prior to a disaster. This has the potential to greatly benefit later recovery efforts by clarifying roles and responsibilities, optimizing resources, and decreasing the likelihood of duplicated efforts or gaps.

Stakeholder Coordination

Recovery programs should seek ways of complementing recovery efforts of other stakeholders, as well as strengthening traditional knowledge and resources.

RECOVERY VISION, GOALS AND PRIORITIES

One of the intents of a DRF is to support a smooth transition from response to recovery activities. Another is to identify opportunities to infuse sustainable development practices into recovery where possible. Establishing a recovery vision that encompasses high-level goals and national priorities in line with the national recovery policy is part of the DRF development process. As you work with stakeholders to develop a recovery vision, goals and priorities for your framework, consider the following questions:

- What should be accomplished by the time the recovery phase is complete?
- What are the overarching goals you would like to meet at national, community, and household levels?

The ultimate goal of a successful recovery effort is to improve upon the previous state or conditions of the disaster-affected communities. In recent years, numerous recovering nations have adopted the concept of *Building Back Better* as one of their priorities for disaster recovery.

Building back better is a general term used to describe the aim to improve livelihoods and strengthen infrastructure during recovery and reconstruction. Building back better may mean different things for different communities, and will therefore need to be defined ahead of time, but some examples of building back better include:

- Improving infrastructure,
- Strengthening social and health care systems,
- Reducing vulnerability to future disasters, and
- Fostering a thriving economy.

Regardless of what form building back better takes, it will serve to promote confidence in the affected population to continue living, working, and investing in their communities.

Building back better is a common priority for recovering nations, but is just one example of the high-level goals that should be part of your DRF vision. Other examples include:

- Building local and national capacities for increased resilience, risk management, and sustainable development. This may translate into the following actions:
    - Revising national disaster preparedness plans to integrate community-level information and feedback, including science-based multi-hazard risk maps and local recovery plans;
    - Developing and implementing early warning systems at all levels, especially the community level, which should integrate weather forecasting, as well as national and regional monitoring technology; and
    - Assessing hazard risk, vulnerability and capacities at the national and local levels to inform decision making and planning.
- Reducing the vulnerabilities of special populations, including those marginalized for reasons related to gender, age, financial state, disability, or ethnicity. Actions may focus on:
    - Developing gender-sensitive programs that recognize the contributions of all community members in recovery processes; and
    - Revising or enacting legislation that addresses the needs of special populations.

From the IRP *Guide to Developing Disaster Recovery Frameworks*

"The early development of an overall recovery vision at the highest possible levels of government creates a catalytic momentum to post-disaster recovery. This is critical for building consensus on the vision for recovery among the many types of stakeholders. The government can establish and convene consultative forums for the articulation of its vision for recovery that pave the road for a unified planning horizon and strategic platform. This sets and manages the expectations or the affected communities and reconstruction partners at the start of the recovery process."

What other priorities might be established to reduce vulnerabilities and/or create sustainability?

Defining goals and priorities will serve to guide subsequent planning and program development, which will in turn, provide a road map toward meeting these goals. Once high-level goals and priorities are

established, the next step will be to determine which recovery support arrangements will help you accomplish these goals.

GROUP ACTIVITY: DISASTER RECOVERY INTERVENTIONS

RECOVERY SUPPORT ARRANGEMENTS

If we think of recovery policy as the foundation of a DRF, then recovery support arrangements, as defined by your framework, will provide the structure for subsequent actions and help strengthen recovery planning processes. It will be up to the individual nation to identify and/or develop appropriate support arrangements. Recovery support arrangements can take many forms, including policies, plans and procedures, tools and technology, funding sources, and legislative mandates, and are necessary because they facilitate components of the recovery process, including:

- Policy, planning and programming
- Institutional arrangements and coordination
- Post-disaster assessment
- Resource mobilization and financial management
- Implementation, communication and monitoring

Examples of support arrangements that strengthen these components of recovery, are discussed below. Keep in mind that the DRF will serve to: 1) summarize existing arrangements so that they may be factored into disaster recovery plans; and 2) identify areas where additional recovery support arrangements are needed.

Policy, Planning and Programming

The DRF should outline the policies and plans that will facilitate recovery processes. International best practices, coupled with experience and lessons learned from previous disaster recovery efforts should factor prominently into policy development. The support arrangements defined for this aspect of recovery offer perhaps the greatest opportunities for improving recovery processes. When established pre-disaster, policies that for example, implement new building codes, can be appropriately communicated to relevant ministries, the public, and incorporated into existing systems.

Policy: A principle or rule to guide decisions and achieve rational outcomes.

(Training Manual – Learning Workshop on Recovery and Reconstruction, p. 82)

This aspect of recovery ties in directly to the high-level recovery goals and priorities discussed previously. Establishing a recovery financing policy is another example of a policy that will directly benefit recovery. Other areas that will benefit recovery through policy development include:

- Prioritizing disaster risk reduction in recovery programming;
- Informing long-range development planning efforts through risk and vulnerability assessments;
- Establishing environmental safeguards and restoration plans; and
- Improving land use practices to avoid rebuilding in areas exposed to hazard impacts.

As policies supporting recovery are revised or developed, it may be necessary for government ministries and regulatory agencies to revise their own policies. Plans and programs linked to these policies will also need to be revised based on new guidance. Advance planning and program development will ensure that revisions can be adequately communicated to and considered by all stakeholders.

In your experience, what is an example of a policy that should be streamlined prior to a disaster?

Institutional Arrangements and Coordination

The DRF should also describe the institutional arrangements and coordination mechanisms that have been established to manage recovery, such as:

- The legal or regulatory framework for recovery;
- The roles and responsibilities of recovery organizations;
- The agreements in place between national, international and non-governmental organizations (NGOs) supporting recovery; and
- The coordination mechanism by which those agreements will be carried out.

It may be necessary to adopt or modify laws or regulations specific to recovery so that recovery processes can get underway as quickly as possible after a disaster. As discussed in Module 2, having a legislative mandate is one of the important institutional characteristics of an effective recovery organization. It provides the authority to act, outlines roles and responsibilities, and guides interaction with other stakeholders. Assigning roles and responsibilities to national and local government actors participating in recovery before a disaster strikes, will have the advantage of being factored into advance planning processes, avoiding the urgency that accompanies planning in the post-disaster environment.

From the UNDP *Post-Disaster Recovery Guidelines:*

"The establishment of an integrated institutional framework for recovery can exercise a positive influence on the country's organizational setting for disaster risk reduction by demonstrating the effectiveness of inter-disciplinary, multi-stakeholder approaches."

Establishing memorandums of agreement (MOAs) among national, international and non-governmental organizations will promote understanding of the capabilities each has to offer, and clarify roles and responsibilities.

ASEAN Member States, through the adoption of the *ASEAN Agreement on Disaster Management and Emergency Response (AADMER)* have established a mechanism to facilitate mutual support, collaboration, and coordination before, during, and after a disaster. Recognizing that Member States need to lead recovery efforts within their borders, ASEAN can assist in facilitating coordination between recovery organizations for those nations that have requested support following disaster events.

Agreements such as these should be well understood by the managing recovery institution and by stakeholders so that a coordinated approach to recovery can be immediately put into practice. The coordination mechanism should be agreed upon by all recovery organizations, and the DRF should specify protocols that can be quickly implemented in the post-disaster situation. It will require a collective effort to maintain communication and coordination within and between multiple levels of government, and with all recovery actors including local stakeholders and members of disaster-affected communities to promote ownership of recovery processes and ensure that local needs are being met.

Why is Coordination Important in Recovery?

As outlined by the Tsunami Global Lessons Learned Project, coordination:

- Provides a clear delineation of roles and responsibilities;
- Minimizes the risk of duplications, overlaps, and exclusions;
- Promotes synergy among recovery partners;
- Ensures effective and optimum utilization of resources;
- Manages surge; and
- Promotes a smooth flow of information for effective disaster management.

Both horizontal and vertical coordination will be required:

- Horizontal coordination – usually consists of an outward flow of information between the government's lead recovery agency to other line departments and ministries, national and international organizations, and community-based organizations. Horizontal coordination is key in strategic planning and determining the recovery approach.
- Vertical coordination – usually consists of a downward flow of information between the government's lead recovery agency and local level administrators and partners in recovery. Vertical coordination tends to be focused on recovery operations and implementation of the recovery approach.

Answers to the following questions will help you explore the institutional arrangements and coordination mechanisms for recovery that should be outlined in your DRF:

- Which institutional model for recovery is most appropriate for your country?
- Are roles and responsibilities of all recovery organizations clearly defined and understood?
- What stand-by arrangements are in place?
- Will the existing institutional arrangements expedite the launch of recovery processes?

Post-Disaster Assessment

The DRF should outline the pre-disaster arrangements that will ensure that post-disaster assessments are initiated without delay, and that assessment results provide the outputs necessary for recovery program development and implementation at national and local levels. As discussed in Module 3, post-disaster assessments provide crucial information for recovery processes, summarizing disaster impacts and estimating recovery and reconstruction needs for all sectors of the economy.

Pre-disaster arrangements for post-disaster assessments may include:

- Establishing policies and procedures for routine collection, management, and maintenance of baseline data in support of post-disaster assessments;
- Identifying and/or refining assessment methodologies;
- Building capacity at national and local levels to conduct and manage post-disaster assessments; and
- Assigning roles and responsibilities related to conducting and managing assessments.

Resource Mobilization and Financial Management

In addition to the above, the DRF should describe an overall strategy for financing recovery, identifying both internal and potential external funding mechanisms. The strategy may define the criteria by which decisions will be made to finance recovery through internal means, or seek outside funding. It may also describe the mechanism by which expenditures will be tracked and reported, and the measures put in place to ensure business continuity.

A number of recovery support arrangements can be implemented to facilitate resource mobilization and financial management, including:

- Developing systems to manage recovery funds, including allocation and reporting;
- Building contingencies for recovery into annual budgets (may require policy changes to implement);
- Developing national insurance schemes;
- Streamlining recovery procurement processes and procedures;
- Improving technology and funds transfer mechanisms; and
- Incorporating business continuity planning into government processes to strengthen resilience and minimize disaster impacts on governance systems.

Implementation, Communication and Monitoring

Support arrangements that define how recovery will be implemented, how recovery progress will be communicated, and how the recovery process will be monitored and evaluated can be put in place before a disaster. Descriptions of these arrangements should be included in your DRF.

Much of the information regarding recovery implementation will be elaborated upon in the development of a disaster recovery plan, however, the DRF should include an overview of the implementation approach, and may include general indicators or points of reference for recovery processes, such as:

- When the recovery phase is initiated
- The post-disaster assessment timeline
- Recovery program development and implementation
- Stakeholder meetings and donor conferences
- Communication and reporting schedule
- Transition and exit from recovery to development

A description of your communication strategy should also be included in your DRF. Communications during recovery must be relevant, clear, and targeted, taking into account the many factors that influence disaster communications (e.g., language, age, education, access to information). The means by which communications are delivered (e.g., television, radio, internet), and the frequency of the messaging must also be considered.

Regular communication about the status of recovery projects and programs will help promote transparency and accountability. Likewise, a system to monitor the progress of projects and programs is also crucial for this purpose. The needs for a monitoring and evaluation system may be considered during pre-disaster planning, and can be linked into existing systems, such as those that track the number of building permits issued. As recovery projects are defined, indicators by which progress can be measured will be identified. These indicators will become part of the monitoring and evaluation system. Include a description of the recovery monitoring and evaluation system in your DRF.

Monitoring and evaluation of recovery processes will be discussed in detail in Module 8.

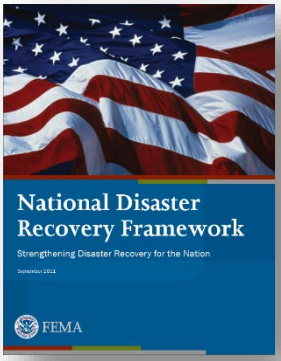
As nations engage in pre-disaster recovery framework development, they may identify other components of recovery for which support arrangements will be needed. It should be emphasized that the DRF is considered a *living document*, and one that should be modified in accordance with the country's needs.

GROUP ACTIVITY: RECOVERY SUPPORT ARRANGEMENTS

FRAMEWORK STRUCTURE

The previous section discussed the support arrangements that should be outlined in your DRF, but because each framework is designed to meet the unique requirements of a given country, a standard DRF format has yet to be defined. Frameworks will also differ depending on whether they are developed pre-disaster, or post-disaster. Sample outlines of a pre-disaster framework, and a post-disaster framework are provided here for reference.

Below is an outline of the U.S. Federal Emergency Management Agency's National Disaster Recovery Framework (NDRF). The NDRF was developed as a pre-disaster strategic guidance document to align state and local recovery planning efforts across the nation.



1. Executive Summary
2. Introduction
3. Purpose of the Framework
4. Core Principles
5. Achieving Disaster Recovery
6. Recovery Roles and Responsibilities
7. Leadership
8. Recovery Support Functions
9. Planning for Successful Disaster Recovery
10. Community Considerations

The next example is from the Recovery Assistance on Yolanda (RAY), the post-disaster recovery framework developed by the Philippines after Typhoon Yolanda. Sections I through V of this framework focus on the details of the disaster, including post-disaster assessment results. Section VI more specifically addresses elements of a DRF.

I. Introduction
II. Typhoon Yolanda
    a. The Disaster
    b. The Human Impact
    c. Immediate Response
III. Conditions in Affected Areas Before the Typhoon
IV. Preliminary Assessment of Damage, Loss, and Needs
    a. Methodology
    b. Overall Damage, Loss, and Needs Estimates
    c. Damage, Loss and Needs by Sector
V. Economic and Social Impact
    a. Macroeconomic Impact
    b. Fiscal Impact
    c. Poverty Impact
    d. Impact on Employment and Incomes
VI. Planning for Recovery and Reconstruction

a. Core Principles
b. Phased, Cumulative, and Flexible Response
c. Partnering with the Private Sector
d. Outcome-driven Implementation
e. Strengthening Disaster Risk Reduction and Management
f. Institutional Arrangements for RAY Implementation

SUMMARY

Establishing a DRF prior to a disaster helps to identify and improve upon existing policies and institutional mechanisms that promote efficient and sustainable recovery in a post-disaster environment. It defines roles and responsibilities, and facilitates communication and coordination among recovery organizations at all levels of government, with international assistance partners, and local stakeholders. It helps identify financial and technical resources required to meet recovery needs, and provides a strategy to monitor and evaluate the progress of recovery projects and programs. Disaster recovery frameworks provide the foundation for disaster recovery planning.

CASE STUDIES: RECOVERY FRAMEWORKS FOR CYCLONE NARGIS AND TYPHOON YOLANDA

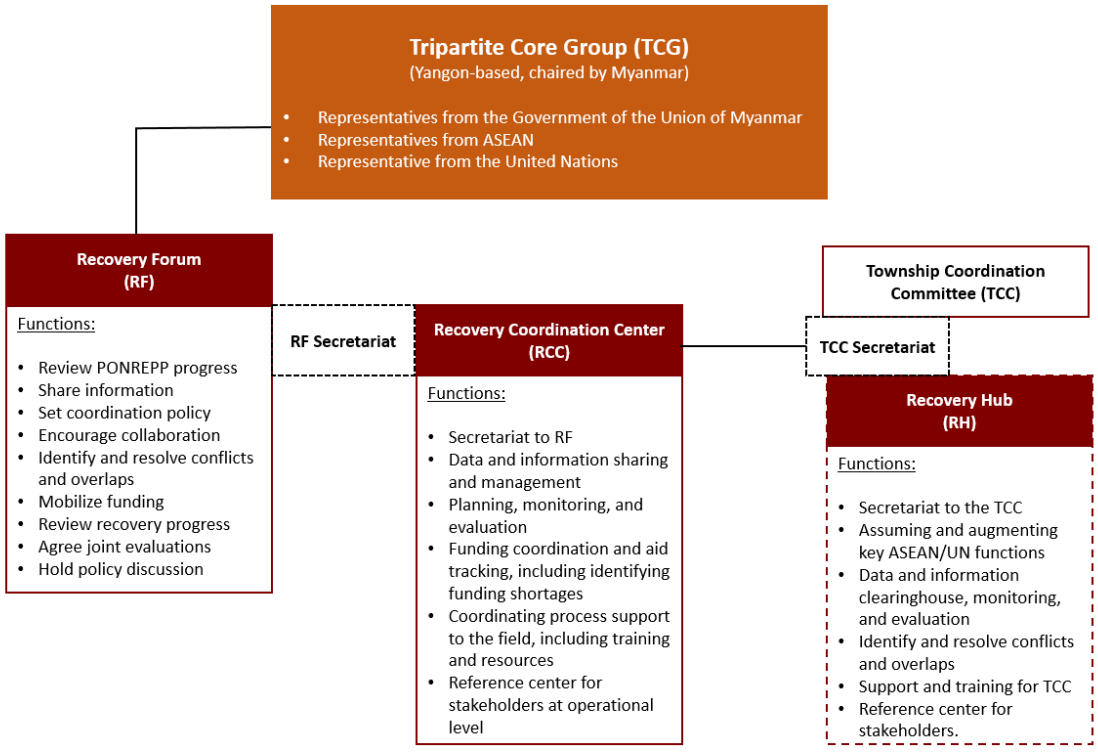
RECOVERY FRAMEWORK: POST-NARGIS RECOVERY AND PREPAREDNESS PLAN

(Source: *Post-Nargis Recovery and Preparedness Plan, 2008)*

The Post-Nargis Recovery and Preparedness Plan (PONREPP) proposed a three-year recovery framework to guide the gradual transition from the emergency relief and early recovery phases following the impact of Cyclone Nargis, to medium-term recovery. The essential guiding principle for the implementation of the PONREPP was the full involvement of villages and township communities in all stages of the recovery process—a community-driven recovery. The extent of the damage caused by Nargis also required a multi-sectoral recovery approach.

Taking these characteristics into consideration, a holistic approach to enhancing the tripartite formula for the recovery effort was adopted. TCG provided a mechanism wherein all actors engaged in post-Nargis relief and recovery could coordinate and share information using the framework and channels of assistance. To assure the continuation of effective coordination and implementation of recovery efforts, the coordination role of the TCG was consolidated to focus on:

1. Strategic and Operational Coordination
2. Aid Funding Coordination and Aid Tracking



The recovery strategy applied the TCG coordination mechanism at three levels:

1. Policy, Strategy, and Impact Monitoring—Recovery Forum (RF)
2. Programmatic Operations—Recovery Coordination Centre (RCC)
3. Field Operations—Township Coordination Committee (TCC) / Peace and Development Committees (PDC)

RECOVERY STRATEGY AND FRAMEWORK: RECONSTRUCTION ASSISTANCE ON YOLANDA

(Source: Source: *Yolanda Comprehensive Rehabilitation and Recovery Plan Executive Summary, 2014)*

Informed by the preliminary PDNA conducted by the OCD, the Reconstruction Assistance on Yolanda (RAY) was the Government's strategic plan to guide the recovery and reconstruction of the economy, lives, and livelihoods in the affected areas. The objective of the plan was to restore the economic and social conditions of these areas, at the very least, to their pre-typhoon levels and to a higher level of disaster resilience.

The RAY synthesized available data and information to provide an overall picture of the economic impact of Typhoon Yolanda, as well as presented a recovery strategy and framework for implementation. The implementation strategy of RAY ensured that it was phased, cumulative, and flexible.

- Estimated the total economic damage and loss caused by Yolanda, as well as its impact on the macro-economy, poverty, incomes, and employment
- Assessed short- and medium-term recovery and reconstruction needs
- Informed a framework for implementation, including sequencing of interventions, and key policy assumptions

RAY Core Recovery Principles:

(Source: *Post-Yolanda Reconstruction Case Study, 2015)*

- Local governments will be responsible for implementation to ensure that recovery is tailored to local conditions and promotes community participation, ownership, and sustainability.
- The national government will take charge of oversight and coordination, but will make sure that there is flexibility in local implementation.
- Recovery programs will promote inclusiveness and sustainable livelihoods in order to address pre-existing poverty issues that drive disaster risk in the affected areas.
- Gender considerations will be incorporated into the design and implementation of recovery and reconstruction activities to address gender inequality and promote women's empowerment.
- There will be an emphasis on fast-tracking the implementation of programs and activities, but at the same time, systems will also be put in place to track and assess performance to ensure transparency and accountability.
- RAY is guided by the "build back better" principle, which focuses on sustainable efforts to reduce vulnerabilities and strengthen capacities to cope with future hazard events.

MODULE 5: DISASTER RECOVERY PLANNING & PLAN DEVELOPMENT

Module 5 provides an introduction to disaster recovery planning. Key elements and steps of the disaster recovery planning process will be explored, including examples of planning resources and methods for plan implementation and maintenance.

MODULE LEARNING OUTCOMES

- Participants will become familiar with the concept of disaster recovery planning, including the differences between pre- and post-disaster recovery planning.
- Participants will gain an understanding of the benefits and challenges of disaster recovery planning.
- Participants will gain a working knowledge of the steps and key considerations of the recovery planning process.

INTRODUCTION TO DISASTER RECOVERY PLANNING

As we explore disaster recovery planning, consider the concepts from previous modules that are used to better inform the disaster recovery planning process and the development of the Disaster Recovery Plan (DRP):

- **Module 2: Managing Disaster Recovery** introduced the institutional mechanism needed to manage a successful recovery.
- **Module 3: Post-Disaster Needs Assessments** discussed the importance of PDNA in determining recovery and reconstruction needs, and developing an overall recovery strategy.
- In **Module 4: Disaster Recovery Frameworks**, we examined the key components of disaster recovery frameworks and the use of DRFs by ASEAN Member States.

From the AADMER Work Programme:

The Recovery component aims to strengthen the capacity of Member States to…develop an effective recovery action plan for rehabilitation and reconstruction within three months after a disaster occurs.

Recovery planning is a relatively new concept, and therefore, is a process that is often overlooked or is delayed while other plans (e.g., response plans, disaster risk reduction plans, etc.) are completed first. This module will enhance your understanding of disaster recovery planning, and introduce you to the planning process.

PRINCIPLES OF DISASTER RECOVERY PLANNING

Key principles of disaster recovery planning include:

- Establishing clear leadership, coordination and decision-making structures at the local and national levels. Keep in mind that the recovery process, when possible, should be community-

led and locally-managed, and promote local decision making and ownership of the planning and implementation effort.

- Building partnerships between the community and local government and non-government agencies that form the basis for multi-hazard assessments and support for disaster risk reduction actions.
- Developing pre-disaster recovery support arrangements to ensure engagement of all potential resources through the following methods:
    - Leveraging interactions with local, national, and regional stakeholders, including government and non-government agencies, community-based organizations, and private sector entities.
    - Ensuring community participation of historically underserved populations, including diverse ethnic communities, individuals with disabilities and others with access and functional needs, children, seniors, and individuals with limited language proficiency.
    - Preparing pre-disaster **Memoranda of Understanding (MOUs)** as a way to establish partnerships, planning initiatives, and expectations with stakeholders.
- Integrating a comprehensive, multi-hazard approach to disaster risk reduction and preparedness activities. This also includes integrating disaster recovery planning with other appropriate community planning.
- Incorporating sustainable development into recovery planning guidelines, as well as considerations for accessible design.
- Recognizing limitations in local recovery capacity and identifying methods to supplement this capacity, including identifying resource requirements and conducting acquisition planning.
- Developing a communication plan that addresses the information needs of the public and an array of possible scenarios.
- Testing and evaluating pre-disaster plans through seminars, workshops, and exercises.
- Developing and implementing recovery training and education as a tool for building recovery capacity and making it available to all stakeholders.

Recovery planning is key to ensuring that disaster-affected communities achieve a sense of normalcy as quickly as possible, while "building back better." Pre-disaster recovery planning enables recovery partners and stakeholders to effectively direct recovery activities in a coordinated manner. Keep in mind that, disaster recovery planning can be a complex, resource-intensive process.

PRE- VS. POST-DISASTER RECOVERY PLANNING

Effective recovery planning requires detailed and complex coordination between government and nongovernment agencies, community-based and non-profit organizations, and private sector entities. Keep in mind that the recovery goals of the various stakeholders active during recovery are often different—sometimes, the recovery goals of various government agencies are different.

These differing recovery goals can take considerable time and effort to resolve, and will often require extensive public input and

From FEMA National Disaster Recovery Framework:

Proper pre- and post-disaster planning is a prerequisite for the implementation of a well-orchestrated recovery process.

comment. For this reason, it is important to resolve these recovery goals during pre-disaster recovery planning—primarily, during the development of the DRF—to ensure that clear strategic guidance is provided to facilitate coordinated efforts during recovery.

Although it is ideal to conduct pre-disaster recovery planning, the reality is that many nations do not develop a DRF or recovery plans before a disaster occurs. Resource constraints, especially limitations on time, often mean that recovery plans are considered secondary to completing or revising response or disaster risk reduction plans. For this reason, we will look at both pre- and post-disaster recovery planning.

PRE-DISASTER RECOVERY PLANNING (PDRP)

Pre-disaster recovery planning (PDRP) consists of a series of decisions and actions to be taken both before a disaster occurs, and before the next disaster, in order to:

- **Identify and establish shared recovery goals, objectives, and strategies** that guide post-disaster decision making and ensure relief and recovery activities:
  - Align with long-term development goals,
  - Address actual needs, and
  - Enhance resilience to future disasters.
- **Develop and have ready the capacity to plan, initiate, and manage** an efficient, adaptive, and well-coordinated recovery effort that progresses toward the recovery goals.

From the AADMER Work Programme

The underlying principle of the Recovery component is the promotion of a pro-active planning process for early to long-term recovery even before a disaster occurs.

PDRP enables local, national, and regional government and non-government agencies to effectively implement recovery activities in a coordinated manner through the development of plans that provide a common platform to guide recovery decisions and activities. When completed along with comprehensive development planning, PDRP can help achieve recovery priorities and incorporate disaster risk reduction strategies. The integration and coordination of planning initiatives is one way to increase community resilience to future disasters.

Operationally, PDRP consists of three main components:

- Developing goals, objectives, and strategies for post-disaster recovery based on informed disaster scenarios, including assumptions about impacts and damage to a community.
- Establishing an institutional model for recovery that assigns post-disaster roles and responsibilities (as discussed in **Module 2: Managing Disaster Recovery**).
- Planning and implementing pre-disaster actions that will expedite and reinforce post-disaster response and recovery efforts.

Recovery from small-scale, localized hazard events is commonly the responsibility of the affected community and local governments—recovery planning builds local-level capacity to act without assistance from national or regional government agencies. For large-scale disasters, local recovery

planning ensures that the needs, priorities, and long-term plans of the disaster-affected community drive the recovery process when national, regional, and international assistance is required.

GROUP ACTIVITY: BENEFITS OF PRE-DISASTER RECOVERY PLANNING

PDRP should be:

Cyclical: As new information and resources are identified, recovery goals and principles may be revised, new strategies or actions created, and further roles and responsibilities assigned. Steps from different stages may take place concurrently. Exercising and regularly reviewing the plan and its implementation will drive the cycle, thereby improving the plan each time.

Scalable: By identifying the most critical and feasible policies, strategies, and actions, the team can begin working even when funds are limited, and address other issues as resource availability permits.

Participatory: PDRP requires participation by those who would be affected by a future disaster. Whether the process takes place at a local, sub-national, or national level, the engagement of the public is critical. Implementation of the most rationally designed plan may fail if those it intends to serve are not integral in is creation.

The Benefits of PDRP

PDRP is one of the most effective means of addressing the challenges of planning and implementing successful disaster recovery.

PDRP benefits recovery initiatives in the following ways:

- **Expedites recovery.** When appropriate recovery structures, policies, and strategies exist—and are understood—before a disaster occurs, partners in recovery are able to initiate activities more quickly and decisively.
- **Reinforces *Building Back Better* principles.** General acceptance for disaster risk reduction and recovery planning peaks after a disaster occurs, when the needs of the recovering community are paramount in the thoughts of stakeholders. This creates a "window of opportunity" to integrate disaster risk reduction measures in recovery and long-term development activities. Keep in mind that this window only remains open for a short time, and incorporating risk-reducing concepts and measures into PDRP ensures that communities are better prepared to

Planning for recovery before a disaster strikes enables recovery partners to:

- Build consensus on recovery goals and strategies.
- Gather critical information to inform recovery decisions.
- Define post-disaster roles and responsibilities.
- Develop the necessary implementation capacity to efficiently manage recovery operations.

utilize the opportunity to enhance resilience.

- **Enables demand-driven and inclusive recovery.** One of the most commonly cited causes of irrelevant, and even harmful, recovery assistance is the failure to include affected communities in the planning and implementation of recovery initiatives. In the interest of time, recovery leaders often fail to consult with members of the affected community (particularly, marginalized populations) and available assistance drives recovery priorities rather than actual needs. PDRP enables community involvement in defining recovery priorities and strategies before a disaster occurs, and promotes community participation and ownership during recovery activities.

- **Minimizes development deficits.** Hazard events often trigger a cascade of impacts which, along with existing vulnerabilities, influence the effectiveness of response and recovery efforts. Anticipating and planning for cascading effects can mitigate or prevent further disaster impacts, such as the loss of subsequent harvests, which hinder economic recovery and exacerbate deficits to development. As mentioned previously, disasters can also create opportunities to advance longer-term development plans in a shortened timeframe if sufficient planning has taken place beforehand.

- **Reduces recovery costs.** A pro-active approach to recovery planning which collectively analyzes and identifies expected needs and corresponding services before a disaster occurs will limit expenditures on poorly informed and often irrelevant programs. Furthermore, anticipating obstacles and challenges prior to a disaster can reduce startup costs.

PDRP Supports All Phases of Disaster Management

Comprehensive Disaster Recovery Plans (DRPs) include plans and policies developed during each phase of disaster management, and provides suggestions for additional plans and policies to be included in other disaster management phases.

Figure 13 illustrates how PDRP supports all phases of disaster management.

- Mitigation and Disaster Risk Reduction
- Preparedness
- Response and Relief
- Recovery

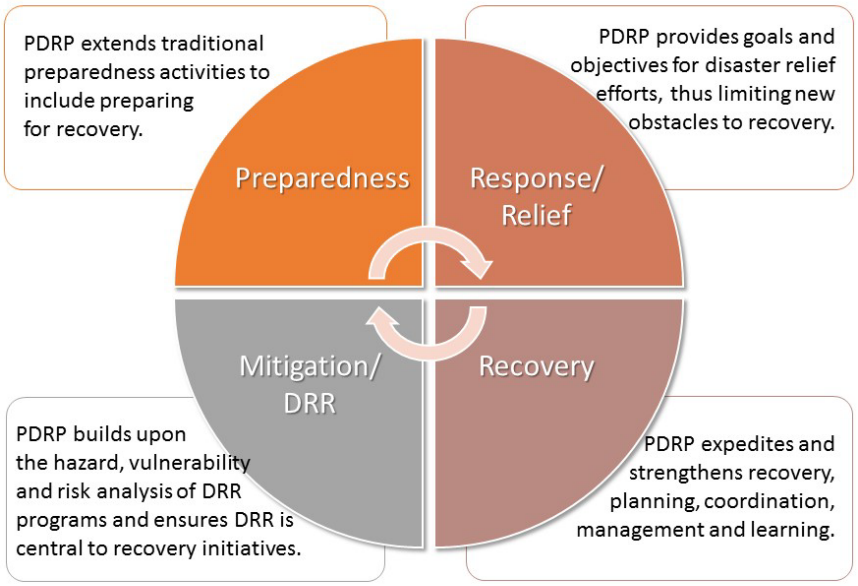


Figure 13: PDRP and the Disaster Management Phases (Source: IRP)

POST-DISASTER RECOVERY PLANNING

If you conducted PDRP, you must still conduct post-disaster recovery planning based on the specific damage and disruption caused by the disaster. You will also need to engage stakeholders to revisit objectives to ensure their relevance in the post-disaster situation, and develop specific projects, targets, and milestones to progress recovery. However, because PDRP requires much of the work of planning to be conducted before a disaster occurs, your limited time for post-disaster planning can be focused on developing meaningful projects to support successful recovery.

Post-disaster recovery planning puts complex decisions in context with the actual disaster and forms the foundation for allocating resources. The post-disaster planning process also provides the benchmarks to measure the affected community's progress towards a successful outcome.

There are two types of post-disaster recovery planning:

1. Revising the pre-disaster recovery plan, and
2. Developing a wholly new DRP.

In both cases, the key principles of disaster recovery planning remain the same. Ideally, post-disaster recovery planning should complement work done prior to the disaster to ensure that both pre- and post-disaster recovery processes work seamlessly during the recovery period.

In addition to key principles mentioned previously in this module, post-disaster recovery planning should also include:

- Organizing recovery priorities and tasks through the process of:
    - Evaluating the impacts and needs after a disaster,
    - Assessing risk,
    - Setting goals and objectives,
    - Identifying opportunities to build community resilience through disaster risk reduction, and
    - Identifying specific projects in areas of critical importance to the disaster-affected community's overall recovery.
- Working collaboratively with all groups of people affected by the disaster to promote outreach to their communities and address issues important to them. This ensures inclusion and encourages participation of individuals and communities that may require alternative or additional outreach support.
- Incorporating the principles of *building back better* as the recovery progresses, keeping in mind considerations for sustainable development and accessible design.
- Continuing to build partnerships among local government and non-government agencies with national counterparts.
- Providing well-defined activities and outcomes, including timelines and milestones, aimed at successful recovery.
- Developing tools and measures for evaluating progress toward established goals, objectives, and milestones.

For those unable to conduct PDRP, the post-disaster recovery planning process becomes much more complex and intense, and more constrained by time. Consider that in the post-disaster situation, without a pre-disaster recovery framework and plan, all of the following tasks must be completed at the same time and probably under extreme pressure from the disaster-affected community, government leaders, aid organizations, and the world press:

- Gathering stakeholders,
- Developing a recovery vision,
- Establishing a lead recovery agency/organization,
- Determining recovery policies, objectives, programs, and projects, and
- Implementing recovery activities.

GROUP ACTIVITY: CHALLENGES OF POST-DISASTER RECOVERY PLANNING

The Challenges of Post-Disaster Recovery Planning

There are many challenges inherent in conducting planning after a disaster. Whether you have a DRF and/or a DRP to revise, or are creating a new recovery plan, the post-disaster environment creates pressure to act, while severely limiting your availability to plan, as well as access to recovery partners. The most common challenges to post-disaster recovery planning include:

Complex demands. In the post-disaster situation, disaster managers must collect critical information, make difficult decisions with complex repercussions, and design and implement plans for the long-term recovery of the collective population. To enable an effective, sustainable, and risk-reducing recovery, decision makers and planners must:

- Raise awareness and build consensus on recovery goals, such as increased community resilience, improved land use and infrastructure, and environmental sustainability;
- Develop new policies, coordination mechanisms, regulatory frameworks, and tools to assess needs, mobilize resources, ensure accountability, and coordinate a wide range of recovery partners;
- Identify and build surge capacity, establish essential partnerships, and provide the appropriate training; and
- Monitor the subsequent impacts of secondary hazards, as well as ongoing relief and recovery activities that can inadvertently create new obstacles to recovery.

"You will be thrust into the world of instant life or death decisions, mounds of building permit applications, daily dealings with a new bureaucracy with incredible paperwork requirements, and unremitting pressure to get things back to normal. Everyone will want a plan, but few will want to take the time to plan. You will be expected to have answers to problems you have not even though about before. You will be dealing with new experts—geologists, structural engineers, and seismologists with information you will not understand. Inadequacies in existing plans and applications will be glaringly apparent. Nothing in your planning education has adequately prepared you to deal with the problems and responsibilities now on your desk."

--Spangle, 1991 from the *2011 Global Assessment Report--Recovery*

The *tyranny of the urgent*. The overwhelming pressure to act quickly arguably poses one of the greatest challenges for recovery decision makers, planners, and implementers. Urgent action is often required to avert economic stagnation and decline, prevent disease outbreaks, and ensure continuity of education services to children and youth. Short funding periods and political pressure to show visible results intensify the pressure to act quickly. Also, keep in mind that often in the first few weeks following a disaster, the affected community may begin to identify and act upon their own recovery strategies—these informal plans can create new challenges during disaster recovery, such as the rebuilding of weak structures in hazard-prone areas.

Immediate action vs. careful planning. At the heart of recovery planning rests an inherent tension between rebuilding quickly and rebuilding thoughtfully—and there may be instances where decision makers feel forced to sacrifice one or the other to progress recovery, possibly leading to irrelevant and unsustainable initiatives or increased disaster deficits, economic stagnation, and frustration. Keep in mind the following when finding balance between urgency and thoroughness in recovery planning:

- ***Sacrificing care and thoroughness*** results in hasty and reactive decisions that exclude affected populations from decision making and forfeit leadership, coordination, and accountability. This ultimately sacrifices relevance and sustainability, delays recovery, and replicates the vulnerabilities that contributed to the disaster.

- ***Sacrificing urgency*** results in careful, but lengthy planning that can exacerbate damage and losses to individuals, foster dependency, and increase disaster deficits due to stagnant economies. Disaster recovery planners must also account for informal and potentially conflicting relief and recovery efforts that have taken place in the waiting period.

THE RECOVERY PLANNING PROCESS

Recovery planning is a complex process. The more organizations and groups you add to the process, the better your recovery plan will be. However, by adding more people and organizations, the process will take longer, require more resources, and potentially become more complicated.

Keep in mind that key outcomes of disaster recovery planning include:

- Building political support,
- Ensuring broad stakeholder representation,
- Organizing the planning team, and
- Fostering a shared understanding of the recovery plan.

ADOPTING A STANDARD PLANNING APPROACH

Due to the complexities of the recovery planning process, those tasked with developing a plan may want to consider adopting a formal planning approach.

Keep in mind that before adopting a standard planning approach, it may prove beneficial to review different approaches used by local, national, or international organizations—these approaches may provide a foundation upon which DRPs may be developed, adapting them to fit local context, culture, and needs.

Figure 14 illustrates a basic disaster recovery planning process, the steps of which will be discussed in the following sections.

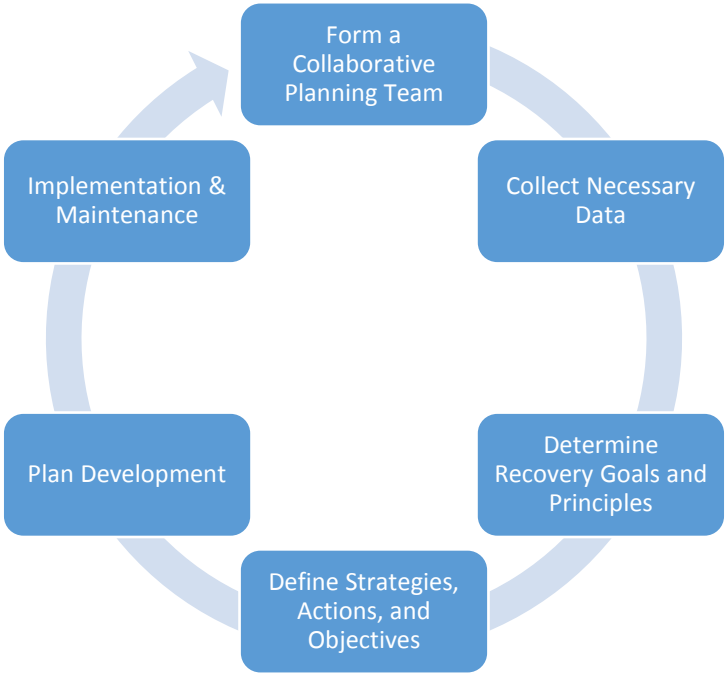


Figure 14: Disaster Recovery Planning Process

STEP 1: FORM A COLLABORATIVE PLANNING TEAM

Disaster recovery requires support from a wide array of government bodies, local communities, non-governmental organizations, and the private sector working together in close collaboration. All should therefore be represented on the disaster recovery planning team.

Organizing a planning team will build and expand relationships that will help bring creativity and innovation to planning. The relationships developed during the planning process are often key to helping the response and recovery phases run more smoothly.

It is important to consider that disaster response is initiated at the local level. Therefore, recovery planning must involve the local community in order to highlight the roles and responsibilities of local leaders and community members, and help align local response plans with the recovery effort.

The DRP will also help identify capabilities or gaps in local resources and highlight disaster risk reduction activities that may be best achieved at the local level.

Involving all sectors of society in recovery planning will ensure that different points of view are considered, that local knowledge is utilized to develop recovery programs, and that local resistance to recovery projects is minimized.

STEP 2: COLLECT NECESSARY DATA

Disaster recovery planning requires the collection and analysis of considerable amounts of information, much of which may already exist.

Effective risk management depends on a consistent comparison of the hazards a particular community faces—this is typically performed through a threat/hazard identification and risk assessment process that collects information about threats and hazard, as well as assigns values of risk for the purposes of determining priorities, developing or comparing courses of action, and informing decision making. Keep in mind that for the purposes of planning, a disaster scenario or scenario-based exercise may also be used.

STEP 3: DETERMINE RECOVERY GOALS AND PRINICPLES

With a better understanding of potential hazards and existing vulnerabilities, as well as a growing sense of the capacity and resources that may be available within a community, the planning team can begin defining the overall recovery goals. Goals must be carefully crafted to ensure they support accomplishing the mission. They must also clearly indicate the desired result, or end-state, they are designed to achieve.

Where the recovery goals describe a vision of the recovered community, the recovery principles make clear the values that will guide how the goals are achieved. Together, goals and principles frame strategic action and planning, as well as fosters a shared vision for a post-disaster future.

STEP 4: DEFINE STRATEGIES, ACTIONS, AND OBJECTIVES

At this point, the planning team should have a starting point (disaster scenario based on necessary data), an end point (determined recovery goals), and a set of principles to guide decision making. Here begins the heart of the planning work, in which the team will identify and prioritize recovery issues and create the strategies and actions to address them.

STEP 5: DEVELOP THE PLAN

Using the information derived in Steps 2-4, generate several alternatives that will achieve the stated goals and objectives. Then, compare the costs and benefits from different courses of action against the goals and objectives, selecting the best fit. Within this step, it is important to identify resources needed to support the plan, as well as information needs, developing an information collection plan.

STEP 6: IMPLEMENT AND MAINTAIN THE PLAN

As the ideal disaster recovery planning approach is a cyclical, evolving process that requires regular assessment, it is important to ensure that the planning process becomes more than a singular event. Therefore, plan implementation is the final step of the initial planning process, but also the first step in the ongoing process of maintaining the plan.

Plan Implementation

Once you have developed the DRP, implementation of the plan requires there to be methods in place to distribute the plan to stakeholders, as well as train on and exercise the plan in order to evaluate its effectiveness.

Plan Distribution: There are many methods to distribute DRPs—the following table lists some of the advantages and disadvantages to common plan distribution methods. Ultimately, you will probably use multiple distribution methods in order to reach all stakeholders.

Distribution Method	Advantages	Disadvantages
Print paper copies	• Traditional • Easy to use • Low tech • Accessible when power fails • Others can't change	• Expensive to produce • Expensive to distribute • Difficult to incorporate changes • No interactive features
Distribute electronically (CD or USB)	• Low costs to produce • Interactive features can be maintained • Easier to incorporate changes	• Requires technological support • More difficult quickly scan through to find a specific section • Others might be able to change the document • Shifts any printing charges to partners
Post to website	• Lowest cost to produce • Interactive features can be maintained • Easiest to incorporate changes • Allows widest access	• Requires access to website • Requires technological support • Shifts any printing charges to partners • Others might be able to change the document • Subject to hacking

Table 5: DRP Distribution Methods

Training on the Plan: You must determine a method to train stakeholders on the DRP, especially on how the plan works and their roles and responsibilities during disaster recovery. Remember that training should include all appropriate members of stakeholder organizations and agencies.

Exercising the Plan: Conduct an exercise with all stakeholders to evaluate the effectiveness of the plan. The goal of the exercise is to try to identify gaps and weaknesses of the DRP before actually having to implement the plan in the post-disaster situation. Therefore, it is important to ensure stakeholders' awareness of DRP components, and capture feedback and observations from participants to improve the plan.

Plan Maintenance

The DRP must be periodically reviewed and revised to ensure it remains current and relevant—this ensures that the DRP can be efficiently implemented in the post-disaster situation. Develop a plan review cycle and bring stakeholders together to review and revise the DRP based on new or updated data or changing situations.

In addition to revising the DRP following exercises, stakeholders should also consider reviewing and updating the plan following:

- A major incident

- A change in operational resources (e.g., policy, personnel, organizational structures, management processes, facilities, equipment)
- A formal update of recovery policy or DRF
- A change in elected officials
- A change in the community's demographics or its hazard/threat profile
- The enactment of new or amended laws and ordinances

GROUP ACTIVITY: THE VALUE OF PDRP

THE DISASTER RECOVERY PLAN

Remember that the Disaster Recovery Plan (DRP) provides the operational direction needed to carry out recovery activities. Generally, the DRP elaborates on recovery policy, institutional arrangements, financing, management, and monitoring as outlined in the recovery framework.

Sometimes, the Disaster Recovery Framework (DRF; discussed previously in **Module 4: Recovery Frameworks**) and DRP are combined in the same document. In other cases, they may be separate documents. It might also be the case that different solutions are developed at different levels of government. If the decision is made to develop separate DRF and DRP documents, the recovery plan is the end result of the policies, guidelines, and arrangements articulated in the recovery framework as they are applied to programs or sectors with assumed or actual specific disaster impacts.

The Disaster Recovery Plan (DRP) drives recovery implementation—establishing projects, timelines, budgets, resource requirements, and monitoring and evaluation systems. It is critical to develop a DRP, and it is a best practice to develop the plan before a disaster occurs.

From the ASEAN Post-Disaster Recovery Reference Guide:

The essential components of Recovery include:

- Policy, planning, and programming
- Institutional arrangements and coordination
- Post-disaster assessments
- Resource mobilization and financial management
- Implementation, communication, and monitoring

THE ROLE OF POLICY IN PLAN DEVELOPMENT AND DRF IMPLEMENTATION

Before a DRP can be developed, the planning team must understand the policies that will affect it—the DRF articulates the nation's **recovery policy** and provides a starting point for plan development. Recovery policy is ideally formulated pre-disaster as part of the DRF.

Recovery policies that are established before a disaster may need to be reviewed and amended based on a Post-Disaster Needs Assessment (PDNA) conducted in the aftermath of a disaster event. Policy formulated post-disaster will be based on the findings of the PDNA.

As previously stated in **Module 4: Disaster Recovery Frameworks**, the recovery policy articulates the underlying principles guiding the recovery process.

To summarize, in forming the recovery policy and DRF, national leadership will have reviewed potential hazards and impacts, and decided on the direction the overall recovery process should take—it is therefore the job of disaster managers to integrate the framework components and recovery policy into the DRP.

BASIC STRUCTURE OF A DRP

Although each DRP will be developed to meet the specific needs of a nation or community, some thematic components are necessary, and including the following components helps ensure that the wide array of recovery activities that need to be undertaken are done so in a well-coordinated manner.

Sample DRP Outline

- Introduction and Background
    - Background, history, data profile, etc.
    - Affected region
    - Vulnerabilities to hazards
    - Details of the current disaster
- Current Post-Disaster Situation
    - Immediate responses undertaken
    - Stakeholders involved (including government and non-government agencies, voluntary and community-based organizations, private sector entities, etc.)
- Summary of PDNA
    - Disaster impacts
    - Disaster effects on social, infrastructure, and economic/productive sectors
    - Estimated damage, losses, and recovery needs
- Recovery Vision, Recovery Strategy, and Project Development Objectives
- Action Plan
    - Based on program components; should specify the outcomes, outputs, budget, and timeline for each component
        - Shelter
        - Infrastructure
        - Livelihood restoration and enhancement
        - Disaster risk reduction
- Implementation Arrangements
    - Details the structure of the recovery organization, roles, and responsibilities of stakeholders, and the relationships between recovery partners.
- Financing Plan
    - Fund requirements
    - Sources of funds
    - Fund disbursements
    - Fund utilization and monitoring

    - Audit arrangements
- Social and Environmental Risk Analysis (including disaster risk reduction)
- Results Framework, Monitoring, and Evaluation Plan

Keep in mind that each component of the DRP should be addressed during the pre-disaster recovery planning process, and that some sections will need to be developed using valid and necessary assumptions. All components (especially those developed using assumptions) must be reviewed, and if necessary, revised post-disaster using data collected during the PDNA.

GROUP ACTIVITY: INFORMATION SOURCES FOR RECOVERY PLANNING

CASE STUDIES AND DISCUSSION: CYCLONE NARGIS AND TYPHOON YOLANDA

THE NATIONAL RECONSTRUCTION PLAN (POST-NARGIS)

(Source: *Post-Nargis Recovery and Preparedness Plan, 2008)*

The NDPCC issued a *Programme for Reconstruction of Cyclone Nargis Affected Areas and Implementation Plan for Preparedness and Protection from Future Natural Disasters* documenting the Government's rehabilitation and reconstruction plans. The rehabilitation and reconstruction tasks under the plan explicitly references the goal of "building back better," and consists of three broad areas:

- Rebuilding of damaged or destroyed towns and villages
- Rehabilitation and development of economic activities
- Preparedness and protection from future natural disasters

Sectoral Reconstruction Plans

Health Sector: The plan emphasizes that the revitalization of health services is crucial in all phases of recovery, resettlement, and rehabilitation. Nargis damaged or destroyed many health facilities, reducing capacity to deliver healthcare to the large number of cyclone victims. Plans to upgrade and expand a number of hospitals include increasing the number of beds in four general hospitals and constructing five new 16-bed sub-township hospitals.

Education Sector: To minimize interruption and to allow examinations to proceed, temporary shelters have been built for 360,000 students and school books, uniforms, and furniture have been supplied. In reconstructing totally destroyed school buildings, the Government plans to make them storm resistant as appropriate and necessary, depending on specific conditions prevailing in each village. In addition, an extensive program of repairs, renovation, restocking, and upgrading will be carried out with respect to thousands of schools that were damaged by the storm.

Agriculture Sector: The Government plan to rehabilitate the extensive damage suffered in the agriculture sector included three phases:

1. Rehabilitation of storm affected crop-lands to enable timely replanting—achieved through provision of farm machinery, seeds, fertilizers, and insecticides.
2. Compensating for paddy lost by increased production of paddy in other non-storm-affected regions.
3. Enhancing global food security by increasing paddy output through higher yields and expansion of sown acreage in non-storm-affected regions.

Industry and Commerce Sector: For greater protection against natural disasters, the plan included construction of stronger buildings using reinforced concrete for workers at state-owned salt fields. The Government estimated that works and inputs required to rehabilitate salt fields and replace lost equipment and material to bring production back to normal would cost approximately K38.8 billion (US$35.3 million). The Government plan also called for providing loans to established firms engaged in trade and commerce to promote investment and business expansion. A review and evaluation process was used to extend start-up capital to traders, especially those wishing to open shops to buy and sell essential household and consumer goods and services.

Housing Sector: The national plan in this sector lays considerable emphasis on proper and systematic arrangement and planning in the location and orientation of villages and related dwelling units and facilities. Fairly detailed guidelines were provided on the layout of villages, and their location in relation to typical rural geographic features. Specifications were established for design, dimensions, and materials to be used in dwelling construction.

YOLANDA COMPREHENSIVE REHABILITATION AND RECOVERY PLAN

(Source: *Yolanda Comprehensive Rehabilitation and Recovery Plan Executive Summary, 2014, and Reconstruction Assistance on Yolanda: Implementation for Results)*

Preparation of the Comprehensive Rehabilitation and Recovery Plan (CRRP) was led by OPARR based on the recovery strategy and framework presented in the RAY. The CRRP includes detailed listings of reconstruction investment projects with details on the process of formulating, implementing, updating, and monitoring the Yolanda recovery and full rehabilitation phases.

Consistent with the OPARR Clusters defined in the post-Yolanda coordination mechanism, the CRRP identifies policies, operational strategies, and roles and responsibilities for implementation to guide decisions affecting short- and medium-term recovery and rehabilitation. It also provides a system to enable stakeholders to:

- Determine priority programs responsive to recovery and rehabilitation needs
- Identify and address gaps and constraints
- Monitor and assess ongoing progress to ensure the recovery and rehabilitation program stays on track to achieve its intended results.

Overview of the OPARR Clusters

Infrastructure Cluster: The Infrastructure Cluster is in charge of the rehabilitation programs and projects relating to physical infrastructure damaged or destroyed by the typhoon. This includes construction, repair, and restoration of damaged roads, bridges, and other public structures. The Infrastructure Cluster is chaired by the Department of Public Works and Highways (DPWH).

Livelihood Cluster: The Livelihood Cluster is responsible for the provision of livelihood and emergency employment assistance to affected families. This includes crop production, industry trade and services, forestry, fishery, and livestock and poultry industries. The Livelihood Cluster is chaired by the Department of Trade and Industry (DTI).

Resettlement Cluster: The Resettlement Cluster is responsible for programs and projects relating to the relocation of affected families living in danger zones to safe area, and for the development of secure, comprehensive, and sustainable settlement. The Resettlement Cluster is chaired by the Housing and Urban Development Coordinating Council (HUDCC).

Social Services Cluster: The Social Services Cluster is responsible for continuing relief operations to the most vulnerable groups and resumption of community services in the affected areas. This includes food, health, education, emergency/transitional shelter, and on-site shelter assistance. The Social Services Cluster is chaired by the Department of Social Welfare and Development (DSWD).

Support Cluster: The Support Cluster is in charge of addressing cross-cutting policy concerns and issues among the different Clusters. It also includes assisting OPARR in the consolidation of the vetted Cluster Action Plans and identification and provision of funding support to the major programs and projects. The Support Cluster is chaired by the Department of Budget and Management (DBM) and the National Economic Development Authority (NEDA).

YOLANDA COMPREHENSIVE REHABILITATION AND RECOVERY PLAN

(Source: *Yolanda Comprehensive Rehabilitation and Recovery Plan Executive Summary, 2014 and Reconstruction Assistance on Yolanda: Implementation for Results)*

Cluster Plans and Programs, Projects, and Activities (PPAs)

Infrastructure Cluster: The goal of the Infrastructure Plan aims to build back better by rehabilitating and improving infrastructure that support recovery and the enhancement of disaster resiliency.

- Minimum Performance Standards and Specifications (MPSS) for public buildings, guidelines for reconstruction of roads and bridges, and the updating of the National Building Code.
- Rehabilitation or construction of disaster-resilient classrooms and provision of basic furniture for the resumption of classes, as well as the repair of academic, technical, and vocational institutes and administration buildings. Hospitals, rural health units, and barangay health stations shall be repaired or reconstructed, and damaged equipment replaced to ensure that health and nutrition services are available at all levels.
- Restoration of transportation and mobility systems, especially for the delivery of goods and services, promotion of trade, and movement of individuals and materials. Restoration of infrastructure needed for economic recovery, including reconstruction and rehabilitation of agriculture and fisheries sub-sectors.
- Restoration of government services, community infrastructure, and utilities. Repair of government- or community-owned tourism facilities, and rehabilitation of tourism infrastructure.

Resettlement Cluster: The Resettlement Cluster is focused on addressing the housing needs of the affected families through the provision of disaster-resilient housing units and sustainable new communities for families living in hazard-prone and unsafe areas where mitigation is not a practical or sufficiently safe option.

- Targets to build 205,128 permanent housing units (built over three years) in the cities and municipalities hardest high by Yolanda. Disaster-resilient houses will be build based on approved standards, and developed on sites identified by the Local Government Units, with clearances to ensure that the identified resettlement sites are not prone to hazards. The resettlement sites shall be provided with basic community facilities such as multi-purpose covered courts and school buildings.
    - Based on the build back better approach, the house and lot package shall be a 22-square meter loftable rowhouse on a 40-square meter lot.

- Specific activities also include:
    - Securing government petitions
    - Site development (road and drainage construction, electricity distribution network, water reticulation, sewerage system, etc.)
    - Social preparation and selection/prioritization of beneficiaries
    - Relocation of family beneficiaries

YOLANDA COMPREHENSIVE REHABILITATION AND RECOVERY PLAN

(Source: *Yolanda Comprehensive Rehabilitation and Recovery Plan Executive Summary, 2014 and Reconstruction Assistance on Yolanda: Implementation for Results)*

Cluster Plans and Programs, Projects, and Activities (PPAs)

Social Services Cluster: The goal of the Social Services Cluster is to facilitate restoration of delivery of basic needs, such as shelter, education, and health to the most vulnerable members of society; and to improve or put in place social protection services (e.g., health or accident insurance), as well as provide a healthy environment and strengthen capacity to cope with future hazards and disasters.

- Support the predominantly non-infrastructure-related rehabilitation and recovery efforts required to restore basic and tertiary educational services delivery. This includes the replacement of approximately 6.3 million textbooks, continuation of school-based nutrition/feeding programs, and replacement of essential materials and equipment required for effective learning.

- Activities include the provision of essential medicines, emergency delivery kits for poor pregnant women, household water disinfectant kits and corresponding water testing activity, micro-nutrient supplementation, augmentation of the health workforce through the deployment of additional midwives, and family planning services. Medical support will be provided for those individuals suffering acute psychological distress or illness caused by the typhoon, with the aim at providing treatment and medicines to 582 patients over the period of 2014-15.

- Target households in safe dwelling zones for emergency shelter assistance through the provision of financial assistance, and implement a cash-for-work financial assistance scheme to complement shelter assistance for work to assist households with totally and partially damaged houses. Relocation of settlements in safer areas will also be addressed.

- Under the National Greening Program, reforestation of mangroves and beach forests and agroforestry development of degraded forestlands will take place in 12 identified affected provinces. Community-based forest management areas will also be targeted for rehabilitation and development.

- In the short-term, distribution of 50 kilograms of rice for three months to 77,739 affected poor and vulnerable families in Region VII will continue.

- Disaster Risk Reduction (DRR) and Climate Change Adaptation (CCA) measures will be mainstreamed into local development policies, plans and budgets to help address vulnerabilities and mitigate impacts of future disasters and hazards.

YOLANDA COMPREHENSIVE REHABILITATION AND RECOVERY PLAN

(Source: *Yolanda Comprehensive Rehabilitation and Recovery Plan Executive Summary, 2014 and Reconstruction Assistance on Yolanda: Implementation for Results)*

Cluster Plans and Programs, Projects, and Activities (PPAs)

Livelihood Cluster: The goal of the Livelihood Cluster is to achieve inclusive, sustainable business and livelihoods in Yolanda-affected areas.

- Strategic interventions to support livelihood rehabilitation and recovery, prioritizing agriculture as the basic household food and income source while focusing on:
    - Building back better the coconut industry
    - Restoring and developing the fisheries, aquaculture, and livestock production
    - Developing high-value crop production

- Employ the provision of agricultural stocks and farm equipment, such as Shared Service Facilities (SSFs), skills training and technology support, enterprise and organizational development, value-adding mechanism, and market development and linkages.

- Micro, small, and medium enterprise (MSME) support in the form of:
    - Credit brokering
    - Access to technology
    - Improvement of services
    - Product development
    - Utilization of SSFs for key industry value chains, emphasizing reconstruction support and promotion of more competitive tourism
    - Market development through Yolanda Trade Fairs
    - Enterprise development through SME Roving Academy
    - Business Assistance Centers (BACs)

MODULE 6: MOBILIZING AND MANAGING FINANCIAL RESOURCES

MODULE DESCRIPTION

Module 6 elaborates on the mobilization of funds from various sources, the different modalities for disbursement and channeling, and national and local budgeting for recovery needs within the complexity of the recovery process.

MODULE LEARNING OUTCOMES

- Participants will become familiar with primary funding sources for recovery efforts.
- Participants will be able to appreciate key characteristics of finance sources.
- Participants will examine strategies to mobilize and manage financial resources for recovery.
- Participants will be able to develop a strategy for resource mobilization and finance management.

FUNDING POST-DISASTER RECOVERY

INTRODUCTION TO RESOURCE MOBILIZATION

A key component of national disaster recovery plans should be the way in which funds can be acquired to pay for recovery efforts. As the economic costs of disasters rise around the world, emergency managers will have to contend with the resultant rise in recovery costs. In many cases, the rise in recovery costs is an even greater issue in developing countries due to rapid urbanization, increased vulnerability to hazards, and a lower capacity to manage emergency events. This module will discuss the different funding sources that have been used during recovery operations both from within the recovering country and through donors. Planning prior to a hazard event can be instrumental in increasing the speed at which funds can be acquired, ensuring efficiency in collection and distribution of funds and limiting conditions/restrictions that recovering nations may have with regard to acquired funds. An analysis of the funding sources available for recovery efforts can be included in the national disaster recovery plan to make sure that the goals of both donors and recipient nations are considered following hazard events.

TYPICAL SOURCES OF POST-DISASTER FUNDING

Funding for recovery efforts can be broadly divided into money that originates from the recovering country and that which is acquired from external sources. The exact process for mobilizing funds will depend on the funding organization. While a formal process to acquire funds is most common, in some cases funding mobilization can originate from sources themselves. This would mean that donor organizations in some circumstances can offer recovery aid without prior solicitation from disaster-stricken countries. Acquisition of recovery financing can be complicated, however, an understanding of the overarching goals of funding organizations can help emergency managers plan for possible disaster recovery efforts. The following listing of recovery funding sources is not intended to be exhaustive, but

instead to broadly describe general funding source categories that can be considered during the development of disaster recovery plans.

We Finance Recovery – National Entities

Budget contingency/reallocation: Governments with information of the potential cost of recovery may build contingencies into annual budgets. By funding recovery actions within existing budgets, a recovering nation can retain complete control over the recovery process. Local knowledge can also be leveraged to further improve the efficiency of the recovery.

There are, however, severe limitations in the amount of money that is typically associated with disaster contingency budgets. A majority of budget contingencies may not be earmarked specifically for disaster events and usually make up a very small percentage of total government expenditures.[20] Total recovery costs for catastrophic disasters in small nations can also dwarf available contingency funds leading to the need for fund acquisition from external sources.

Where possible, national governments may be able to reallocate funds from one part of the budget to recovery efforts. This will typically require an act of legislation and often represents an explicit trade-off between recovery efforts and the budget from which those funds are taken. Also, disasters that occur toward the end of budget periods may not be able to rely on these funding mechanisms due to a lack of remaining funds or exhaustion of existing contingency budgets.[21]

Due to these limitations, legal and administrative aspects of deploying contingency funds or reallocation of otherwise budgeted funds should be explicitly considered within recovery plans.[22] It may also be necessary within recovery plans to indicate a threshold for hazard recovery budgets that can be borne using internal funding sources. Disaster exercises can be used to simulate these bureaucratic processes in order to better familiarize funding bodies with different aspects of hazard recovery activities.

National Flood Insurance Program (NFIP): During the 1950s and 1960s action was taken by the United States government to explore the feasibility of private insurance companies providing flood insurance. During that time few insurance companies were interested in offering flood insurance due to the close connection between flood risk and specific locations/times. Essentially flood insurers were unable to spread flood risk appropriately to make the issuance of policies viable. Unlike fire, auto or life insurance, which are largely random across large numbers of policies, flooding could experience very few losses in some years followed by extreme losses during another period. Because of this the uninsured costs for many disasters prior to 1965 were very high, especially for individuals and small businesses in high-risk flood areas.

National insurance schemes: Some governments have created national insurance schemes to help public and private sectors recover following a disaster event. These schemes aim to create disaster insurance markets either through the establishment of a national insurance organization or incentives to existing insurers to sell disaster

[20] ADPC Learning Workshop R&R, 114
[21] ADPC Learning Workshop R&R, 115
[22] Ghesquiere & Mahul, 2010, 12

policies. These policy actions would make hazard insurance more affordable to individuals and businesses and reduce the demand for government aid.

While the development of insurance markets has been the traditional manner to limit the effects of any uncertain event, these funding mechanisms require a high level of financial development in the recovering country. These factors are not always available to developing or small countries where hazard risks are difficult to evenly disburse across insurers and financial institutions may not be mature enough to manage risk transfer programs. Despite these limitations, the development of national hazard insurance can be a recovery policy option that can empower individuals and businesses to take responsibility for their own hazard risks. In the long run this can lead to improved recovery capacity of countries when faced with small to medium-sized hazard events.

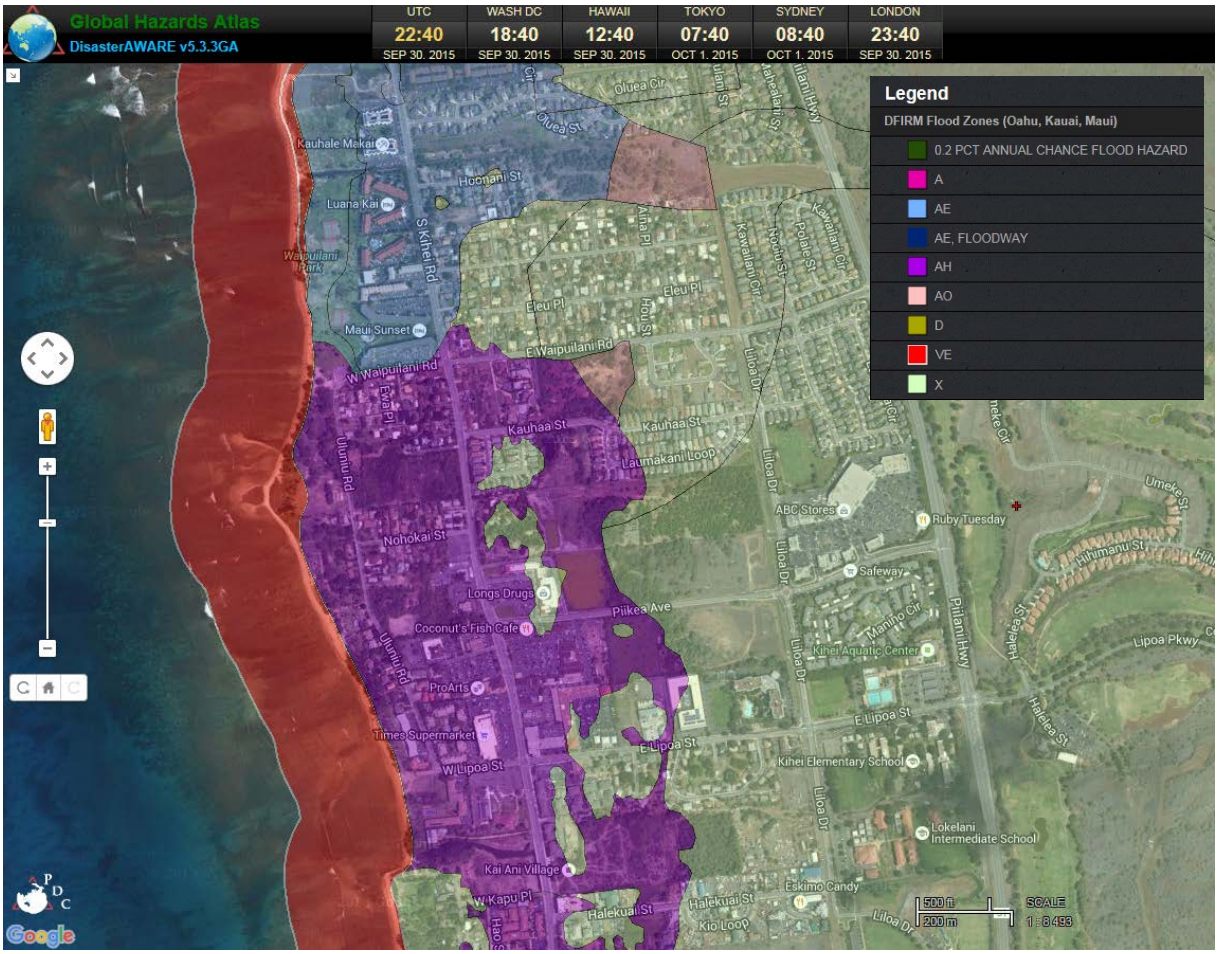


Figure 15: Flood Insurance Rate Map

The National Flood Insurance Program (NFIP) (fema.gov/national-flood-insurance-program) was passed in 1968 to provide national flood insurance to individuals according to flood insurance rate maps developed by the U.S. Army Corp of Engineers. Now close to 50 years in operation, the NFIP is one of the longest standing national-level disaster insurance programs in the world. The NFIP accomplishes the goal of lowering total recovery costs by creating an avenue for affordable flood insurance while encouraging community mitigation actions and supporting appropriate communication of risk through the updating of Flood Insurance Rate Maps (FIRMs – Figure 15). Flood insurance maps utilize modelling techniques to predict inundation zones and associated flood risks. While the creation of this program has made flood insurance available to thousands of communities across the country there are still a number of continuing issues that could improve its efficiency as a recovery funding mechanism, including:

- Improving the accuracy of flood maps to support sustainable premiums;
- Increasing insurance dispersion and retention;
- Added incentives to invest in risk mitigation;
- Reducing repetitive loss (multiple claims over time from a single policy-holder); and
- Strengthening financial sustainability in the face of large-scale catastrophes

(Source: Catastrophe economics, 2010)

Catastrophe Bonds (CAT): "Catastrophe bonds are part of a broader class of assets known as event-linked bonds, which trigger payments from an investment on the occurrence of a specified event. Most event-linked bonds issued to date have been linked to catastrophes such as hurricanes and earthquakes, although bonds also have been issued that respond to mortality events. Capital raised by issuing the bond is invested in safe securities such as treasury bonds, which are held by a special purpose vehicle (SPV). The bond issuer (e.g. a national government) holds a call option on the principal in the SPV with triggers spelled out in a bond contract. Those can be expressed in terms of the issuer's losses from a predefined catastrophic event, by hazard event characteristics, or by hazard event location. If the defined catastrophic event occurs, the bond issuer can withdraw funds from the SPV to pay claims, and part or all of interest and principal payments are forgiven. If the defined catastrophic event does not occur, the investors receive their principal plus interest. The typical maturity of CAT bonds is 1–5 years, with an average maturity of 3 years."[23]

This option can be seen as a form of long term budget contingency. The government is able to invest money that will see some return once the Catastrophe Bond matures. However, in the case of a trigger event (e.g. large scale earthquake or storm), the money may be withdrawn without penalty to finance recovery efforts.

Others Finance Recovery - External Sources

Grant financing: Grant financing represents any transfer of money or goods to a recovering country with no obligation of returning the value of the grant. The donor can be another country, nongovernmental organization, international government organization, or even private entities. The exact form of grant financing can also vary and may include monetary or in-kind donations, technical support/expertise, or even a temporary

[23] ADPC. 2014. Training Manual: Learning Workshop on Recovery and Reconstruction, 115.

cessation of debt payments[24][25].

The acquisition of consistent external recovery funding, however can be both uncertain and difficult. Grants are dependent on the donor agency and a myriad of other factors that may not be related to the needs of a recovering country. This uncertainty in the level and acquisition of grant financing can make it an unstable source for recovery financing. In cases of catastrophic disaster, however, these funds can be vital where national budgets are not able to finance a full recovery following extreme hazard events.

Due to instability and complexity of recovery grants, donor contributions have many limitations. First, the volume and speed of funding are dependent on many factors unrelated to the actual needs of recovering nations. These factors can include the level of media coverage for the disaster, political interests, or the existence of a large expatriate community in the disaster-stricken area (see "Factors that increase contributions" at right). Second, the process of fund mobilization and disbursal will vary by donor and can be very complex. This can in turn slow the distribution of funds for immediate recovery efforts. Third, donor funds are rarely fully controlled by the recovering nation which can lead to inefficiency and inflexibility in recovery efforts. Fourth, the acceptance of donor resources can lead to a reduction in a recovering nation's ability to affect their own recovery as donors may prefer some distribution of resources contrary to existing plans. Finally, because these funds are often attached to short-term goals or are in-kind donations, they are rarely available to support long-term recovery efforts that aim to reduce future disaster risk.[26]

Factors that increase contributions

What are the factors that increase donor contributions to recovery efforts? Catastrophic events happen around the world affecting a wide range of countries regardless of political, social, or economic status. While many humanitarian organizations would like to assign recovery funding purely depending on the severity of disaster events and the need assessed by the recovering country, many other factors seem to be considered when allocating disaster aid funds. By understanding the determinants of bilateral disaster aid, emergency managers may be able to estimate levels of funding post-disaster and possibly foster relationships that can improve aid acquisition from strategic donor nations/organizations. World Bank researchers (Raschky and Schwindt, 2009; Fink and Redaelli, 2009) analyzed disaster aid flows from 2000-2007 to identify key determinants of aid post-disaster.

- Donor countries provide more aid to countries that have higher deaths and more people affected by disaster events;
- Cash transfers and bilateral aid occurs more often if the recovering country exhibit good governance;
- Donations tend to be higher from countries that are geographically close to the disaster;
- Donors tend to give more generously to countries with whom they have had former/historic relationships (e.g. former colonies); and
- Oil producing countries or countries with high volume trade relationships tend to receive more donations.

[24] 2015, Disaster Recovery Toolkit, Tsunami Global Lessons Learned Project, 82. www.adpc.net/tgllp/drt
[25] BRR Book Series 2, 2.
[26] Ghesquiere & Mahul, 2010, 8

Emergency loans: Countries in acute need of recovery funds can also access different emergency loan programs through international finance organizations like The World Bank or International Monetary Fund (IMF). These international banks both have mechanisms through which a country can rapidly access loans to pay for recovery efforts. The IMF uses an Emergency Natural Disaster Assistance (ENDA) policy that can provide "rapid flexible financial assistance" on terms that are substantially more generous than market loans.[27] For example, using this method the IMF was able to provide $450 million in emergency loans over three years to Pakistan in response to devastating floods in 2010. Funds using this mechanism are typically earmarked for humanitarian efforts and government support to stabilize the wider monetary and financial impacts of the disaster.

Special use loans are also available from The World Bank through Development Policy Loans (DPL). The Development Policy Loan (DPL) with Catastrophe Risk Deferred Drawdown Option (CAT DDO) is a financial instrument available through The World Bank that was created to provide liquidity to eligible nations in cases of disaster. Through the DPL a recovering nation would be able to draw down up to $500 million if the borrowing country is an eligible borrower through the International Bank for Reconstruction and Development (IBRD) and has a disaster risk management program.[28]

Figure 16 shows the number of disaster management-related DPL projects (blue line) as well as the historical monetary commitment for different regions.

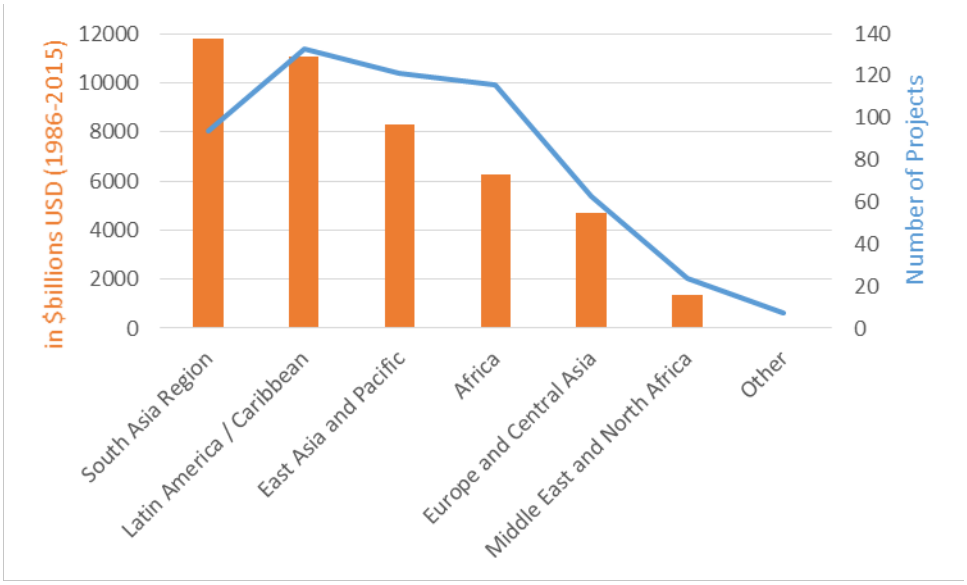


Figure 16: Development Policy Loans (DPL) for Natural Disaster Management Commitments by Region

[27] Laframboise, Nicole and Loko, Boileau. 2012. Natural Disasters: Mitigating Impact, Managing Risks, IMF Working Paper 12/245.
[28] http://treasury.worldbank.org/bdm/pdf/Handouts_Finance/DDO_MajorTerms_Conditions_Aug09.pdf

The South Asia Region (SRA) has historically had the most committed funds from DPLs for disaster management projects.[29] Some recent examples of the use of this fund for recovery efforts include a 200 million USD project to provide earthquake housing reconstruction in Nepal and a 250 million USD disaster recovery project in Andhra Pradesh, India.

The World Bank and IMF represent key financial institutions with the ability and resources to finance large-scale recovery efforts. The loan money disbursed in this manner is designated for specific projects and comes with a set of conditions that are specific to the exact fund from which they are drawn. These funding options can be placed within recovery plans in cases of catastrophic disaster events or in cases where immediate funds are needed as a stop-gap until other funding sources can be found.

Remittance payments: Remittance payments are money that comes from friends and families of recovering populations. The distinguishing factor between this source and grant financing is that the recipient government has little control of the direct distribution or allocation of these funds. World Bank research has found that increases in remittance payments to individuals within a recovering country has a "smoothing effect" on financing recovery and a positive effect on household investment in risk reduction activities (e.g. reinforcing homes). This means that remittances can often be used to pay for recovery needs prior to the implementation of government recovery actions. This source of funding can be helpful for two different reasons. First, this aid is self-selected and as such can be transmitted directly to recipients. Second, because these funds are monetary in nature, they can improve the efficiency of recovery as individuals are given the ability to purchase according to their specific needs.[30]

While it may be difficult for governments to anticipate the exact magnitude of remittance flows for disaster recovery efforts, they can be an important part of recovery planning. The first reason for this is that many developing countries, especially in Southeast Asia, have reported significant levels of remittance payments. Figure 17 shows the top ten recipient countries of remittance payments in 2013.[31] These figures indicate that remittances can be an important source for recovery funds. Recovering nations can facilitate these transfers by lowering transaction costs for remittance payments or by deepening financial services to increase the reach of remittance disbursals.[32] The re-establishment of financial institutions to accommodate remittance transfers can also be an important component of national disaster recovery plans.

[29] World Bank Database. Accessed at http://www.worldbank.org/projects/search?lang=en&searchTerm=&themecode_exact=52

[30] Mohapatra, Sanket; Joseph, George; and Ratha, Dilip. 2009. Remittances and natural disasters: Ex-post response and contribution to ex-ante preparedness.

[31] http://econ.worldbank.org/WBSITE/EXTERNAL/EXTDEC/EXTDECPROSPECTS/0,,contentMDK:23554937~pagePK:64165401~piPK:64165026~theSitePK:476883,00.html

[32] Wu T., The Role of Remittances in Crisis: An Aceh Research Study, HPG Background Paper, Overseas Development Institute, London, 2006. Available at: http://www.odi.org.uk/resources/docs/408.pdf

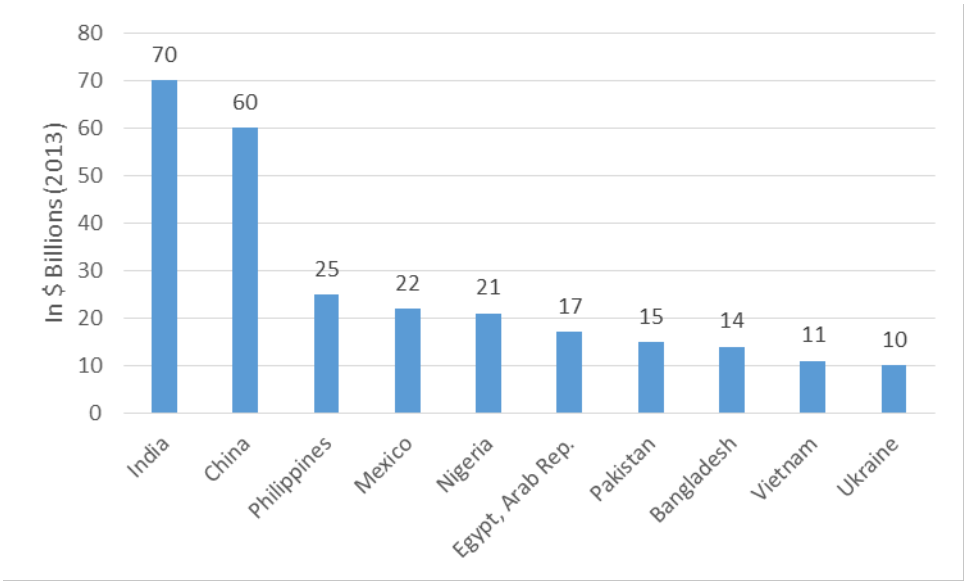


Figure 17: Top 10 Remittance Recipients in 2013

CHARACTERISTICS OF FUNDING SOURCES

There are several overarching considerations that can be made when selecting funding mechanisms for recovery efforts. By assessing the already mentioned funding mechanisms using the following criteria, disaster managers can make decisions concerning which funding avenue to pursue. While the assessment of each funding mechanism against the following three criteria may differ from country to country, their evaluation can be used to plan the acquisition of recovery funding and guide policies to improve the outcomes of recovery efforts.

SPEED

Speed refers to the time needed by the implementing agency to acquire, administer, and monitor recovery according to the needs presented within damage assessments or according to the recovery plan. While there may be some variation in the speed for different funding mechanisms, speed should be an important consideration given the need for rapid recovery following disaster events. Each funding mechanism exhibits conditions under which speed of recovery finances can be maximized. Whether this is through proper advance planning, budgeting, removal of bureaucracy, or the establishment of agreements in advance of a disaster, the speedy acquisition of needed money and materials to effect recovery plans is paramount.

EFFICIENCY

Efficiency refers to the ability of administering agencies to acquire and distribute money and material according to the recovery plan. This typically entails getting the right things to the right place for the right people. An efficient recovery effort maximizes available resources without waste or duplication of effort. In order to accomplish this, participating agencies should be aware of their responsibilities within the recovery plan and share appropriate information for proper resource allocation and elimination of duplicate efforts, as well as waste. Another aspect of efficiency is getting the money and materials to the

right places. Funding sources that are not controlled by administering agencies may lack efficiency as they may not be able to direct money and materials according to an established recovery plan. There may be various reasons for inefficiency including organizational deficiencies, lack of control over funds, unfamiliarity in working with other agencies or unfamiliarity with the particulars of the recovering country.

CONDITIONS/RESTRICTIONS

Conditions/Restrictions. Agencies that manage recovery efforts have a responsibility to the disaster-affected population to allocate and manage disaster recovery funds. In cases where recovering countries receive funding from external sources they have a responsibility not only to the disaster-affected population, but also to the funding sources. The acquisition of recovery funds can be dependent upon requirements of the funding source(s) to verify responsible management of their funds. External funding source requirements may be explicit, and include conditions like repayment of loans, providing evidence of proper use of funds, or developing mitigation plans to limit the effects of future hazard events. The disaster-affected government will have to comply with the conditions set by funding organizations, or risk recovery funding for future hazard events. In any of these cases the receiving nation/organization is in some way obligated to effect the expected outcomes of various parties (e.g., the public, funding organizations). This can include proper administrative mechanisms to measure recovery outcomes or verify the responsible use of funds. Even charitable organizations may have objectives that they must fulfilled that can be facilitated by implementing organizations. These could take the form of requesting greater access, selectivity about who receives funds, or simply autonomy from the established recovery plans.

In a complex disaster-recovery scenario, the sheer volume of conditions and restrictions set by various funding organizations can have serious effects on national disaster recovery plans. On the one hand, recovering nations are happy to receive any help for post-disaster recovery. On the other, funding organizations are interested in the prudent use of their money, and will set conditions/restrictions to verify appropriate recovery expenditures. The donor-recipient relationship, therefore, can have a significant influence on overall disaster recovery.

FUNDING CRITERIA TABLE

Each of the funding sources mentioned in this module can be assessed according to speed, efficiency and conditions/restrictions. An analysis of the ways in which specific factors within a recovering nation influence these characteristics can be a useful exercise during the development of national disaster recovery plans. In some cases, action can be taken in advance of a hazard event that can lead to a smoother funding mobilization process. Table 6 discusses funding sources along with the factors that influence each of the respective criteria. This table can be used during the development of recovery plans to identify opportunities for action that can lead to the speedy acquisition of funds, better efficiency in the types of funding received or fewer conditions/restrictions on mobilized funds.

Table 6: Funding Source Criteria

Funding Source	Speed	Efficiency	Conditions/Restrictions
Budget contingency/ reallocation	Dependent on legislative process but ultimately controlled by the recovering nation.	Recovering nation has complete control over funds and allocations. Efficiency will be dependent on the implementing agency.	No external conditions on the use or allocation of funds leads to a high level of control over the recovery process.
National Insurance Policies	Dependent on the insurance disbursal process. Recovering nation will have some control over the speed of disbursal for local insurance companies.	Highly efficient as funds are directly controlled by individual households and businesses. Responsibility of risk management is held by the respective individual.	Few conditions of repayment or restrictions on the part of the recovering country.
Catastrophe Bonds	Rapid fund disbursement according to “triggers" that are determined upon issuance of the bond.	Recovering nation has complete control over funds and allocations. Efficiency will be dependent on the implementing agency.	No external conditions on the use or allocation of funds leads to a high level of control over the recovery process as long as a "trigger" has occurred.
Recovery Grants	Unstable funding dependent on many different factors. Fund disbursal may be delayed due to needed negotiations between donors and recovering nation.	Recovering nation has limited control over the timing of funds availability or materials offered in-kind.	Aid is often tied to specific sectors or implementing agencies. Recovering nations may have limited control over resource distribution.
Emergency Loans	Streamlined and consistent process leads to rapid disbursal of recovery funding.	Recovering nation has complete control over funds and allocations. Efficiency will be dependent on the implementing agency.	Recovering nation is responsible for the repayment of the loan.
Remittance Payments	Dependent on the availability of financial services in the recovering country.	Highly efficient as funds are directly controlled by individual households and businesses.	Recovering nation has no control over the distribution of funds or their use in recovery efforts.

Each funding source mentioned earlier can be assessed according to these three criteria. Choices made by recovering nations in funding should consider the trade-offs attached to the choice of any combination of potential funding mechanisms. The careful consideration of these criteria of recovery funding sources can provide insight to both attract funding sources as well as prepare policies to limit the negative aspects of recovery finance acquisition.

Some characteristics of funding mechanisms will be dependent on elements or factors within the recovering nation (e.g., budget adjustment/reallocation).

DISCUSSION: EVALUATING FINANCE SOURCES

Using remittances as an example, what are some of the specific aspects of a country that can lead to a speedier more efficient mobilization of remittance payments prior to hazard events?

In the immediate aftermath of a disaster, what kinds of action can be taken to improve the speed and efficiency of remittance payments to aid in recovery?

GROUP ACTIVITY - PLANNING FOR FUNDING ACQUISITION

MOBILIZING AND MANAGING FINANCIAL RESOURCES

The mobilization of recovery and reconstruction funds should be based on an assessment of financial needs as determined by the PDNA and further refined via the national disaster recovery plan, as discussed in Module 3: PDNA. Funding for recovery efforts should be prioritized by program, sector or geography, and identify the key public and/or private entities responsible for administering those funds. Timeframes for the completion of recovery activities should also be established prior to the mobilization of funds.

Management and monitoring of recovery funds are vital processes that should be given due attention and planning. Responsible administration and efficient use of external recovery funds will facilitate the acquisition of funding for future disasters. This next section will discuss strategies for funding acquisition according to your recovery plan and methods to make the most of recovery funds.

FUNDING ACQUISITION PLANNING

Determining the level of funding that will be needed for any recovery effort will depend on the result of damage and needs assessments performed in the immediate aftermath of a disaster event. A funding acquisition plan should take into account the characteristics of different funding mechanisms (i.e., speed, efficiency, conditions/restrictions) to make sure that the appropriate resources are available for

all aspects of the recovery plan. Figure 18 provides an example of appropriate funding mechanisms depending on the severity and frequency of disaster events.[33]

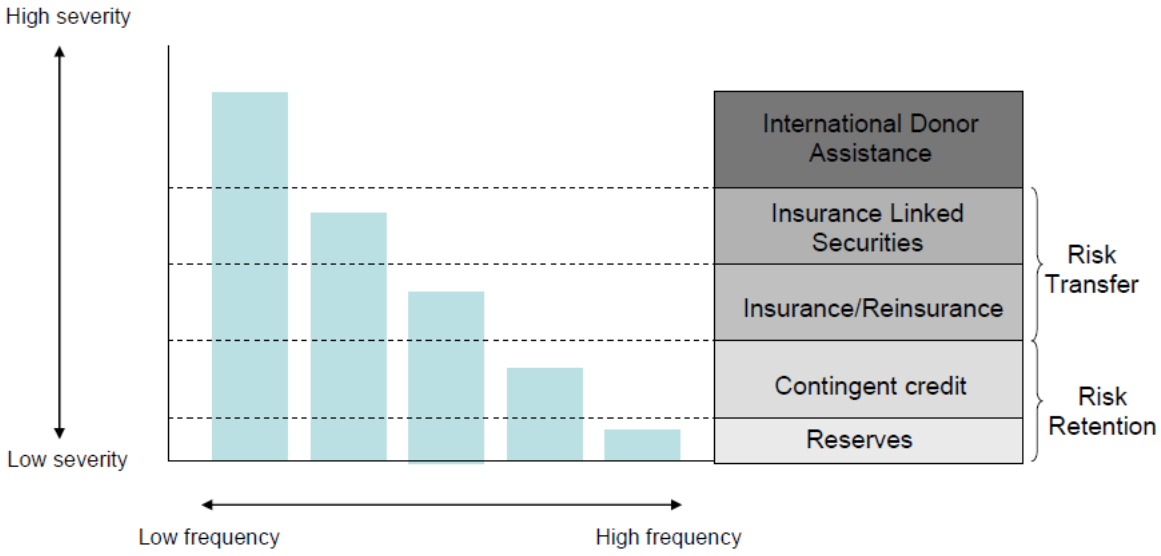


Figure 18: Choosing the Appropriate Funding Mechanism

According to Figure 18 internal disaster recovery funding may be preferred for frequent, low severity events as the recovering nation would be able to effect the speediest, most efficient recovery possible with few conditions/restrictions on the use of external funds. As the volume of needed recovery funding increases it may be necessary to mobilize funding sources that are slower and less-efficient, or that have conditions/restrictions to access those funds. The ordering of different funding sources in Figure 18 also coincides with the characteristics of funding sources. National budgets represent quick and efficient resources with few conditions and are most appropriate for low impact events that occur with great frequency. As the severity of the event increases, alternative funding sources that tend to be slower and less-efficient, or that have more conditions/restrictions on them should be considered. While these trade-offs may be necessary, the recovering nation can prepare in advance to manage possible negative aspects of different funding sources.

Careful consideration must be given to specific actions taken in advance of a disaster to maximize the speed and efficiency of recovery funding while limiting any unwanted influence the funding may have on a recovering nations' agency. Examples of these advance actions include exploring legislation to support acquisition of funds, estimates of needs that can then be distributed to potential donors, development of relationships with partner-nations, preparation of financial institutions to facilitate remittance transfers, etc.

[33] Ghesquiere & Mahul, 2010, 17

CHOOSING THE RIGHT AGENCY

Recovery success can depend on a combination of mobilizing funds and managing recovery actions. In small-scale disasters local agencies may be sufficient to manage recovery efforts. In catastrophic disasters the sheer volume of recovery-related activities may require special managing organizations. Recovery efforts can be incredibly difficult if the disaster-stricken country does not adequately prepare administrating agencies to manage recovery plans. This was seen in the 2010 Haiti earthquake. Poor historical governance in the country coupled with a disaster that killed many key administrative leaders greatly reduced the countries' ability to manage recovery efforts.[34]

Strong administrating agencies, on the other hand, can manage the complexity of large recovery efforts including the coordination of dozens of external donors. An example of one such organization was the Executing Agency for Rehabilitation and Reconstruction (BRR) of Aceh and Nias. In the aftermath of the 2004 Indian Ocean Tsunami, the country of Indonesia and the Aceh-Nias region in particular was faced with the inflow of billions of dollars of aid from a myriad of donors alongside massive reconstruction efforts. Many of the issues that have been discussed earlier concerning the variation in speed, efficiency and conditions/restrictions were present in each respective relationship between recovery funding sources and the government of Indonesia. Initial relief and response activities were handled by the Indonesian military and national disaster management agencies, but it was determined that there was a need for a special temporary agency to support reconstruction.

The BRR (Badan Rehabilitasi dan Rekonstruksi) was officially legislated by the Indonesian government to oversee recovery efforts and work directly with funding bodies to verify the speedy and appropriate use of funds. Among the findings of the BRR about channeling funds for recovery efforts were that it is essential to do the following.

a) Specify responsibilities and legal mandates for recovery efforts over set periods of time. This is especially true for special, temporary bodies created to manage complex recovery efforts.
b) Ensure local knowledge and ownership over recovery efforts.
c) Set a clear schedule of activities and targets to promote urgency and timely management.
d) Formalize funding processes with donors alongside accountability mechanisms to maximize the responsible use of funds.[35]

MULTI-PARTNER TRUST FUND OR MULTI-DONOR TRUST FUND

Flexibility is a key component of complex donor-recipient relationships. While direct control of recovery funds by a host nation can often lead to the timeliest and most efficient outcome, some donors may not allow complete control over recovery finances. In these cases, recovering countries cede some control of recovery efforts to these external donors. In the case of the BRR, a Multi-Donor Fund (MDF) was created to help manage these external, off-budget funds. The MDF comprised 15 donor nations and organizations that retained control over both funds and materials used in the recovery effort.

[34] Patrick, Jonathan. 2011. Haiti earthquake response: emerging evaluation lessons. Evaluation Insights, 1, OECD, 2. Accessed at http://www.oecd.org/countries/haiti/50313700.pdf.
[35] BRR 10 management lessons

Indonesian officials requested the creation of the MDF through The World Bank to enable some influence over how donor priorities were set and donor funds allocated.

In management terms the MDF represents an action taken by a recovering nation to limit issues of speed, efficiency, and conditions/restrictions with known donors. By formally using an intermediary (in this case The World Bank) the BRR was able to attract additional recovery resources from external sources that may have had concerns about the appropriate use of funds managed directly by the government. The MDF also allowed the recovering nation an opportunity to utilize special knowledge within the participating donor entities as well as intermediary organizations (e.g., The World Bank).

CHALLENGES IN DISBURSEMENT

Beyond the issues inherent in the characteristics of each funding mechanism, proper disbursal of funds to organizations actually performing recovery tasks can be difficult. Many of the following challenges in funding disbursement can be limited through proper recovery planning in advance of a disaster as well as through coordination with funding organizations.[36]

1. **Front-loading versus back-loading of funds**: Donor organizations can have a very short memory when it comes to recovery funding. Recovering countries may be tempted to front-load funds when they become available (typically within the first two years following a disaster). Unfortunately, recovery efforts following catastrophic disasters can stretch much further than the immediate international humanitarian effort. Recovering countries can make a concerted effort to evaluate funding timeframes to make sure that recovery money is spread over the entire recovery period. These timeframes should be seen as important parts of a national disaster recovery plan.
2. **Pledges vs. Donations:** Catastrophic disasters are often followed by an outpouring of pledged funds to support recovery efforts. The actual acquisition of these funds, however, can vary depending on a number of different factors. In the case of the BRR, specific actions were taken that resulted in the acquisition of 93% of pledged funds for recovery efforts. These actions included building credibility through active accounting of recovery funds that were received from donor organizations. The development of known intermediaries such as The World Bank also provided additional assurance to donors that funds would be used according to any conditions set by funding organizations. Continued engagement was established between the BRR and donors to lower transaction costs as well as to make use of the combination of expertise from donors with local knowledge.[37]
3. **Monitoring/Reporting:** Proper monitoring of funds can be used to evaluate recovery plan goals and placate donor organizations. Coordination between recovery organizations can also be facilitated with the timely creation and distribution of information.[38] The sheer volume of simultaneous projects (often several hundred at a time for large-scale recovery) can further limit proper distribution of funds. Formalized tracking systems like the Development Assistance

[36] BRR Finance, 37-55.
[37] Ibid, 5-8.
[38] Ibid, 71-97

Database (DAD) have been used to monitor recovery efforts and facilitate fund disbursal.[39] When connected with recovery plans and used by all participating agencies, a DAD can be a powerful tool. Prioritization of monitoring for select donors or organizations may need to occur given the sheer volume of concurrent projects.

Even after funds have been acquired by recovering nations, proper financing mechanisms are required to ensure activities are undertaken that fulfill the wishes of local populations and donors. The range of options suggested here (e.g., Multi-Donor Trust Funds, Development Assistance Databases, etc.) introduces ways to account for the proper use of recovery funds and fulfill the recovery responsibility of both recovering nations and donor organizations.

A more in-depth discussion of monitoring and evaluation of recovery processes will be covered in Module 8.

[39] Ibid, 28

MODULE 7: COMMUNICATION IN RECOVERY

Module 7 discusses the communication process, and factors that influence the effectiveness of disaster communications. It also emphasizes the important role of communication in recovery processes, and how this can be strengthened to boost the credibility and trustworthiness of the recovery program.

MODULE LEARNING OUTCOMES

- Participants will be able to discuss elements of, and factors that influence effective disaster communications.
- Participants will be able to develop a basic communication plan for recovery.

EFFECTIVE COMMUNICATION DURING A DISASTER

EFFECTIVE ORAL COMMUNICATION

Communication is a two-way process shaped by both the sender of the message (such as government officials, organizations, etc.) and the receiver (which includes all members of the message's intended audience). Communication is fluid and dynamic, and is effective only when the receiver understands the message as intended by the sender.

Communication in the post-disaster situation requires effective communication not only with individuals, but with communities as a whole. Therefore, it is important for disaster managers to have a basic understanding of the individuals that make up the community. It is vital to remember that communities are diverse, and that the intended audience includes people of varied ages, educational levels, cultural backgrounds, and languages, as well as individuals with disabilities and/or functional needs.

Communication with communities requires tailoring messages to provide information in a number of formats so that all who need the information have access to it.

Characteristics of Effective Communicators

- Credible
- Confident
- Professional
- Prepared
- Organized
- Concise

COMMUNICATING DURING A DISASTER

Effective communication is an important component of disaster management, especially during an emergency, where communicating accurate information clearly to the affected population provides reassurance and a foundation for making informed, responsible choices.

Emergency messages that are effectively delivered have a greater potential to:

- Promote public safety,
- Protect property,
- Facilitate response efforts,
- Elicit cooperation,
- Instill public confidence, and
- Assist in reuniting families and community members.

Effective emergency communication is based on timely and accurate information coming in to response agencies from credible sources in the field, as well as going out to affected communities. During an emergency, communications may take the form of public alerts and warnings, as well as situation reports and information regarding available assistance.

Daily vs. Emergency Communication

Common elements of communication are seen in both daily and emergency situations, such as:

- Identifying the target audience
- Determining the purpose and developing message content
- Utilizing appropriate channels and media
- Establishing periodicity of communications

During an emergency, added barriers to effective communication may be present, or existing barriers may be more difficult to overcome.

Keep in mind that when communicating in an emergency, the target audience is generally everyone who can benefit from the information.

Factors that Influence Disaster Communications

Community Factors

- Type of Community – access to information and media varies between rural and urban communities.
- Level of Community Interaction – connected, interactive communities are more likely to receive warnings and trust officials.
- Family Composition – families are more likely to heed warnings to ensure the safety of loved ones (i.e., family network, children, pets, etc.)

Experiential Factors:

- Interpretation of Message – variations in what people actually hear may lead to various interpretations and response actions.
- Previous Experiences – people often rely on previous experiences with a hazard to determine what actions they take or don't take.

- Observation – most people seek some form of confirmation, usually through environmental cues or by contacting trusted sources.
- Perception of Risk – if the perception of risk is high, people will respond quickly; if the perception of risk is low, response may be delayed.

Individual Factors

- Language
- Age – children and older adults may not be able to receive messages and/or respond appropriately to alerts and warnings.
- Length of Residency – anyone who has not been a member of the community for an extended period of time (i.e., newcomers, tourists, transients, etc.) may lack knowledge of local hazards and the history of local disasters.
- Access and Functional Needs – individuals with access and functional needs may require alerts and warnings in accessible formats, as well as additional time and assistance for evacuating.
- Levels of Individual Preparedness – people who have taken the time to prepare for hazards are more likely to heed warnings and respond appropriately.

TECHNOLOGY AS A COMMUNICATION TOOL

Choosing the right communication tool is a matter of getting the right information to the right people at the right time so they can make the decisions that are right for themselves and their families. Remember, the most effective communications tool is one that:

- Reaches the target audience;
- Gets information to the audience when they need it, for as long as they need it;
- Can be expected to deliver the message reliably;
- Enhances comprehension of the message content; and
- Can be accessed within resource limitations.

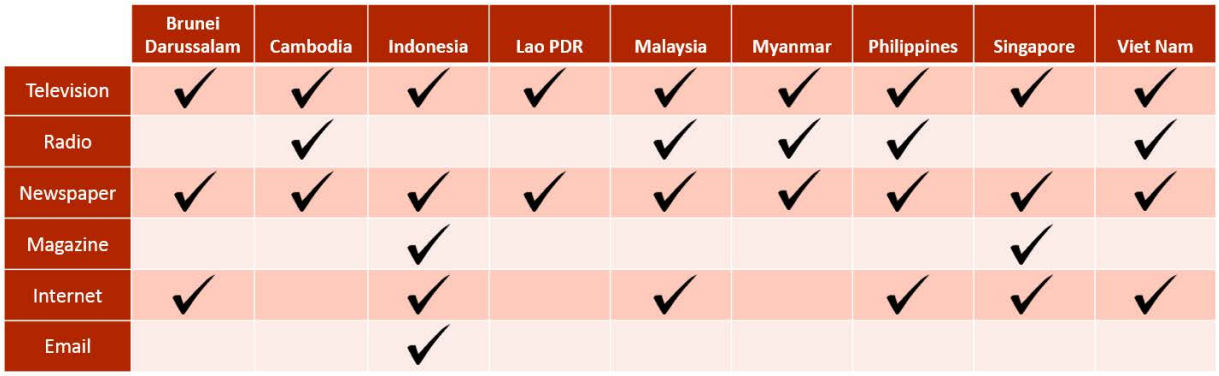
From the ASEAN Master Communication Plan

Despite the growing number of online users throughout the ASEAN region, surveys indicate that **television** and **radio** are the preferred communication channels within the Member States.

Each communication channel and medium has advantages and limitations based on the message and intended audience, as well as availability of communication tools due to disaster impacts to the communication infrastructure. Most often, you will need to use a combination of methods to deliver a consistent message to the whole community.

Types of Media	Advantages	Limitations	Requirements
Briefings, Public Meetings	• Interactive • Allow response to specific concerns • Able to be targeted to specific populations	• Require ability to stay on message • Exposure to difficult questions.	• Appropriate venue accessible to the entire community • Appropriate equipment for public address
Newspapers, Magazines	• Allows for more detailed messages • May be available in multiple formats (e.g., online)	• Requires more time to get information out • May be more difficult to keep updated	• Appropriate details and background information • Access to subject-matter experts • Access to photographs, images, video, etc.
Radio	• Immediate • Able to reach special populations	• Few field reporters • Post-disaster condition of infrastructure	• Audio (sound clips or telephone interviews) • Recorded public service announcements (PSA)
Television	• Immediate • Varied programming	• May be less detailed • Post-disaster condition of infrastructure	• Video and audio • Staging area, sufficient space for filming/taping
Internet	• Updated quickly	• Updates may only be at certain time • Post-disaster condition of infrastructure	• Needs can vary and may be a combination of print, radio, and television
Social Media	• Very flexible • Messages can be short and quick • Able to reach large populations	• Limited control of the message once it goes out • Considerations for target audience	• Can accommodate short, informal, quick messages in the form of “Tweets,” blogs, posts, texts, etc.

The ASEAN Master Communication Plan (2014) provides information on communication techniques preferred in each ASEAN Member State, which were identified through survey findings and sources, including the Internet World Statistics. Keep in mind that many ASEAN Member States already use all of the techniques in Figure 19, depending on the audiences they want to reach.



	Brunei Darussalam	Cambodia	Indonesia	Lao PDR	Malaysia	Myanmar	Philippines	Singapore	Viet Nam
Television	✓	✓	✓	✓	✓	✓	✓	✓	✓
Radio		✓			✓	✓	✓		✓
Newspaper	✓	✓	✓	✓	✓	✓	✓	✓	✓
Magazine			✓					✓	
Internet	✓		✓		✓		✓	✓	✓
Email			✓						

Figure 19: Preferred communication techniques
(From the ASEAN Master Communication Plan, 2014)

KEY ELEMENTS OF COMMUNICATION IN RECOVERY

Communication during recovery needs to be relevant, clear, and targeted. It is important for disaster-affected communities to receive information relevant to their situation, and for all those involved in recovery operations to maintain communication while engaged in those activities. The overall purpose of communication in recovery should be to foster a common understanding of the post-disaster situation and recovery efforts.

- **Relevant**—information should be provided that addresses what is happening throughout the recovery process, as well as types of support that may be available and how community members can go about receiving support.
- **Clear—**relevant and practical information should be presented in short, easily accommodated amounts (keeping in mind that after an emergency, people often have trouble remembering information), and the message must be free of jargon and of complicated or technical language.
- **Targeted—**the method of communication used should fit the audience for which the information is intended, and should be delivered via channels and media that will reach them.

Recovery communications also requires gathering, processing, and disseminating information following an emergency. This means that decision makers should recognize that communication with communities needs to be two-way. Maintaining open dialogue with communities not only gets needed information out, but encourages feedback and input from the community.

- **Gathering Information**—the availability of information required for decision making will depend on the nature of the event and varies during different stages of the recovery process.
- **Processing Information**—considerations for processing and integrating information include the timing of the information, the amount that can be easily absorbed, and the meaning it has within the recovery process.
- **Disseminating Information**—once information has been processed, it needs to be conveyed by means of relevant and trustworthy communications systems so that it can be received by those who need it during the recovery process.

Characteristics of Effective Communication

As outlined by the Tsunami Global Lessons Learned Project, good communication:

- Informs
- Motivates and reassures
- Builds trust in the program and people
- Promotes transparency
- Fosters collective ownership and responsibility
- Promotes open dialogue

DEVELOPING A COMMUNICATION PLAN

Keep in mind that although much of the discussion thus far has been in regard to providing information to (and receiving information from) disaster-affected communities, they are not the only audience interested in receiving updates on the post-disaster situation.

Developing a communication plan is one way to ensure that timely and accurate information flows smoothly for all those involved in decision making and recovery efforts, including interested local, national, and international partners.

WHO Communicator	Communicators must be credible and trustworthy. It is recommended that a single coordinating agency take responsibility for recovery communications.
WHAT Message	The content of the message and the language used should be relevant to and representative of the target audience. Jargon and technical terms should be avoided to promote clarity.
HOW Medium/Channel	Most communicators make use of mass media to disseminate messages. Be sure to pay attention to the accessibility of newspapers, radio, or television following a disaster.
WHEN Periodicity	Information may need to be re-communicated periodically during the recovery process. Periodicity will differ based on the type of information required and on message content.
TO WHOM Audience	The target audiences includes the affected community, the general public, community leaders, donors, the private sector, the media, government representatives, non-government agencies, and other recovery partners.
WHY Purpose	• Were the messages able to bring about desired responses? • Were the target audiences reached with relevant information? • Was the information accepted and did it help clear existing confusion? • Were community voices listened to and considered during recovery? • Was community capacity enhanced for safer behavior in future events?

Figure 20: Developing a communication plan

GROUP ACTIVITY: DEVELOP A COMMUNICATION PLAN

MODULE 8: RECOVERY MONITORING AND EVALUATION

Module 8 covers the considerations involved in designing a monitoring and evaluation (M&E) system for large-scale recovery based on the information requirements of various stakeholders. Best practices in M&E, and key constraints will also be discussed.

MODULE LEARNING OUTCOMES

- Participants will be able to appreciate the importance of M&E in large-scale recovery.
- Participants will be able to explain the basic components and process of M&E.

INTRODUCTION

Once pre-disaster planning has been done with the various stakeholders, and training on the plan has been done, and it has been exercised—then, if the plan has been maintained and updated over time—the communities covered by the plan are ready when a disaster strikes. The response plan is immediately implemented. A post-disaster needs assessment is conducted, and the recovery plan is modified to fit the particular circumstances of the disaster. Time passes. Two months into recovery, government leaders ask: "How is the recovery progressing? Are we doing better than we did during the last disaster because we spent time and money to conduct recovery planning last year?"

In order to answer these questions, a monitoring and evaluation (M&E) system must be developed as part of your recovery process. This module will introduce the M&E system, including project planning, special considerations and levels of the M&E system, undertaking and planning the evaluation, as well as reporting and information dissemination.

RATIONALE FOR MONITORING AND EVALUATION (M&E)

Measuring and explaining the progress of recovery efforts increases public confidence in the recovery process by promoting transparency, accountability, and efficiency. It enables community and local government leadership to identify ongoing recovery needs, and engages partners in providing assistance and problem solving. Local communities and governments determine how to qualify and quantify their progress. They measure progress toward recovery holistically, recognizing that recovery outcomes and impacts are measured beyond a single criterion such as money spent or assistance delivered.

Recovery progress reports serve as tracking mechanisms for improving and adjusting recovery strategies and activities and ensuring continual improvement.

DEVELOPING AN M&E SYSTEM

Monitoring and evaluation are fundamentally linked to the recovery plan and should be incorporated during the planning stage. By analyzing the monitoring and evaluation needs during the pre-disaster planning process, reporting systems can be built into day-to-day activities, which will assist with post-disaster reporting. For example, if one of the monitoring indicators is the number of building permits

issued, a system can be set up to link to permit-issuing offices and collect the data prior to disasters. On a daily basis, this information can be an indicator of economic growth while post-disaster it indicates recovery progress.

Another reason to develop a monitoring and evaluation system during pre-disaster planning is that immediately after a disaster, *everyone* wants information. The first question asked by leaders is "how bad is it?" The need for data and information begins during the early post-disaster days when data are required on humanitarian needs. Developing and using information-sharing systems pre-disaster will help with information flow during the disaster response and recovery phases.

Soon after the disaster occurs, a Post-Disaster Needs Assessments (PDNA) or other post-disaster assessment will be conducted. All of the data collected helps with revising the recovery policies and the recovery plan. As the recovery plan is reviewed, the inputs from the PDNA will feed into the specific recovery goals, objectives, and projects, and they will help to refine the monitoring and evaluation system based on the specific projects in the revised recovery plan.

An M&E system is mainly designed to answer certain key questions, such as:

- Is the project being completed on time?
- Is the project within budget?
- Are the outputs meeting specified standards?
- Is propriety and integrity of the project being maintained?

The M&E system should be designed around indicators (objectives) and reporting systems that answer the above questions. Key components of the system should:

- Specify outputs, outcomes and impacts envisaged;
- Specify indicators (physical, financial, qualitative) for inputs, activities, outputs, and outcomes; and the SMART Criteria may be helpful in developing suitable indicators. Although it is difficult to find quantitative indicators for outcomes and processes, appropriate surrogate/proxy indicators can be applied;
- Specify the Means of Verification (MoV), i.e., the source that can validate the claim (minutes book, official records, receipts etc.);
- Identify who should collect recovery information (e.g., government or the stakeholder responsible for the activity);
- Determine when information should be collected (e.g., daily, weekly, monthly);
- Determine how it should be collected, stored, analyzed and disseminated (e.g., structured format, unstructured narrative, questionnaire, survey, or key resource person interviews).

SMART Criteria for Indicator Development

SMART Indicators are:

- Specific
- Measurable
- Achievable
- Relevant
- Time bound

These indicators should not be developed unilaterally but must be created with the total accordance of the main stakeholders in the particular activity or program.

In meetings with the stakeholders, as recovery goals are set and specific projects are discussed, time can be devoted to defining the M&E information requirements and periodicity of collection and reporting.

Further refining the M&E plan will identify data sources, data collection requirements, information requirements and their periodicity. Once these are set, a clear picture will emerge of the amount of data that needs to be collected, stored, analyzed and disseminated.

Based on this, an M&E framework can be developed based on five basic questions:

- What is to be monitored?
- Who is to monitor it?
- How is it to be monitored?
- When is it to be monitored?
- How are the data and information to be collated, updated, analyzed, and disseminated?

PROJECT PLANNING MATRIX USING A LOGICAL FRAMEWORK APPROACH

Some project planning tools used in the development sector, such as the Logical Framework Analysis (LFA) (Table 7), have many of the key components for M&E built into the framework. Using a framework such as the LFA during your project planning will ensure that the means to monitor and evaluate progress are included.

Table 7 – Logical Framework Approach

Project:_____	**Narrative Summary**	**Objectively Verifiable Indicators**	**Means of Verification**	**Assumptions**
Overall goal of the project				
Project purpose (more specific outcomes to be achieved by the activity)				
Outputs of the project				
Activities (necessary to deliver outputs)				

SPECIAL CONSIDERATIONS IN DEVELOPING AN M&E SYSTEM

Anticipating Environmental Impacts

In the aftermath of a disaster, environmental concerns and protections are often set aside in order to more effectively respond and recover. During large-scale recovery efforts there are sure to be negative impacts to the environment, such as clearing forest land for habitation, setting up commercial or industrial enterprises in habitats rich in rare flora/fauna, etc.

Anticipating activities like these, and building active tracking and monitoring of environmental concerns into the monitoring and evaluation system will help ensure such activities are contained, curtailed, or stopped.

Building an environmental review process into the recovery plan and project approval procedure will help identify potential impacts ahead of time. Include the Ministry of Environment or other environmental quality agency in the recovery planning process and determine how the M&E system can be used to identify any issues early and provide a reporting loop for compliance during the recovery process.

Addressing the Needs of Special Populations

During the extreme rush of addressing the needs of the disaster-affected population, and getting recovery underway, it is easy focus on providing relief in a manner that benefits the greatest *number* of people, while excluding some from receiving specialized assistance. For example, we provide everyone, regardless of age or dietary needs, a standard meal. The meal might not be appropriate for a baby, the aged, or someone with specific dietary restrictions. However, in the rush to provide support, it is easier to give everyone the same thing, so the needs of individuals requiring alternatives may be disregarded.

The voices of people with special needs often get muted in the noise and confusion of disaster and may go unheard. Likewise, support for women, especially single women who are head of households, is often overlooked. These groups often lack mobility and access to information or to responsive officials, and this further distances them from recovery and reconstruction activities. Baseline data from the local government may not articulate their needs, contributing to their lack of visibility.

Discussions with local government officials and the affected population can help identify those requiring special assistance, and develop appropriate indicators for inclusion in the M&E system to ensure that due attention is given to special populations.

LEVELS OF MONITORING AND EVALUATION

At what levels do you need to institute monitoring and evaluation? Measuring and explaining the progress of recovery efforts increases public confidence in the recovery process by promoting transparency, accountability, and efficiency. It enables communities and local government leadership to identify ongoing recovery needs and engages partners in providing assistance and problem solving.

M&E systems can be planned at multiple government levels, as well as for sectors, programs and/or households, depending upon the purpose of the M&E system and the information requirements of stakeholders. You and your stakeholders must determine ***what programs*** are critical to track and in ***how much detail*** you need to track the critical programs, and use that to determine at what level you will establish the M&E system.

Progress tracking of recovery programs is the most common requirement among stakeholders. However, process tracking and periodic evaluations of qualitative indicators are also critical in supporting a results-oriented recovery system.

Tracking data from numerous sources across multiple levels of government and sectors can be a challenge. There are, however, some tools that can help.

Use of Technology

There have been far-reaching strides in technology that can help in data collection and analysis.

Remote sensing (satellite data) is a very useful tool both for tracking the onset and path of cyclones, droughts etc., and for assessing such things as wide-spread damage from storms and earthquakes (less useful for flooding), water availability, land use patterns and coastal erosion. Where older data are available, historic perspectives can also be taken into account for better analysis. A technique that makes these systems more useful is to use the time prior to storm onset to develop baseline data ("before" pictures) to use for comparison.

FEMA has successfully used public-sphere crowd sourcing to help with damage assessments. In the immediate aftermath of Hurricane Sandy, FEMA posted damage evaluation criteria for single-family homes and over 10,000 geo-coded satellite photos of damaged homes to a public website. Within 48 hours all of the photos had been reviewed and assessed against the posted criteria, with a 90% accuracy rate.

RECOVERY CORE PRINCIPLES
(NDRF, FEMA)

- Individual and Family Empowerment
- Leadership and Local Primacy
- Pre-Disaster Recovery Planning
- Partnerships and Inclusiveness
- Public Information
- Unity of Effort
- Timeliness and Flexibility
- Resilience and Sustainability
- Psychological and Emotional Recovery

Video conferencing has not only created a revolution in the education and health sectors, but it also helps make monitoring much easier in terms of cost as well as effort. Video conferencing allows team members in different parts of the country to share reports, slides showing progress or issues, and pictures from various projects.

GROUP ACTIVITY: DEVELOPING SMART OBJECTIVES AND MEANS OF VERIFICATION

BEST PRACTICES IN MONITORING & EVALUATION

From lessons learned, it is clear that one of the keys to successful recovery is that the government owns and leads the recovery effort and the M&E system. The lead government recovery agency, working with all of the stakeholders, should decide on the basic structure of the M&E system and jointly define the protocols for collection, consolidation, and dissemination of information.

Stakeholders should also (periodically) jointly review and analyze the information being collected to ensure it is valid and meets the need of the M&E system.

In the absence of governmental support or participation, the lead recovery agency should take on these responsibilities.

STRATEGIES FOR MEASURING PROGRESS DURING RECOVERY

- Recognize that recovery progress has variables not attributable to any one program or single government agency. Overall recovery success depends upon the interaction of a wide range of public, nonprofit, and private-sector programs and initiatives, good planning, local capacity, leadership, effective decision-making, and the building of public confidence.
- Establish systems that track pre-disaster baseline conditions and collect post-disaster data. The pre-disaster conditions can then be compared to the overall recovery of individuals as well as the reconstruction and redevelopment of infrastructure, the economy, health, social and community services, and government functions.
- Ensure disaster preparedness and recovery planning is integrated with community-wide comprehensive and hazard mitigation planning. By integrating these planning processes, you will capitalize on opportunities to minimize risks and strengthen resilience, the ability to withstand and recover from future disasters.
- Select indicators that reflect sound principles of recovery. Indicators apply to recovery priorities and resource needs and set realistic expectations and milestones for community members, stakeholders and supporting agencies.
- Ensure full community participation in developing metrics in coordination with local and national government partners. Include persons with access and

Additional Considerations for Developing Recovery Metrics:

Baseline Impact Assessment – provides a basis to define known community recovery issues to help understand the extent and scope of disaster impacts in order to chart a path to a realistic recovery end state.

Desired Outcome – focuses on recovery *impacts* and *overall results*, not just a target number (e.g., number of families in permanent housing versus number of housing units constructed).

Cross-sector Assessment – tracks progress across all sectors, including but not limited to, housing, environmental, business, employment, infrastructure, access to essential health and social services, and overall community accessibility.

functional needs, individuals with limited language proficiency, seniors, members of underserved populations and advocates representing the unique needs of children.

- Leverage technology and systems innovations to achieve goals that result in greater information sharing, accountability, and transparency.
- Ensure that recovery activities respect the civil rights and civil liberties of all populations and do not result in discrimination on account of race, color, national origin (including limited language proficiency), religion, sex, age, or disability.
- Ensure continuous improvement by evaluating the effectiveness of recovery activities.
- Government agencies and private organizations that provide assistance are encouraged to have a system of tracking their coordination and assistance efforts, ensuring accountability and enabling prompt adjustments to meet ongoing and changing needs.

KEY CONSTRAINTS IN MONITORING & EVALUATION

There are many factors that can make monitoring and evaluation challenging during recovery. Below are listed some of the constraints that may be considered when designing an M&E system.

Lack of available base data can impede the ability to assess outcomes. Baseline data serves an important role in the assessment of damage and losses by providing a picture of the pre-disaster situation that can be compared with data collected post-disaster. It also plays a crucial role in the ability to successfully monitor the progress of recovery efforts.

Cost of data collection, storage and analysis. Sometimes data collection costs can outweigh the benefits derived from the information. Because of this, it is important to determine which datasets are necessary for tracking recovery progress, versus which data may be desirable for archival purposes. Then you can focus your resources on gathering the critical datasets. Keep in mind that the use of technology can greatly reduce the costs associated with data collection and analysis.

Time and effort required for data collection, processing, and analysis should be kept in mind when deciding on the frequency of collection for M&E. The collection of format-based or structured data can be automated, will not be expensive to collect, and can be done regularly. Qualitative information requiring in-person interviews will be more time- and effort-intensive, and therefore may be collected less frequently or only when absolutely necessary.

Data Management. In most post-disaster cases, power supply and connectivity to data networks can be erratic or non-functioning for a time. Data transfer in the early stages of the disaster response may have to be planned as a manual activity or through alternate means such as satellite uplinks or by way of amateur radio operators. Both of these alternatives can be problematic, due to relatively slow data transfer rates, lack of availability, and in the case of satellite uplinks, expense.

Lack of local skilled human resources to assist in monitoring. In many cases, the local human resources may have been affected by the disaster and may not be able to contribute to the M&E process.

Lack of system compatibility between agencies monitoring recovery. Lack of compatibility between systems used by various agencies is a problem that must be identified and addressed early on in the recovery process. If systems cannot be aligned, then "workarounds" should be established to address the incompatibilities, and everyone who needs the workaround information must be informed.

UNDERTAKING AN EVALUATION

Evaluations are generally done to assess whether or not the recovery programs and projects have achieved the outcomes and impacts as envisaged in the recovery framework or plan. Although monitoring mechanisms and results feed into evaluation, these are not enough for a thorough evaluation.

Evaluations utilize multiple data sources, including the results of the M&E system, stakeholder discussions, observations, and assessments that look at the larger impact rather than just physical achievements.

For example, when an M&E system confirms that the number of houses built to shelter a dislocated population has met the program targets, the data (numbers) are not able to ascertain whether or not the relocated populations have managed to stabilize or improved their *quality of life* or well-being. Additional evaluations will be needed to determine this.

Even when outputs for projects are satisfactory, they might not meet the expected outcomes for the programs, and interventions may be needed.

PLANNING AN EVALUATION

Who is Involved?

While it is crucial for government to lead and own the process, government agencies may not have much expertise in evaluation. It is crucial that people with the necessary expertise lead the evaluation. One source of expertise is the development partners, who can be involved in training local staff to perform the evaluation. Or the entire evaluation system can be out-sourced, as long as the government remains involved and in charge.

Key Considerations for Planning Evaluations:

- Who are the stakeholders?
- What is to be evaluated?
- What are the kinds of information that would inform programming?
- Who will be using the evaluation results and what would they like to know?
- What is the budget available?
- When should the evaluation be conducted?
- Who will be leading it?
- What indicators will be used?
- How will the findings be disseminated?

Even if conducted by external actors, the evaluation can be richer in content if it is done in a participatory manner. The involvement of the local, affected communities will not only add value to the process of assessments, but will also be empowering, helping the communities understand the longer-term implications of what the recovery projects and programs are attempting to accomplish.

For Whom is the Evaluation Conducted?

The requirements of different stakeholders should be taken into consideration during the evaluation and will drive what is evaluated and how the data are collected.

For example, program partners may require the evaluation for reporting and planning purposes; governments may require it for assessing their work plans and budgets; and donors may require an evaluation to determine how effective the program has been.

Each stakeholder will have different needs. Therefore, it is essential that, at the very outset of planning for an evaluation, the specific requirements of stakeholders are taken into account.

Data and Information Collection

Selecting appropriate indicators to measure recovery efforts is key, and this is best accomplished in consultation with stakeholders and with the participation of affected communities. The anticipated ease or difficulty in collecting, collating, and reporting the data may influence which indicators are adopted.

As shown in Table 8, there are numerous approaches for collecting data and information. These approaches can be mixed, adapted, and changed to suit the aspects, target groups, and areas to be studied. Consistency in the application of these methods is important, so that comparisons of information collected are possible.

Table 8 – Data Collection Methods (IFRC, 2007)

Method	Definition and Use	Strengths	Weaknesses
Case Studies	Collecting information that results in a story that can be descriptive or explanatory and can serve to answer the questions of what and how	• Can deal with a variety of evidence from documents, interviews, and observation. • Can add explanatory power when focus is on institutions, processes, programs, decisions, and events	• Good case studies difficult to conduct • Require specialized research and writing skills to be rigorous • Findings cannot be generalized to the entire population • Time consuming and difficult to replicate
Focus Groups	Holding focused discussions with members of target population who are familiar with pertinent issues before writing a set of structured questions. The purpose is to compare the beneficiaries' perspectives with generalized concepts in the evaluation's objectives	• Similar advantages to interviews (below) • Particularly useful where participant interaction is desired • A useful way of identifying hierarchical influences	• Can be expensive and time consuming • Must be sensitive to mixing of hierarchical levels • Not generalizable

Method	Definition and Use	Strengths	Weaknesses
Interviews	The interviewer asks questions of one or more persons and records the respondents' answers. Interviews may be formal or informal, face-to-face or by telephone, and closed or open-ended	• People and institutions can explain their experiences in their own words and setting • Flexible to allow the interviewer to pursue unanticipated lines of inquiry and to probe into issues in depth • Particularly useful where language difficulties are anticipated	• Time consuming • Can be expensive • If not done properly, the interviewer can influence the responses of those interviewed
Observation	Observing and recording situation in a log or diary. This includes who is involved; what happens; and when, where, and how events occur. Observation can be direct (observer watches and records) or participatory (the observer becomes part of the setting for a period of time)	• Provides descriptive information on context and observed changes	• Quality and usefulness of data highly dependent on the observer's observational and writing skills • Findings can be open to interpretation • Does not easily apply within a short time frame to process change
Written Documents	Reviewing documents such as records, administrative databases, training materials, and correspondence	• Can identify issues to investigate further and provide evidence of action, change, and impact to support respondents' perceptions	• Can be time-consuming

Source: Red Cross and Red Crescent Monitoring and Evaluation in a Nutshell, 2007

FORMAT OF AN EVALUATION REPORT

The following are suggested elements of an evaluation report:

- ✓ Title Page
- ✓ Table of Contents
- ✓ Executive Summary
- ✓ Background Information on the Project Evaluated
- ✓ Purpose of the Evaluation
- ✓ Methodology
- ✓ Results of the Evaluation

- ✓ Conclusion (the results of the evaluation will need to be validated with other data, secondary information, and reports that have led to the conclusion)
- ✓ Recommendations (it is best that this is done with the participation of relevant stakeholders, field staff and communities)
- ✓ The Way Forward
- ✓ Appendices

CHARACTERISTICS OF A GOOD EVALUATION REPORT

The United Nations Evaluation Group (UNEG) describes a good evaluation report as having the following characteristics:

- ✓ Well-structured and complete
- ✓ Describes what is being evaluated and why
- ✓ Identifies questions of concern
- ✓ Explains the steps and procedures used to answer those questions
- ✓ Presents findings supported by credible evidence in response to questions of concern
- ✓ Acknowledges limitations
- ✓ Draw conclusions about findings based on the evidence
- ✓ Proposes concrete and usable recommendations derived from conclusions
- ✓ Is written with the report user (and how they will use the evaluation) in mind

DISSEMINATION OF THE EVALUATION REPORT

In order to be useful, the evaluation report must be widely disseminated to promote understanding of recovery projects and programs. How the report is disseminated will depend on the audience and how the information will be utilized. The report, in part or in full, can be disseminated to stakeholders in a form best suited to their requirements.

The Report may be:

- ✓ Distributed as copies for reference
- ✓ Presented in a workshop or seminar held with all stakeholders
- ✓ Made available in the public domain
- ✓ Made into brief reports and sent to platforms that specialize in the particular subject

SUMMARY

Developing a monitoring and evaluation system during pre-disaster recovery planning will help ensure you can measure success during recovery and reconstruction. The outputs of the monitoring and evaluation system will facilitate addressing the difficult questions from political leaders, partner and funding organizations, and the public. A good M&E system will allow you to track projects and intervene if the outputs from the projects are not having the desired outcomes for your recovery strategy.

CASE STUDIES: MONITORING & EVALUATION OF RECOVERY PROCESSES

POST-NARGIS PERIODIC REVIEWS

(Source: *Post-Nargis Periodic Review I-IV, 2008-2010)*

The VTA methodology, used in part to conduct the PDNA and inform decision making during recovery, served as the basis for the Tripartite Core Group's (TCG) series of Periodic Reviews, produced in regular increments over the two years following Cyclone Nargis. The TCG used the Periodic Review process as a mechanism for monitoring and evaluation to continually assess the needs of people and communities, as well as progress toward recovery. The Periodic Review process was seen as "pioneering a new approach to post-disaster needs assessment and monitoring."

The purpose of the Periodic Review reports was not to "evaluate in detail the success of the assistance provided, or to make policy recommendations." Instead, the reports were meant to present findings from analyses of data collected from communities spread across the worst-affected areas of Myanmar.

Post-Nargis Periodic Review I was released in December 2008 and covered assessments conducted from 29 October to 19 November 2008. Conclusions drawn from data analysis identified high priority needs (i.e. food security, public health concerns, water and sanitation needs, and support for recovery of livelihoods), and the diversity of needs present in recovering communities.

Post-Nargis Periodic Review II (PR II) was released in July 2009 and covered assessments conducted from 7 May to 2 June 2009. In the year following Cyclone Nargis, the sustained humanitarian response had moved out of the emergency relief phase and into medium- and long-term recovery. Building upon the first Periodic Review, the goal of PR II was to provide a baseline for strategic decision making and for actors involved in the rehabilitation process, as a means to gauge activities and monitor progress.

Post-Nargis Periodic Review III (PR III) was released in January 2010 and covered assessments conducted from 21 October to 17 November 2009. Conclusions drawn following the assessment indicated that more detailed analyses were needed to meet unresolved challenges, especially in the restoration of livelihoods and long-term food security. PR III also reinforced the need to focus efforts to maintain momentum toward recovery.

Post-Nargis Periodic Review IV (PR IV) was released in July 2010 and detailed the status of households and the progress, or lack of progress, made during recovery. Also seen in the report are improvements and stabilizations across sectors, with comparisons of pre-Nargis conditions with those seen two years into recovery. Though improvements in food security, health care services, and household crop production had been seen over the course of the Periodic Review process, PR IV highlighted ongoing challenges among households hardest hit by the disaster. The report also stated that most households lived in weaker dwellings in May 2010 than before Cyclone Nargis, and available housing was highly vulnerable to severe storms.

Over the course of two years, the TCG's Periodic Review process provided snapshots of recovery progress, allowing recovery partners access to data analyses to better inform decision making during recovery. As a system for monitoring and evaluating recovery, Periodic Reviews highlighted areas of stabilization and improvement (supporting current efforts) and continued need (indicating the potential to change course). The Periodic Review Process also laid the foundation for developing an exit strategy to gradually transition out of recovery.

MONITORING AND EVALUATING YOLANDA REHABILITATION & RECOVERY: eMPATHY

(Source: *Office of the Presidential Assistant for Rehabilitation and Recovery, and Yolanda Comprehensive Rehabilitation and Recovery Plan, 2014)*

The electronic Management Platform: Accountability and Transparency Hub for Yolanda (eMPATHY) is an information management system developed to facilitate monitoring and evaluation of the rehabilitation and recovery programs, projects, and activities for Yolanda. eMPATHY provides a mechanism for information sharing among program and project stakeholders, including the government implementing agencies at the national and local government levels, non-governmental organizations, private sector companies, funding agencies, beneficiary communities, and other interested groups.

As a platform for transparent, accurate, and timely disclosure of information, eMPATHY has helped build trust and confidence between communities and authorities in the post-disaster situation.

eMPATHY was designed to make oversight and management of the recovery process possible—keeping in mind the breadth and extent of the work that had to be done across 171 municipalities and cities located in 14 provinces, and with the magnitude of damage and needs estimated to be in hundreds of billion pesos. It was also meant to provide up-to-date information on funding to inform decision making and the deployment of additional resources where needed.

From the onset, it was envisioned that eMPATHY would:

- Be an integrated system that combines all types of post-Yolanda recovery interventions and all project implementer and donor information into one database that can also be used for subsequent disaster responses.
- Provide up-to-date information on the progress of the whole post-Yolanda recovery process, including data at the project level, and then aggregated at the indicator/target, geographic, sectoral, and cluster levels.
- Be a system that anyone who has access to the Internet can access and use for their own organizational or personal information needs, for example:
    - A local NGO can provide real-time, online reports to its many overseas donors by providing data through the system and updating their project information regularly.
    - A Local Government Unit (LGU) can prepare materials for discussion during coordination meetings using data from the database.
    - An external evaluator can obtain raw data for analysis from the database.
    - A donor can identify projects to fund for future programming.
- Become both a platform for transparency and a reliable source of information for decision making.

Unique to the eMPATHY information management system is that accountability for data is retained with the project implementer. They are responsible for uploading their project data into eMPATHY and answering for its accuracy and reliability, though PARR will adopt a data validation process for checking whether the report matches what can be seen on the ground and for cross-checking against multiple information sources, whenever possible.

MODULE 9: TRANSITION AND EXIT STRATEGY

MODULE DESCRIPTION

Module 9 discusses the importance of developing exit strategies to promote a smooth transition from disaster recovery to development.

MODULE LEARNING OUTCOMES

- Participants will be introduced to transition and exit strategies as they relate to disaster recovery.
- Participants will gain insight into the process and considerations for transitioning from recovery to development.

TRANSITION AND EXIT STRATEGY

As recovery and reconstruction projects and programs progress, management of these necessarily shifts from recovery organizations to local institutions. This transition process is often complex, but can be aided by early planning and development of an "exit strategy." This module discusses the considerations and key challenges associated with this process.

WHAT IS AN EXIT STRATEGY?

An exit strategy is a plan describing how recovery organizations intend to withdraw their resources while ensuring that program achievements are sustained and that progress towards program goals will continue. When planned and implemented correctly, exit strategies can be a springboard for improved and sustainable development.

The goal of an exit strategy is to ensure the sustainability of program and project impacts after an organization or agency involved in the recovery effort withdraws its support. It can also be defined in a broader sense as a "sustainability strategy." As the organizations leading recovery efforts disengage from the process and hand leadership responsibilities over to pre-disaster institutions, care must be taken not to lose the gains made during the recovery process.

The exit strategy can be accomplished in a number of different ways:

- A gradual turning over of different projects to local control;
- Simultaneous withdrawal from the entire program area; or
- Transitioning projects to other programs.

WHY ARE EXIT STRATEGIES IMPORTANT?

Exit strategies ensure better program outcomes and encourage commitment to program sustainability. An exit strategy should be planned with stakeholders during the opening stages of project development, and designed to secure the investment that has been made in the area.

Stakeholders who may be involved in this process include the central and local government, project partners, affected communities, and civil authorities or municipality departments that will continue to have a management or maintenance role, and those responsible for individual projects when the program is completed.

WHAT MAIN POINTS SHOULD AN EXIT STRATEGY COVER?

An exit strategy should clearly outline roles and responsibilities, and next steps for projects and activities initiated during recovery in order to be successful. As individual projects and activities are considered, keep the following questions in mind:

- Who will be responsible for handling the activity going forward?
- What is the role of the local authorities?
- Is there a local agency (municipality, community organization, or NGO) to which the activity should be transferred?
- How will the activity be transferred?
- Are there performance specifications to be maintained?
- How will the activity be funded?
- How will the activity be monitored?
- What will be the role of the community in managing or monitoring the activity?
- Do successor organizations need any training?
- Which assets need to be retained and which ones can be transferred to a successor?

KEY CONSIDERATIONS FOR PROGRAM TRANSFER

THE CHANGING STATUS OF RECOVERY AGENCIES DURING TRANSITION

As the recovery phase comes to a close, programs must transition from management by organizations developed under the recovery plan to organizations or agencies that are part of the long-term governance structure. This can occur in a number of ways, but the goal is to move from ad hoc recovery departments and agencies back to the standard government structure.

Transitioning programs and projects to the line departments: This is the most common transition strategy. Programs, projects and activities are incorporated into the annual work plans of the line departments concerned. One issue with this strategy is ensuring the line departments have the capacity to absorb the additional work. This method was used in Indonesia after the 2004 tsunami. As part of the exit strategy, Indonesia conducted a preparatory phase when it focused on the building of the capacity of line departments to handle and effectively utilize the infrastructure and assets created.

Institutions taking on additional roles: As programs come to an end, there are often additional requirements identified. Rather than establish a new organization, it is sometimes easier to revise the mandate of existing organizations to cover the new programs or projects.

Converting an existing institution into a permanent body: If you did not establish recovery organizations during your pre-disaster recovery planning, then the institutions established during

recovery might transition into a permanent body. This will provide a core agency that remains focused on recovery and can help maintain your recovery programs and support the next disaster.

The 2008 UNDP report (below) on The Aceh Government Transformation Program provides a sense of the importance of the critical transfer of roles and responsibilities as post-tsunami recovery efforts transitioned to local management.

The Aceh Government Transformation Program (AGTP)

Aceh's Provincial Government is preparing for challenging times ahead. When the Agency for Rehabilitation and Reconstruction in Aceh and Nias (BRR) completes its mandate in April 2009, it will transfer its responsibilities and assets to the Aceh local Government. The Administration will assume responsibility for more than USD 1 billion in grant money for rebuilding the Aceh Province after the devastating 2004 tsunami and 30-year conflict. It will also assume the coordination of on-going programs funded by the international community. Expectations are high, and this is a big challenge for a province whose total budget was only USD 300 million a few years ago.

The Aceh Government Transformation Program (AGTP) addresses the urgent need to strengthen the Provincial Government's capacity, and ensure it can efficiently assume the responsibilities, functions, resources and assets it inherits from BRR. AGTP is helping to ensure a systematic and smooth transition that will safeguard the still-fragile legacy of the billions of dollars invested by the Indonesian Government and donors. It helps instill the technical and administrative capacity at the provincial level to carry out these vitally important tasks. Overall, the program is designed to address critical gaps. The first gap lies in the Governor of Aceh's capacity to coordinate the transition. The second gap lies in the technical capacity of the Provincial and District Government agencies to process assets and projects transferred from BRR, and to implement ongoing recovery work. The third gap is the administration's broader institutional capacity to coordinate and implement reconstruction and rehabilitation work beyond the transition. (Source: UNDP Indonesia 2008)

The process of transferring recovery programs from one management structure or institution to another, must be formalized to ensure that all stakeholders acknowledge:

- The timing of program transfer;
- The full range of commitments and responsibilities associated with program transfer;
- Which partners will be transferring programs; and
- Which partners will be renewing existing commitments.

It will be important for both those transferring responsibility, and those accepting responsibility for programs to consider the following questions:

- What is the level of demand for continued services?
- To what extent does the successor organization or community value the services or program activities?
- How strong is the sense of commitment on the part of the successor organization or community to continue program activities?
- Do the local organizations implementing the activities have sufficient institutional and human resource capacities?

- Are the organizations responsible for implementing the continuing programs resilient to shocks and changes in the political and social environment?

HANDING OVER OF PROJECTS

All will benefit from a smooth handover of projects and activities during the transition process. Key points to consider for the hand-off of complete projects, as well as those still in progress are provided here.

Those involved in the transition of completed projects will need to ensure that all assets directly related to the projects and assets needed for the sustainability of the projects, along with knowledge products, are transferred to the new managing agency. Any systems in place for maintaining assets should also be included, along with adequate documentation to transfer knowledge related to the project.

Completed Projects

If a transition phase is required for completed projects, the recovery agency may elect to withdraw all other support but oversee the community and program until the readiness indicators for complete transfer are met.

There may be a need to conduct training or capacity building prior to, or coincident with the transfer, so that systems or assets associated with the project can be effectively utilized or maintained to ensure their long-term viability.

It may also be appropriate to conduct social and financial audits of the project. The results should be made public or presented to all involved stakeholders. This will add to the transparency and credibility of the work accomplished.

For hand-off of projects that are still underway, it will be additionally important to clearly outline the process, milestones, and timeframe for transfer of the projects, and have well-defined roles and responsibilities of all those involved in transitioning the activities. These, in turn, will ensure that affected communities and other stakeholders are well-informed of the transition.

BRR's account of transferring duties to the regional government and relevant ministries is described in "Preparing for Handover," below.

Preparing For Handover

After BRR completed its projects in Aceh, Indonesia in 2008, it started preparing for the handover of its duties, and transfer of its monitoring tasks and documents to the relevant parties. These steps were taken to help ease the transfer of duties to the regional government and the relevant ministries and institutions that were to take place in 2009. Specifically, BRR made sure at the earliest possible time that the transition from the reconstruction phase to a normal development phase involved the regional government. This involvement covered the stages of planning, evaluation and transfer of activities.

The Head of the BRR Executing Agency made an announcement in the last year of the BRR's mandate that the Agency was to be district-oriented. After taking the lead in implementing BRR programs, the District would participate in managing the project implementation units and the Office of the Commitment of Program Preparatory Officer. These were among the preparations for the eventual closure of BRR.

The BRR work period was be shut down in phases: governance of the BRR Executing Agency organization, strengthening of the Representative Office's role and function, closing of project assignments, strengthening of regional government capacity, increasing de-concentration, transfer of aid assignments, transfer of assets and documents, as well as transfer of human resources and systems.

BRR continuously took measures to ensure that the regional government and all stakeholders had enough authority to operate and maintain facilities and infrastructure that had been constructed during rehabilitation, and to help strengthen the regional government's capacity. All this was realized through training, internship programs and the transfer of knowledge from BRR to the regional government.

The Aceh administration was able to improve its capacity by organizing strategic programs like the Aceh Government Transformation Program. Initiated by Aceh Governor Irwandi Yusuf, the AGTP was facilitated by United Nations Development Program (UNDP) along with Multi Donor Fund (MDF) funding to help the Governor prepare his staff to coordinate the transition process from BRR.

(Source: BRR 2009)

EXIT STRATEGY MONITORING AND EVALUATION

Exit Strategy Criteria for Success:

- Program impacts have been sustained, expanded, or improved after program end.
- Relevant activities are continued in the same or modified format.
- The systems developed continue to function effectively.

Monitoring and evaluation processes should continue throughout the transition period, and be factored into the overall monitoring and evaluation plan to avoid duplication of monitoring efforts and to maximize the use of existing data. As recovery organizations withdraw their resources and projects are concluded and/or transferred to new managing agencies, it will be useful to define benchmarks that will assist you in determining the effectiveness of your exit strategy. Ongoing monitoring of these benchmarks during the transition period will be required.

In addition, an evaluation should be conducted after the program transition is completed. Evaluations are critical, as many international organizations use them to

determine the level of aid they are willing to provide during the next disaster. By programming funds for the purpose of evaluating transition and exit strategies into disaster recovery plans, recovering nations can ensure that this essential component of the recovery process can be carried out.

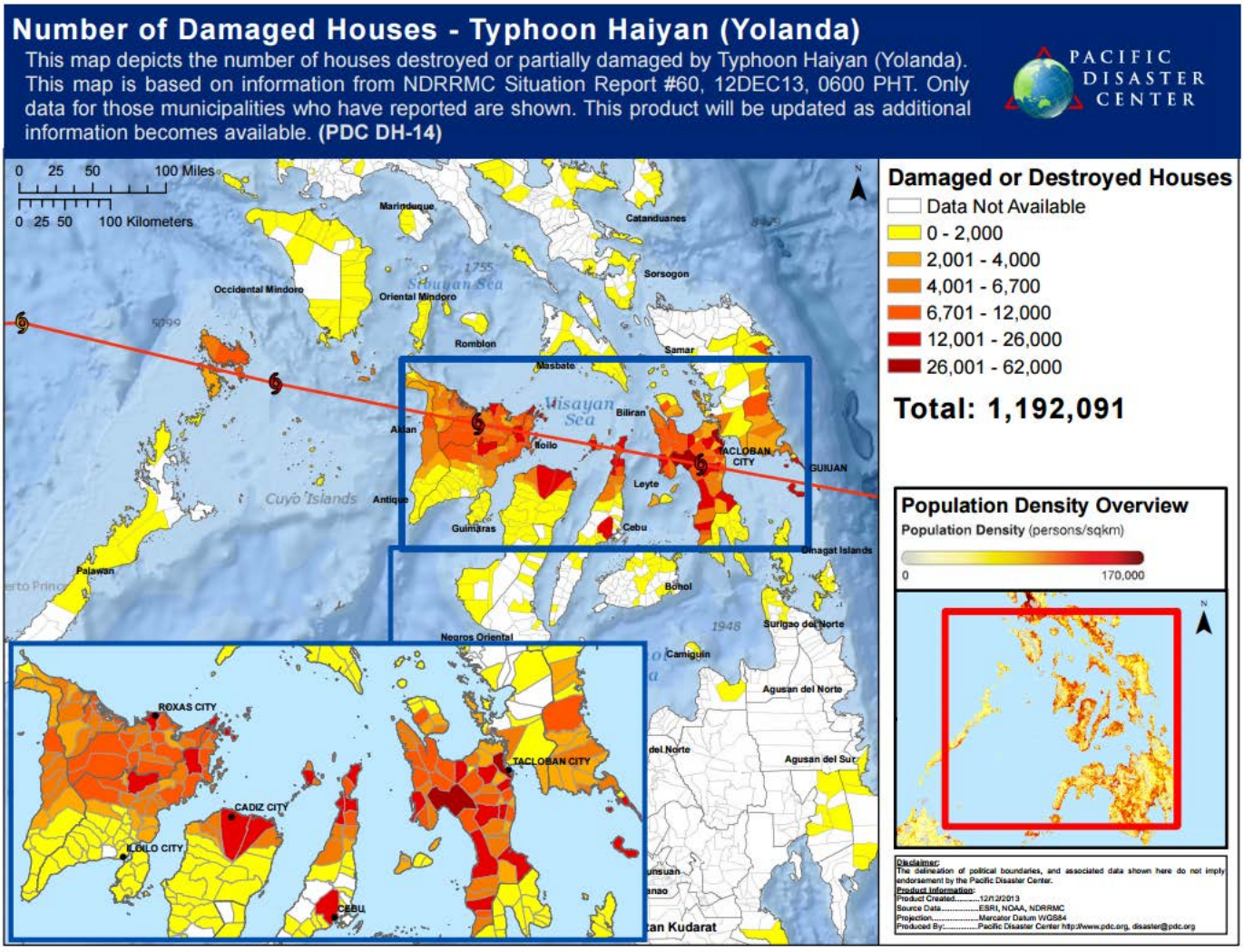
GROUP ACTIVITY AND DISCUSSION

APPENDIX A: CASE STUDY: TYPHOON YOLANDA

The case study that follows here is the same as the series of case study presentations seen in Modules 2, 3, 4, 5, and 8.

CASE STUDY: TYPHOON YOLANDA—THE PHILIPPINES

Typhoon Yolanda, known internationally as Haiyan, made landfall in the Philippines on November 8, 2013 with wind speeds of more than 300 kilometers per hour and storm surges of over four meters. Yolanda "caused unprecedented damage to nine regions, covering 591 municipalities and 57 cities spread across 44 provinces. An estimated 16 million people were affected, of which approximately 4 million were displaced.



The sheer strength of the typhoon damaged 1.1 million houses, of which more than 550,000 houses were totally destroyed. Eighty percent of the reported 6,000 casualties occurred in Eastern Visayas—the second poorest region in the country. Countless people, especially those in the rural communities, lost their livelihoods. Vital infrastructure and private investments were similarly damaged. The Government placed the initial estimates of total damage and losses from the typhoon at around USD$12.9 billion.

- From the *Post-Yolanda Reconstruction Case Study*
(Global Facility for Disaster Reduction and Recovery, 2015)

NATIONAL DISASTER RISK REDUCTION AND MANAGEMENT COUNCIL

(Source: *Philippine Disaster Risk Reduction and Management Act of 2010, and the National Disaster Risk Reduction and Management Plan 2011-2018)*

The National Disaster Risk Reduction and Management Council (NDRRMC) is composed of around 40 government agencies and local government units, private sector, and civil society organizations. With the enactment of the *Philippine Disaster Risk Reduction and Management Act of 2010*, the NDRRMC (formerly known as the National Disaster Coordinating Council) was mandated to develop a framework to serve as the principal guide to disaster risk reduction and management. The National Disaster Risk Reduction and Management Framework (NDRRMF) provides a comprehensive, all-hazards, multi-sectoral, inter-agency, and community-based approach to disaster risk reduction and management.

Consistent with the NDRRMF, the National Disaster Risk Reduction and Management Plan (NDRRMP) was formulated and implemented by the Office of Civil Defense, following approval by the NDRRMC. The NDRRMP provides the legal basis for policies, plans, and programs to deal with disasters.

Four thematic areas are covered in the NDRRMP:

1. Disaster Prevention and Mitigation
2. Disaster Preparedness
3. Disaster Response
4. Disaster Rehabilitation and Recovery

The NDRRMP sets down the expected outcomes, outputs, key activities, indicators, lead agencies, implementing partners and timelines under each of the four distinct, yet mutually reinforcing, themes. The lead agency identified in the NDRRMP with overall responsibility in carrying out recovery operations is the National Economic and Development Authority (NEDA).

Identified recovery objectives include:

- To restore people's means of livelihood and continuity of economic activities and business
- To restore shelter and other buildings/installation
- To reconstruct infrastructure and other public utilities
- To assist in the physical and psychological rehabilitation of persons who suffered from the effects of disaster

The overarching goals of rehabilitation and recovery are to restore and improve facilities, livelihood and living conditions and organizational capacities of affected communities, and reduced disaster risks in accordance with the "building back better" principle.

One of the activities identified to achieve rehabilitation and recovery objectives is the assessment of damage, losses, and needs through a Post-Disaster Needs Assessment (PDNA). The NDRRMP identified the Office of Civil Defense (OCD) as the lead agency for conducting the PDNA, and indicated the timeframe in which the assessment should be conducted in order to begin formulating the Strategic Action Plan for disaster-affected areas.

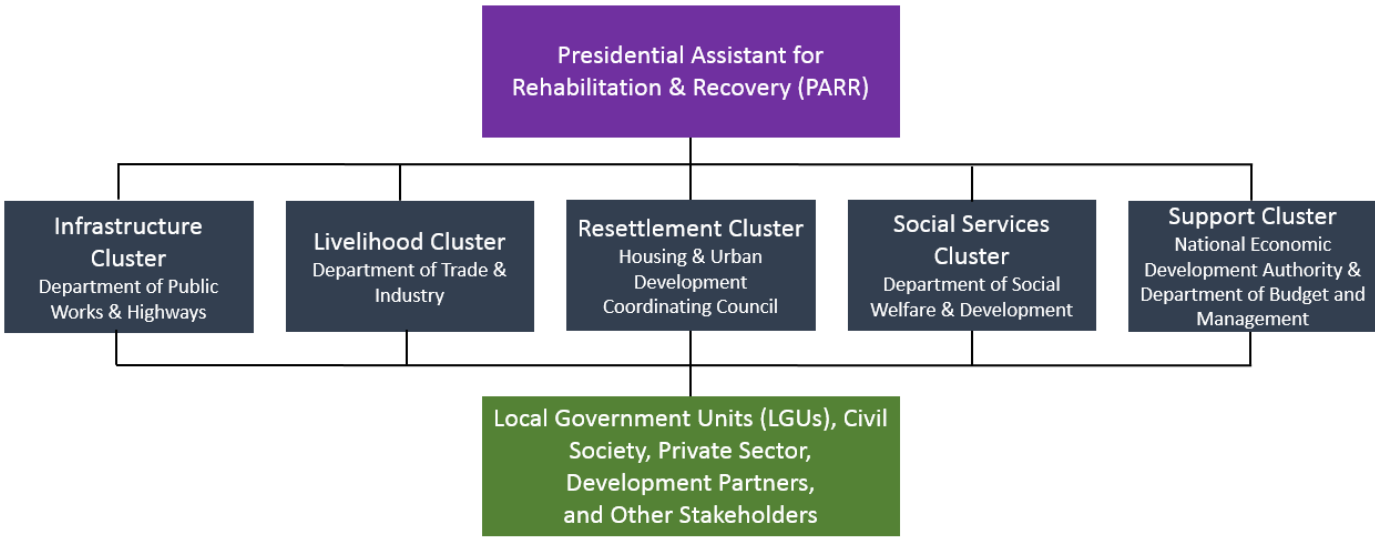
OCD was also mandated with the primary mission of administering a comprehensive national civil defense and disaster risk reduction and management program, as well as reviewing and evaluating Local Disaster Risk Reduction and Management Plans to ensure that the framework established at the national level was carried down to local level planning.

POST-YOLANDA COORDINATION: OFFICE OF THE PRESIDENTIAL ASSISTANT FOR REHABILITATION & RECOVERY

(Source: *Post-Yolanda Reconstruction Case Study, 2015)*

Although the *Philippine Disaster Risk Reduction and Management Act of 2010* mandated that the NEDA oversee recovery operations in the Philippines, in the wake of Typhoon Yolanda, the government recognized the need to create an ad-hoc structure for recovery coordination due to the magnitude of the disaster and the scale of recovery needs.

The Presidential Assistant for Rehabilitation & Recovery (PARR) was appointed to develop an overall strategy for recovery, with integrated short-, medium-, and long-term recovery plans and programs. The PARR was also tasked with proposing funding support to the President for the implementation of recovery plans and programs, and monitoring and evaluating implementation with NEDA and other oversight agencies such as the Department of Budget Management (DBM) and the Commission on Audit (COA).



The Office of the Presidential Assistant for Rehabilitation & Recovery (OPARR) served to bridge the gap between the national government and other stakeholders by coordinating with the NDRRMC and its member agencies, and directly consulting with affected Local Government Units. The PARR also established multi-agency clusters to lead coordination among the sectors, as well as a Support Cluster tasked with coordinating policies and providing oversight in support of the sectoral clusters.

Other Considerations

- With a rank equivalent to a cabinet secretary, the PARR possessed authority and influence over the implementing agencies—government institutions were required to comply with the PARR's mandates.
- Taking a cluster approach maximized the coordination among the different agencies and promoted complementation among sectoral needs and interventions.
- The magnitude and scale of Typhoon Yolanda prompted the Philippines government to exercise flexibility in reorganizing its institutional structures for more efficient recovery coordination.

POST-YOLANDA ASSESSMENT METHODOLOGIES: DALA AND HRNA

(Source: *Yolanda Comprehensive Rehabilitation and Recovery Plan, 2014 and Reconstruction Assistance on Yolanda: Build Back Better, 2013)*

Using an internationally-recognized Post-Disaster Needs Assessment (PDNA) methodology, OCD conducted its initial assessment in December 2013 using a multi-sectoral and multi-disciplinary structured approach. The PDNA included a Damage and Loss Assessment (DaLA) and Human Recovery Needs Assessment (HRNA) in order to assess disaster impacts and prioritize recovery and reconstruction needs.

The PDNA also informed a Strategic Framework for Recovery, and identified policy issues that needed attention during the recovery process.

Total Estimated Damage and Loss *(in Philippine Peso million)*

	Damage		Loss		TOTAL
	Public	Private	Public	Private	
Infrastructure Sectors	16,024	4,285	7,108	6,565	**33,982**
Economic Sectors	3,743	67,560	87	106,716	**178,106**
Social Sectors	23,175	305,472	3,442	22,628	**354,717**
Cross-Sectoral	4,000	--	300	--	**4,300**
TOTAL	**46,942**	**377,317**	**10,937**	**135,909**	**571,105**

The total damage and loss from Typhoon Yolanda had been initially estimated at PhP571.1 billion (equivalent to US$12.9 billion). Yolanda severely impacted the economic and social sectors, together representing nearly 93% of the total damage and loss. The PDNA established that the private sector had borne the brunt of the impact of the disaster, with an estimated 90% of the total damage and loss falling on the private sector.

Total Estimated Recovery and Reconstruction Needs *(in Philippine Peso million)*

	Needs		TOTAL
	Recovery	Reconstruction	
Infrastructure Sectors	3,654	24,670	**28,324**
Economic Sectors	38,201	51,278	**89,479**
Social Sectors	--	220,388	**220,388**
Cross-Sectoral	18,700	4,000	**22,700**
TOTAL	**60,555**	**300,336**	**360,891**

The overall resource needs for recovery and reconstruction were initially estimated at PhP360.8 billion (equivalent to US$8.2 billion). The needs for recovery were defined at the level of resources required to bring the economy back to its normal level of performance. Reconstruction needs represented the level of resources required to repair, build, and retrofit the physical assets destroyed by the disaster. As appropriate, the value of estimated damage was adjusted upwards to incorporate quality improvements, adoption of affordable disaster-resilient standards, and relocation of facilities to safe areas.

POST-HAIYAN (YOLANDA) ASSESSMENT METHODOLOGIES: DALA AND HRNA

(Source: *Reconstruction Assistance on Yolanda: Build Back Better, 2013)*

Infrastructure Sector

Estimated Damage and Loss in the Infrastructure Sector *(in Philippine Peso million)*

Infrastructure Sector	Damage		Loss		TOTAL
	Public	Private	Public	Private	
Roads, Bridges, Flood Control and Public Buildings	4,255	--	322	--	**4,577**
Transport	6,010	216	24	--	**6,250**
Electricity	5,329	1,500	4,575	4,126	**15,530**
Water and Sanitation	429	2,569	2,186	2,439	**7,623**
TOTAL	**16,023**	**4,285**	**7,107**	**6,565**	**33,980**

Roads, Bridges, Flood Control, and Public Buildings: The affected area included 3,357 bridges and 65,000 kilometers of local roads, and 42% of national primary roads were affected. In general, impact was limited to debris and downed utility poles and lines which blocked the roadway and delayed relief operations, as well as some storm surge- or rain-triggered earth movement and washouts. The cost of restoring and reconstructing roads and bridges represented 3 to 6% of the annual budget in the three worst hit regions.

Electricity: The distribution facilities operated by the electricity cooperatives (ECs) were the hardest hit, amounting to almost 76% of the total damage to the energy sector. Most of the damage was in the supply of electricity to the residential consumers and public buildings. Of the 33 ECs that were affected by Yolanda, 12 were totally damaged and 21 were partially damaged. The National Grid Corporation of the Philippines reported damage to 248 transmission towers, 376 poles, and 7 substations. The Unified Leyte geothermal power plant complex, which supplies one-third of the electricity demand in the Visayas, suffered substantial damage, with the downtime before the plants return to full capacity estimated at 12 months.

Water Supply and Sanitation: According to the Local Water Utilities Administration, 70 water districts serve 91 of the Local Government Units in the affected areas and provide majority of the piped water supply. Damage to water infrastructure was relatively minor, mainly in the above-ground structures and equipment, and some water sources, reservoirs, and transmission pipelines. Of the 70 water districts: 3 were unaffected, 23 were operational (including the 3 largest water districts), 31 were partially operational, and 13 were not operational.

Estimated Recovery and Reconstruction Needs in the Infrastructure Sector *(in Philippine Peso million)*

Infrastructure Sector	Needs		TOTAL
	Recovery	Reconstruction	
Roads, Bridges, Flood Control and Public Buildings	64	5,106	**5,170**
Transport	--	7,472	**7,472**
Electricity	1,740	8,195	**9,935**
Water and Sanitation	1,850	3,897	**5,747**
TOTAL	**3,654**	**24,670**	**28,324**

POST-HAIYAN (YOLANDA) ASSESSMENT METHODOLOGIES: DALA AND HRNA

(Source: *Reconstruction Assistance on Yolanda: Build Back Better, 2013)*

Economic Sector

Estimated Damage and Loss in the Economic Sector *(in Philippine Peso million)*

Economic Sector	Damage		Loss		TOTAL
	Public	Private	Public	Private	
Agriculture, Livestock, Fisheries, and Food Security	3,743	27,560	87	30,716	**62,106**
Trade, Industry, and Services	--	40,000	--	76,000	**116,000**
TOTAL	**3,743**	**67,560**	**87**	**106,716**	**178,106**

Agriculture, Livestock, Fisheries, and Food Security: A total area of about 600,000 hectares of agricultural lands were affected and an estimated 1.1 metric tons (MT) of crops had been lost. Coconut plantations suffered significantly, where damage was recorded over a wide area on 441,517 hectares, of which 161,400 hectares were considered totally damaged. In addition, losses were reported for livestock, agricultural equipment, post-production facilities, and fishing vessels and equipment, as well as damage to irrigation systems and rural infrastructure.

The timing of the typhoon, occurring in early November, was expected to result in significant foregone production of the early 2014 rice crop season, as well as impact the late 2014 crop season due to damage to paddy land and irrigation systems; low viability/availability of rice seed; loss of draught animals, tools, and farm equipment; and reduced availability of labor due to rebuilding requirements and displacement of casual labor. For coconut, given the time required to re-establish plantation production (typically 6-9 years), the losses in terms of foregone production are likely to be significant.

Trade, Industry, and Services: The service and industry sector in the Visayas is comprised of retailing, trading, tourism, agriculture processing, manufacturing, and a wide range of cottage and craft industries. The combined share of the service sector to GDP in these areas was 11.7% in 2012, while the industry sector contributed to 12.2%. The reconstruction of public utilities and restoration of public services such as transport, power, and water was expected to play a significant role in the recovery of the industry. The typhoon caused physical damage to transport, communication, and power infrastructure, and brought destruction to manufacturers, processors, service providers, cottage industries, and informal businesses. These resulted in losses in employment and income, as well as disruption of markets and supply and value chains.

Estimated Recovery and Reconstruction Needs in the Agriculture Sector *(in Philippine Peso million)*

Economic Sector	Needs		TOTAL
	Recovery	Reconstruction	
Agriculture, Livestock, Fisheries, and Food Security	15,401	3,278	**18,679**
Trade, Industry, and Services	22,800	48,000	**70,800**
TOTAL	**38,201**	**51,278**	**89,479**

POST-HAIYAN (YOLANDA) ASSESSMENT METHODOLOGIES: DALA AND HRNA

(Source: *Reconstruction Assistance on Yolanda: Build Back Better, 2013)*

Social Sector

Estimated Damage and Loss in the Social Sector *(in Philippine Peso million)*

Social Sector	Damage		Loss		TOTAL
	Public	Private	Public	Private	
Education	17,953	3,726	1,303	916	**23,898**
Health and Nutrition	1,170	1,959	1,932	510	**5,571**
Housing and Shelter	4,051	299,786	206	21,202	**325,245**
TOTAL	**23,174**	**305,471**	**3,441**	**22,628**	**354,714**

Education: There were about 4,357 elementary schools, 888 secondary schools, 350 higher-education institutions, and 631 technical vocational institutions in the Yolanda-affected areas. About 5,898 classrooms were fully damaged and 14,508 partially damaged in 2,905 public elementary schools and 470 public secondary schools in the most affected areas. The cost of damage also included public school furniture, computers, learning materials, science and math equipment, and technical-vocational tools and equipment, as well as basic facilities. Eastern Visayas sustained the most significant damage in terms of educational facilities and other assets.

Health and Nutrition: In the regions identified as the most affected, partial reports on damage to infrastructure and equipment included 296 barangay (community) health stations, 97 rural health units, 38 hospitals, and a Center for Health Development in the Eastern Visayas (Region VII). Estimations of damage to private health facilities (such as hospitals, drug stores, and wholesale facilities) considered infrastructure, equipment, and medication inventories.

Housing and Shelter: Nearly 30% of the total population of 16 million in the 14 most-affected provinces were displaced. A total of 1,012,790 houses were damaged, of which:

- 493,912 were partially damaged
- 518,878 were totally damaged

The public loss assessment covers immediate home material assistance provided to the affected households and the cost of temporary bunkhouses. The private loss assessment covers temporary shelters provided by international relief organizations, residents' losses due to demolition and debris removal, and landlords' losses due to temporary loss of rental income.

Recovery and Reconstruction Needs *(in Philippine Peso million)*

Social Sector	Needs		TOTAL
	Recovery	Reconstruction	
Education	--	30,351	**30,351**
Health and Nutrition	--	6,887	**6,887**
Housing and Shelter	--	183,149	**183,149**
TOTAL	**--**	**220,387**	**220,387**

POST-HAIYAN (YOLANDA) ASSESSMENT METHODOLOGIES: DALA AND HRNA

(Source: *Reconstruction Assistance on Yolanda: Build Back Better, 2013)*

Cross-Sectoral

Estimated Cross-Sectoral Damage and Loss *(in Philippine Peso million)*

Cross-Sectoral	Damage		Loss		TOTAL
	Public	Private	Public	Private	
Local Government	4,000	--	300	--	**4,300**
TOTAL	**4,000**	**--**	**300**	**--**	**4,300**

Local Government and Community Infrastructure: Local Government Units across the affected area suffered destruction and damage of physical assets, and widespread disruption of services. The total damage to the local government sector was estimated at PhP4,000 million. The range of infrastructure damaged included: municipal and barangay halls, gymnasia and multi-purpose buildings, public markets, transport terminals, and fire stations.

Coastal towns and cities affected by the storm surge experienced massive destruction, making recovery and reconstruction particularly challenging.

Estimated losses included reductions in tax revenues and other local income, as well as additional operating and restoration costs:

- Reduced own-source revenue collections resulting from the disaster
- Costs of restoring the functions of offices whose operations were disrupted due to the disaster
- Higher operational costs for operating offices in the period following the typhoon

Social Dimensions: Groups that faced particularly difficult challenges in recovery from the typhoon included:

- Informal settlers living in makeshift houses along the coastal easements
- Rural poor living in remote areas
- Farmers (especially coconut farmers from areas where coconut trees had been totally damaged)
- Fisher folk and rural workers whose livelihoods had been depleted

Estimated Cross-Sectoral Recovery and Reconstruction Needs *(in Philippine Peso million)*

Cross-Sectoral	Needs		TOTAL
	Recovery	Reconstruction	
Local Government	300	4,000	**4,300**
Social Protection	18,400	--	**18,400**
TOTAL	**18,700**	**4,000**	**22,700**

RECOVERY STRATEGY AND FRAMEWORK: RECONSTRUCTION ASSISTANCE ON YOLANDA

(Source: Source: *Yolanda Comprehensive Rehabilitation and Recovery Plan Executive Summary, 2014)*

Informed by the preliminary PDNA conducted by the OCD, the Reconstruction Assistance on Yolanda (RAY) was the Government's strategic plan to guide the recovery and reconstruction of the economy, lives, and livelihoods in the affected areas. The objective of the plan was to restore the economic and social conditions of these areas, at the very least, to their pre-typhoon levels and to a higher level of disaster resilience.

The RAY synthesized available data and information to provide an overall picture of the economic impact of Typhoon Yolanda, as well as presented a recovery strategy and framework for implementation. The implementation strategy of RAY ensured that it was phased, cumulative, and flexible.

- Estimated the total economic damage and loss caused by Yolanda, as well as its impact on the macro-economy, poverty, incomes, and employment
- Assessed short- and medium-term recovery and reconstruction needs
- Informed a framework for implementation, including sequencing of interventions, and key policy assumptions

RAY Core Recovery Principles:

(Source: *Post-Yolanda Reconstruction Case Study, 2015)*

- Local governments will be responsible for implementation to ensure that recovery is tailored to local conditions and promotes community participation, ownership, and sustainability.
- The national government will take charge of oversight and coordination, but will make sure that there is flexibility in local implementation.
- Recovery programs will promote inclusiveness and sustainable livelihoods in order to address pre-existing poverty issues that drive disaster risk in the affected areas.
- Gender considerations will be incorporated into the design and implementation of recovery and reconstruction activities to address gender inequality and promote women's empowerment.
- There will be an emphasis on fast-tracking the implementation of programs and activities, but at the same time, systems will also be put in place to track and assess performance to ensure transparency and accountability.
- RAY is guided by the "build back better" principle, which focuses on sustainable efforts to reduce vulnerabilities and strengthen capacities to cope with future hazard events.

YOLANDA COMPREHENSIVE REHABILITATION AND RECOVERY PLAN

(Source: *Yolanda Comprehensive Rehabilitation and Recovery Plan Executive Summary, 2014 and Reconstruction Assistance on Yolanda: Implementation for Results)*

Preparation of the Comprehensive Rehabilitation and Recovery Plan (CRRP) was led by OPARR based on the recovery strategy and framework presented in the RAY. The CRRP includes detailed listings of reconstruction investment projects with details on the process of formulating, implementing, updating, and monitoring the Yolanda recovery and full rehabilitation phases.

Consistent with the OPARR Clusters defined in the post-Yolanda coordination mechanism, the CRRP identifies policies, operational strategies, and roles and responsibilities for implementation to guide decisions affecting short- and medium-term recovery and rehabilitation. It also provides a system to enable stakeholders to:

- Determine priority programs responsive to recovery and rehabilitation needs
- Identify and address gaps and constraints
- Monitor and assess ongoing progress to ensure the recovery and rehabilitation program stays on track to achieve its intended results.

Overview of the OPARR Clusters

Infrastructure Cluster: The Infrastructure Cluster is in charge of the rehabilitation programs and projects relating to physical infrastructure damaged or destroyed by the typhoon. This includes construction, repair, and restoration of damaged roads, bridges, and other public structures. The Infrastructure Cluster is chaired by the Department of Public Works and Highways (DPWH).

Livelihood Cluster: The Livelihood Cluster is responsible for the provision of livelihood and emergency employment assistance to affected families. This includes crop production, industry trade and services, forestry, fishery, and livestock and poultry industries. The Livelihood Cluster is chaired by the Department of Trade and Industry (DTI).

Resettlement Cluster: The Resettlement Cluster is responsible for programs and projects relating to the relocation of affected families living in danger zones to safe area, and for the development of secure, comprehensive, and sustainable settlement. The Resettlement Cluster is chaired by the Housing and Urban Development Coordinating Council (HUDCC).

Social Services Cluster: The Social Services Cluster is responsible for continuing relief operations to the most vulnerable groups and resumption of community services in the affected areas. This includes food, health, education, emergency/transitional shelter, and on-site shelter assistance. The Social Services Cluster is chaired by the Department of Social Welfare and Development (DSWD).

Support Cluster: The Support Cluster is in charge of addressing cross-cutting policy concerns and issues among the different Clusters. It also includes assisting OPARR in the consolidation of the vetted Cluster Action Plans and identification and provision of funding support to the major programs and projects. The Support Cluster is chaired by the Department of Budget and Management (DBM) and the National Economic Development Authority (NEDA).

YOLANDA COMPREHENSIVE REHABILITATION AND RECOVERY PLAN

(Source: *Yolanda Comprehensive Rehabilitation and Recovery Plan Executive Summary, 2014 and Reconstruction Assistance on Yolanda: Implementation for Results)*

Cluster Plans and Programs, Projects, and Activities (PPAs)

Infrastructure Cluster: The goal of the Infrastructure Plan aims to build back better by rehabilitating and improving infrastructure that support recovery and the enhancement of disaster resiliency.

- Minimum Performance Standards and Specifications (MPSS) for public buildings, guidelines for reconstruction of roads and bridges, and the updating of the National Building Code.
- Rehabilitation or construction of disaster-resilient classrooms and provision of basic furniture for the resumption of classes, as well as the repair of academic, technical, and vocational institutes and administration buildings. Hospitals, rural health units, and barangay health stations shall be repaired or reconstructed, and damaged equipment replaced to ensure that health and nutrition services are available at all levels.
- Restoration of transportation and mobility systems, especially for the delivery of goods and services, promotion of trade, and movement of individuals and materials. Restoration of infrastructure needed for economic recovery, including reconstruction and rehabilitation of agriculture and fisheries sub-sectors.
- Restoration of government services, community infrastructure, and utilities. Repair of government- or community-owned tourism facilities, and rehabilitation of tourism infrastructure.

Resettlement Cluster: The Resettlement Cluster is focused on addressing the housing needs of the affected families through the provision of disaster-resilient housing units and sustainable new communities for families living in hazard-prone and unsafe areas where mitigation is not a practical or sufficiently safe option.

- Targets to build 205,128 permanent housing units (built over three years) in the cities and municipalities hardest high by Yolanda. Disaster-resilient houses will be build based on approved standards, and developed on sites identified by the Local Government Units, with clearances to ensure that the identified resettlement sites are not prone to hazards. The resettlement sites shall be provided with basic community facilities such as multi-purpose covered courts and school buildings.
    - Based on the build back better approach, the house and lot package shall be a 22-square meter loftable rowhouse on a 40-square meter lot.
- Specific activities also include:
    - Securing government petitions
    - Site development (road and drainage construction, electricity distribution network, water reticulation, sewerage system, etc.)
    - Social preparation and selection/prioritization of beneficiaries
    - Relocation of family beneficiaries

YOLANDA COMPREHENSIVE REHABILITATION AND RECOVERY PLAN

(Source: *Yolanda Comprehensive Rehabilitation and Recovery Plan Executive Summary, 2014 and Reconstruction Assistance on Yolanda: Implementation for Results)*

Cluster Plans and Programs, Projects, and Activities (PPAs)

Social Services Cluster: The goal of the Social Services Cluster is to facilitate restoration of delivery of basic needs, such as shelter, education, and health to the most vulnerable members of society; and to improve or put in place social protection services (e.g., health or accident insurance), as well as provide a healthy environment and strengthen capacity to cope with future hazards and disasters.

- Support the predominantly non-infrastructure-related rehabilitation and recovery efforts required to restore basic and tertiary educational services delivery. This includes the replacement of approximately 6.3 million textbooks, continuation of school-based nutrition/feeding programs, and replacement of essential materials and equipment required for effective learning.

- Activities include the provision of essential medicines, emergency delivery kits for poor pregnant women, household water disinfectant kits and corresponding water testing activity, micro-nutrient supplementation, augmentation of the health workforce through the deployment of additional midwives, and family planning services. Medical support will be provided for those individuals suffering acute psychological distress or illness caused by the typhoon, with the aim at providing treatment and medicines to 582 patients over the period of 2014-15.

- Target households in safe dwelling zones for emergency shelter assistance through the provision of financial assistance, and implement a cash-for-work financial assistance scheme to complement shelter assistance for work to assist households with totally and partially damaged houses. Relocation of settlements in safer areas will also be addressed.

- Under the National Greening Program, reforestation of mangroves and beach forests and agroforestry development of degraded forestlands will take place in 12 identified affected provinces. Community-based forest management areas will also be targeted for rehabilitation and development.

- In the short-term, distribution of 50 kilograms of rice for three months to 77,739 affected poor and vulnerable families in Region VII will continue.

- Disaster Risk Reduction (DRR) and Climate Change Adaptation (CCA) measures will be mainstreamed into local development policies, plans and budgets to help address vulnerabilities and mitigate impacts of future disasters and hazards.

YOLANDA COMPREHENSIVE REHABILITATION AND RECOVERY PLAN

(Source: *Yolanda Comprehensive Rehabilitation and Recovery Plan Executive Summary, 2014 and Reconstruction Assistance on Yolanda: Implementation for Results)*

Cluster Plans and Programs, Projects, and Activities (PPAs)

Livelihood Cluster: The goal of the Livelihood Cluster is to achieve inclusive, sustainable business and livelihoods in Yolanda-affected areas.

- Strategic interventions to support livelihood rehabilitation and recovery, prioritizing agriculture as the basic household food and income source while focusing on:
    - Building back better the coconut industry
    - Restoring and developing the fisheries, aquaculture, and livestock production
    - Developing high-value crop production

- Employ the provision of agricultural stocks and farm equipment, such as Shared Service Facilities (SSFs), skills training and technology support, enterprise and organizational development, value-adding mechanism, and market development and linkages.

- Micro, small, and medium enterprise (MSME) support in the form of:
    - Credit brokering
    - Access to technology
    - Improvement of services
    - Product development
    - Utilization of SSFs for key industry value chains, emphasizing reconstruction support and promotion of more competitive tourism
    - Market development through Yolanda Trade Fairs
    - Enterprise development through SME Roving Academy
    - Business Assistance Centers (BACs)

MONITORING AND EVALUATING YOLANDA REHABILITATION & RECOVERY: eMPATHY

(Source: *Office of the Presidential Assistant for Rehabilitation and Recovery, and Yolanda Comprehensive Rehabilitation and Recovery Plan, 2014)*

The electronic Management Platform: Accountability and Transparency Hub for Yolanda (eMPATHY) is an information management system developed to facilitate monitoring and evaluation of the rehabilitation and recovery programs, projects, and activities for Yolanda. eMPATHY provides a mechanism for information sharing among program and project stakeholders, including the government implementing agencies at the national and local government levels, non-governmental organizations, private sector companies, funding agencies, beneficiary communities, and other interested groups.

As a platform for transparent, accurate, and timely disclosure of information, eMPATHY has helped build trust and confidence between communities and authorities in the post-disaster situation.

eMPATHY was designed to make oversight and management of the recovery process possible—keeping in mind the breadth and extent of the work that had to be done across 171 municipalities and cities located in 14 provinces, and with the magnitude of damage and needs estimated to be in hundreds of billion pesos. It was also meant to provide up-to-date information on funding to inform decision making and the deployment of additional resources where needed.

From the onset, it was envisioned that eMPATHY would:

- Be an integrated system that combines all types of post-Yolanda recovery interventions and all project implementer and donor information into one database that can also be used for succeeding disaster responses.
- Provide up-to-date information on the progress of the whole post-Yolanda recovery process, including data at the project level, and then aggregated at the indicator/target, geographic, sectoral, and cluster levels.
- Be a system that anyone who has access to the Internet can access and use for their own organizational or personal information needs, for example:
    - A local NGO can provide real-time, online reports to its many overseas donors by providing data through the system and updating their project information regularly.
    - A Local Government Unit (LGU) can prepare materials for discussion during coordination meetings using data from the database.
    - An external evaluator can obtain raw data for analysis from the database.
    - A donor can identify projects to fund for future programming.
- Become both a platform for transparency and a reliable source of information for decision making.

Unique to the eMPATHY information management system is that accountability for data is retained with the project implementer. They are responsible for uploading their project data into eMPATHY and answering for its accuracy and reliability, though PARR will adopt a data validation process for checking whether the report matches what can be seen on the ground and for cross-checking against multiple information sources, whenever possible.

APPENDIX B: CASE STUDY: CYCLONE NARGIS

The case study that follows here is the same as the series of case study presentations seen in Modules 2, 3, 4, 5, and 8.

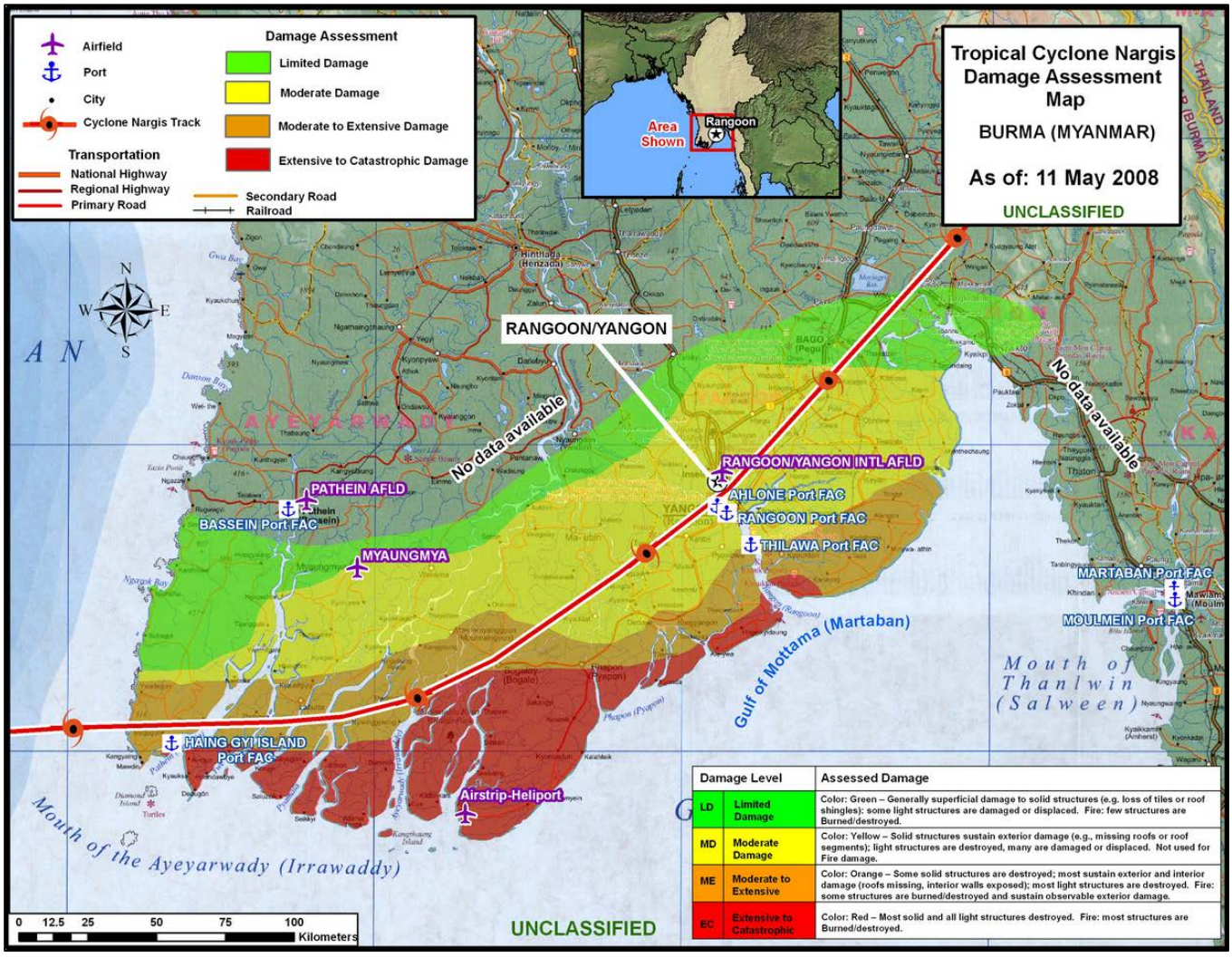
CASE STUDY: CYCLONE NARGIS—MYANMAR

(Source: Post-Nargis Recovery and Preparedness Plan, 2008*)*

On 2 and 3 May 2008, Cyclone Nargis struck the delta coastal area of Myanmar before moving inland across the Ayeyarwady and southern Yangon Divisions. In the Delta, wind speeds reached 240 kilometers per hour, and the southern part of the Delta experienced a 3-4 meter high storm surge.

Cyclone Nargis caused extensive loss of life and physical damage: an estimated 84,537 people died, another 53,836 went missing, and 33,754 suffered injuries. One-third of the estimated total population of 7.35 million people in the area impacted by the cyclone suffered severe losses.

- From the *Post-Nargis Recovery and Preparedness Plan*
(The Tripartite Core Group, 2008)



Tropical Cyclone Nargis Damage Assessment Map, as of 14 May 2008
(Source: *Myanmar Information Management Unit/Office of the UN Resident Coordinator, Myanmar)*

THE NATURAL DISASTER PREPAREDNESS CENTRAL COMMITTEE

(Source: *Cyclone Nargis 2008: Rehabilitation in Myanmar, UNISDR and Burma (Myanmar) Disaster Management Reference Handbook, 2014)*

The Natural Disaster Preparedness Central Committee (NDPCC) serves as Myanmar's national level body for the formulation of policy and provisions of guidance on disaster preparedness within the country. The NDPCC, chaired by the Prime Minister, consists of 37 members:

- The Chairmen of the 16 State and Division Peace and Development Councils,
- Senior Ministers from 17 Ministries, and
- The Chairmen (2) of the Yangon and Mandalay City Development Councils.

The purpose of the NDPCC is to:

- Constitute committees at various government levels to implement disaster management, develop disaster management policy and guidelines, and review progress
- Formulate policy and guidelines for the utilization of natural resources for emergency relief measures
- Provide basic principles for receiving foreign aid
- Provide relief assistance where necessary by managing State budgets and resources
- Enact/issue laws, acts, decrees, rules and regulations for effective disaster management activities.

The National Disaster Preparedness Management Working Committee was formed to coordinate and supervise the implemented disaster management activities in support of NDPCC. The Working Committee consists of 10 subcommittees headed by senior Ministers:

- News and Information
- Search and Rescue
- Confirmation of Damage
- Reduction of Risk and Establishment of Emergency Shelter
- Rehabilitation and Recovery
- Emergency Communication
- Information on Damage and Emergency Support
- Transportation and Road Clearing
- Health
- Security

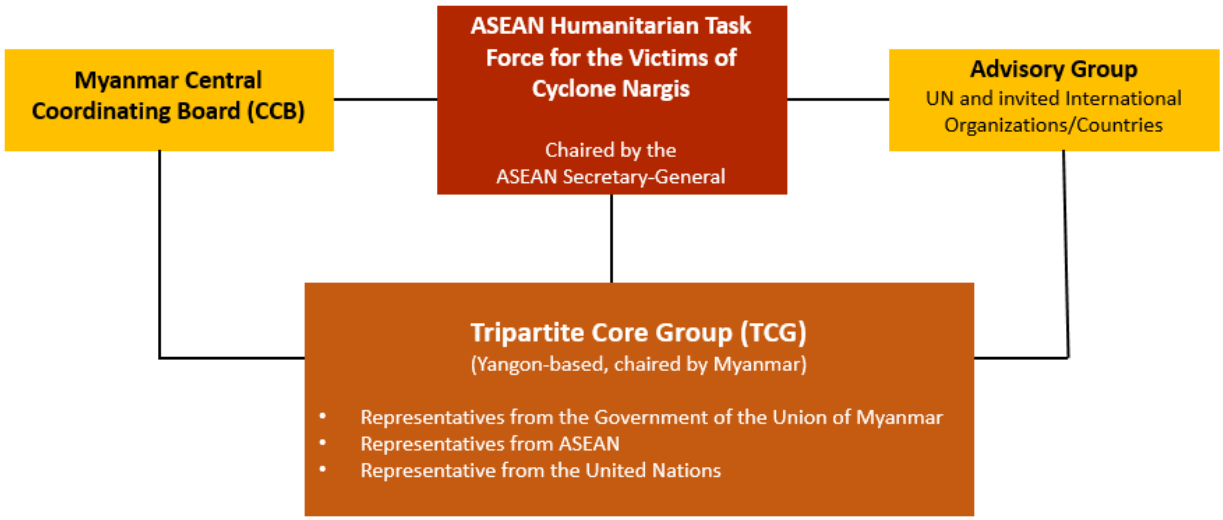
The Ministry of Social Welfare, Relief, and Resettlement is the principal agency that oversees relief operations during an emergency, in particular through the Department of Fire Services and the Department of Relief and Resettlement. The Department of Meteorology (Ministry of Transportation) is mandated with disaster forecasting and early warning dissemination.

At the sub-national level, relief and recovery operations usually fall under the responsibility of State/Division/Township Peach and Development Councils, headed by Chairmen, and often with very little or no external assistance. In response to the severe damaged caused by Cyclone Nargis, the NDPCC also assigned Ministers to take control of the overall coordination of relief and recovery activities in each of the 12 most-affected townships.

POST-NARGIS COORDINATION: THE TRIPARTITE CORE GROUP

(Source: *Post-Nargis Joint Assessment, 2008)*

In late May 2008, the Tripartite Core Group (TCG) was developed in Myanmar as a post-disaster coordination mechanism to manage day-to-day operations, as well as facilitate and monitor the flow of international assistance.



The TCG consisted of nine representatives from the Government of the Union of Myanmar, ASEAN, and the United Nations, and was chaired by the Union of Myanmar. In keeping with post-disaster assessments and recovery operations being government-led and government-owned, the TCG was based in Yangon and chaired by the Union of Myanmar.

Lessons Learned

(Source: *Lessons for ASEAN—from Post-Nargis Humanitarian Operation in Myanmar, 2009)*

- The TCG provided a good forum for building trust and confidence between the government and the international humanitarian community to work together to support affected communities.
- The TCG demonstrated ASEAN's role as a regional organization to serve as a bridge between the host government and the international humanitarian community; and a nexus for the transfer of knowledge and local and regional expertise.
- The presence of an operational body on the ground proved strategically important, as it translated high-level policy into operational action in the field.
- The TCG mechanism streamlined horizontal and vertical coordination, and provided capacity building support to government counterparts, in particular, at the township level, where most decisions and discussions of direct relevance and importance to communities take place.

POST-NARGIS ASSESSMENT METHODOLOGIES: DALA AND VTA

(Source: *Post-Nargis Joint Assessment, 2008)*

Reports indicate that in the immediate aftermath of Cyclone Nargis, local authorities, international non-government organizations, and community-based organizations made various rapid assessments of the post-disaster situation. These assessments guided the very early humanitarian response—however, they were neither consistent in their content nor comprehensive in their geographical coverage, and this resulted in significant knowledge gaps.

The Post-Nargis Joint Assessment (PONJA) was commissioned by the TCG as a comprehensive assessment of the damaged caused by the cyclone. Released on 21 July 2008, the PONJA was based on extensive fieldwork carried out by experts from the Government, ASEAN, and the United Nations. Two types of assessments were conducted: Damage and Loss Assessment (DaLA) and the Village Tract Assessment (VTA).

The Village Tract Assessment identified the vulnerabilities and capacities of the areas worst affected by the cyclone, and specifically identified relief and early recovery priorities for immediate intervention, by collecting information on a range of sectors/clusters and in a number of communities across the affected areas.

By utilizing both the DaLA and VTA methodologies, the PONJA identified not only the damage caused by the cyclone, but also immediate needs, which then guided the humanitarian and early recovery response in the months following the disaster.

Based on the PONJA and Government assessments, two key documents were developed to guide post-Nargis relief and recovery:

1. Government's *Programme for Reconstruction of Cyclone Nargis Affected Areas and Implementation Plan for Preparedness and Protection from Future Disasters*

2. Post-Nargis Recovery and Preparedness Plan (PONREPP)

Key Findings of the PONJA

(Source: *Cyclone Nargis 2008: Rehabilitation in Myanmar, UNISDR)*

Recommendations for immediate and short-term needs:

- Community-based disaster preparedness and enhancing risk awareness.
- Strengthening local-level elements of early warning systems.
- Introducing disaster risk reduction in reconstruction and recovery efforts to "build back better."

Recommendations for medium-term needs:

- Carry out a comprehensive multi-hazard assessment to guide reconstruction process and development.
- Strengthen the institutional and legislative arrangements to increase capacity to manage risks.
- Foster national public-private partnerships that contribute to a holistic disaster risk reduction approach.

POST-NARGIS ASSESSMENT METHODOLOGIES: DALA AND VTA

(Source: *Post-Nargis Joint Assessment, 2008)*

Health Sector: Healthcare is provided through both the public and private sectors. The public sector is centralized with most basic health services provided at the township level and below, covering 100,000 to 200,000 people. A typical township public medical care system includes:

- A township hospital with 16-50 beds (depending on the population)
- 1-2 station hospitals
- 4-7 rural health centers (RHCs), serving about 20,0000 to 25,000 people each
    - Each RHC has (on average) about four sub-centers (sub-RHCs) operated by a midwife and a community health worker.

By 2008, the Ministry of Health reported having:

- 839 hospitals
- 86 primary and secondary health centers
- 1,473 RHCs
- 6,599 sub-RHCs

Damage to Public Health Facilities by Division/State

Division/State (Facilities)	Full	Partial	Roof	Total Damaged
Ayeyarwady (621)	93	130	149	372
Yangon (548)	33	77	175	285
Bago East (24)	1	4	16	21
Mon State (18)	0	6	8	14
TOTAL (1,211)	**127**	**217**	**348**	**692**

Estimated Damage by Type of Health Facility *(in Kyat million)*

	Damages
Hospitals	
100+ beds	3,380
50-100 beds	659
16-25 beds / Station Hospital	4,093
Rural Health Centers (RHCs)	
RHCs / Other Clinics	1,472
Sub-RHCs	1,894
Other	
Training Schools	47
Private Clinics	1,236
TOTAL	**12,781**

POST-NARGIS ASSESSMENT METHODOLOGIES: DALA AND VTA

(Source: *Post-Nargis Joint Assessment, 2008)*

Education Sector: A total of 302 high schools, 349 middle schools, and 3,261 primary schools were destroyed or damaged with an estimated loss in value of K116 billion. Another 2,403 administrative buildings and offices, as well as 602 tertiary education buildings, were damaged.

The high level of destruction was a product of long-standing infrastructure that had been maintained inadequately or recently-erected buildings where construction standards had not been enforced. While education participation grew steadily over time, capital investments remained limited.

School buildings are a centerpiece in the livelihoods of many of the villages in the affected areas. According to the VTA, 73% of village leaders identified schools as the priority facilities needing immediate support for rebuilding.

Number of School Children (2007)

Division	Primary General Education	Middle School	High School	Total
Ayeyarwady	499,108	135,683	49,532	684,323
Yangon	520,363	288,769	124,222	933,354
TOTAL	**1,019,471**	**424,452**	**173,754**	**1,617,675**

Estimated Damage by Type of Public School: Primary, Middle, and High Schools *(in Kyat million)*

	Damages
Primary General Education	
Totally or partially damaged	59,297
Roof damaged schools	10,407
Furniture, equipment, and learning materials	22,352
Middle School	
Totally or partially damaged	5,118
Roof damaged schools	1,005
Furniture, equipment, and learning materials	1,964
High School	
Totally or partially damaged	3,367
Roof damaged schools	1,105
Furniture, equipment, and learning materials	1,434
TOTAL	**106,049**

POST-NARGIS ASSESSMENT METHODOLOGIES: DALA AND VTA

(Source: *Post-Nargis Joint Assessment, 2008)*

Agricultural Sector: The agricultural sector, encompassing crops, plantations, livestock, and fisheries, comprised 44% of Myanmar's national economy in 2007, and 31% of the regional GDP of Ayeyarwady and Yangon Divisions—the sector is the mainstay of the rural economy in the Ayeyarwady Delta area. Livestock plays an important role in the livelihoods of the rural population, both as a source of food and as draught animals for agriculture. Fisheries are also important, as both a subsistence food source for rural communities and for commercial production.

Crops: Damage was reported to be about 16,200 hectares of the standing summer paddy crop, equivalent to 80,000 metric tons (MT) of production. In addition, paddy and milled rice in farmers' storage was damaged or destroyed, estimated at 251,000 MT. The VTA suggests that as much as 28% of agriculture land (172,200 hectares) was damaged.

Livestock: There was a significant mortality of livestock, including the deaths of approximately 50% of buffalo and 20% of cattle in the worst-affected townships—and many of the surviving animals were severely weakened due to the ingestion of salt water and lack of food. An estimated 55% of buffalo and cattle are used as draught animals in agricultural production.

The impact of the cyclone in terms of losses includes:

- 22,800 MT of beef production
- 4,000 MT of pork production
- 5,400 MT of chicken and duck meat
- 30 million chicken and duck eggs

Fisheries: The damage to capture fisheries, both marine and inland, was mainly caused by the high winds and storm surge. The VTA reports that income from fishing has dropped by half as a result of the cyclone. A total of 136 marine fishing vessels were reported lost, while 168 vessels were damaged but in salvageable condition. Inland fisheries suffered the largest damage in terms of lost or damaged boats, with more than 1,800 licensed boats officially reported lost. The VTA also reports that half of all small boats were lost, as was 70% of fishing gear.

Estimated Damage and Losses in the Agricultural Sector *(in Kyat million)*

	Damages	Losses
Crops & Plantations		
Field Crops	65,336	283,000
Farm Equipment	24,046	
Plantation	22,043	65,209
Livestock		
Livestock	45,190	30,775
Fisheries		
Capture Fisheries	25,609	99,932
Fish Farms	4,120	29,394
TOTAL	**186,344**	**508,310**

POST-NARGIS ASSESSMENT METHODOLOGIES: DALA AND VTA

(Source: *Post-Nargis Joint Assessment, 2008)*

Industry and Commerce Sector: The main components of the industrial sector in the Ayeyarwady and Yangon Districts (the two affected divisions included in the geographic scope of the assessment) are salt farms, dried fish/shrimp and fish paste production, rice mills, factories, and other small and medium industrial enterprises, and micro-enterprises. Damage and losses in industry reflect primarily the impact of the cyclone in Yangon Division, which accounts for almost 40% of national industrial output. The commerce sector includes wholesale and retail markets, as well as trading firms.

Salt Farms: Much of Myanmar's salt production comes from salt farms located in the Ayeyarwady Delta region, with an estimated 30,000 acres of salt fields in the Ayeyarwady Division alone. It is estimated that there were 20,000 salt farm workers, along with their families, at the time of the disaster—Cyclone Nargis not only destroyed almost 80% of the total salt field acreage, but also killed virtually the entire workforce in the affected areas. The cyclone's timing also caused maximum damage to stock, as warehouses in the affected area were completely destroyed, along with full inventories of salt from the just-completed harvest.

Rice Mills: Over half of small mills and two-thirds of larger mills in the affected areas were damaged by Nargis. Large inventories of paddy and rice from the recently harvested summer crop were destroyed or damaged.

Retail and Wholesale Markets: Almost all commercial markets in Ayeyarwady suffered cyclone damage, with a third of these being heavily damaged or destroyed. Shops in most markets, in spite of damage, were back to business within 2-3 days, though sales (on average) were estimated to be 40% lower than pre-cyclone levels and demand was not expected to recovery for another 4-6 months. Most of the customers in Ayeyarwady are farmers and fishermen who will not be able to earn income until next harvest season, or until boats are rebuilt.

Estimated Damage and Losses in the Industry and Commerce Sector *(in Kyat million)*

	Damages	Losses
Industry		
Salt Farms	35,334	15,230
Dried Fish/Shrimp and Fish Paste	26,240	36,080
Rice Mills	23,123	150,184
Rice processing future losses	--	112,000
Factories in industrial parks	209,880	673,200
Other SMEs	218,122	290,250
Micro-enterprise manufacturing	--	206,605
Commerce		
Wholesale Markets	757	13,420
Retail Markets	36,491	123,666
Future rice sales losses	--	22,400
Micro-enterprise (commerce)	--	323,927
TOTAL	**549,947**	**1,966,962**

POST-NARGIS ASSESSMENT METHODOLOGIES: DALA AND VTA

(Source: *Post-Nargis Joint Assessment, 2008)*

Housing Sector

Prior to impact by Cyclone Nargis, there were two main types of housing in the Delta region:

- Traditional Houses: a combination of wooden and bamboo structures. It is estimated that about 50% of all housing units were built of wood and bamboo with wooden or bamboo floors on stilts.

- Modern (solid) Houses: constructed with wooden and/or brick walls, with wooden roof support structures, and corrugated/galvanized iron or zinc sheets. Pillars are either wooden, concrete or brick, and the flooring is mainly stabilized cement. Modern houses are generally two stories, and commonly found in towns rather than villages.

Data collected by the assessment teams show that Nargis destroyed or damaged approximately 450,000 housing units. The results of the VTA reveal that the level of shelter destruction was closely linked to the type of shelter before the cyclone. Bamboo shelters were hardest hit, with 65% among them totally destroyed.

Estimated Damage and Losses in the Housing Sector *(in Kyat million)*

Damages	Losses	Total
660,000	26,000	686,000

At the time of the VTA, over three-quarters of households had rebuilt their homes. Given the available material and financial resources, there was a significant shift to smaller bamboo houses. VTA data indicate an increase in bamboo houses from 46% to 65%, and a decrease in wood houses from 51% to 33%.

Estimated Needs for Building Greater Disaster Resilience

Items to be Replaced	Number of Units	Cost Estimate (*in Kyat million*)
Core Traditional Housing	450,000	243,000
Training and Capacity Development		1,575
Program Management		10,800
TOTAL		**255,375**

- Assumes a traditional rural house of wooden structure, with thatched roof and bamboo or thatch walling.
- Assumes K600,000 for a core unit of 26 square meter, including the support to rebuild provided under the humanitarian appeal.
- Assumes 10% salvageable material from the debris.

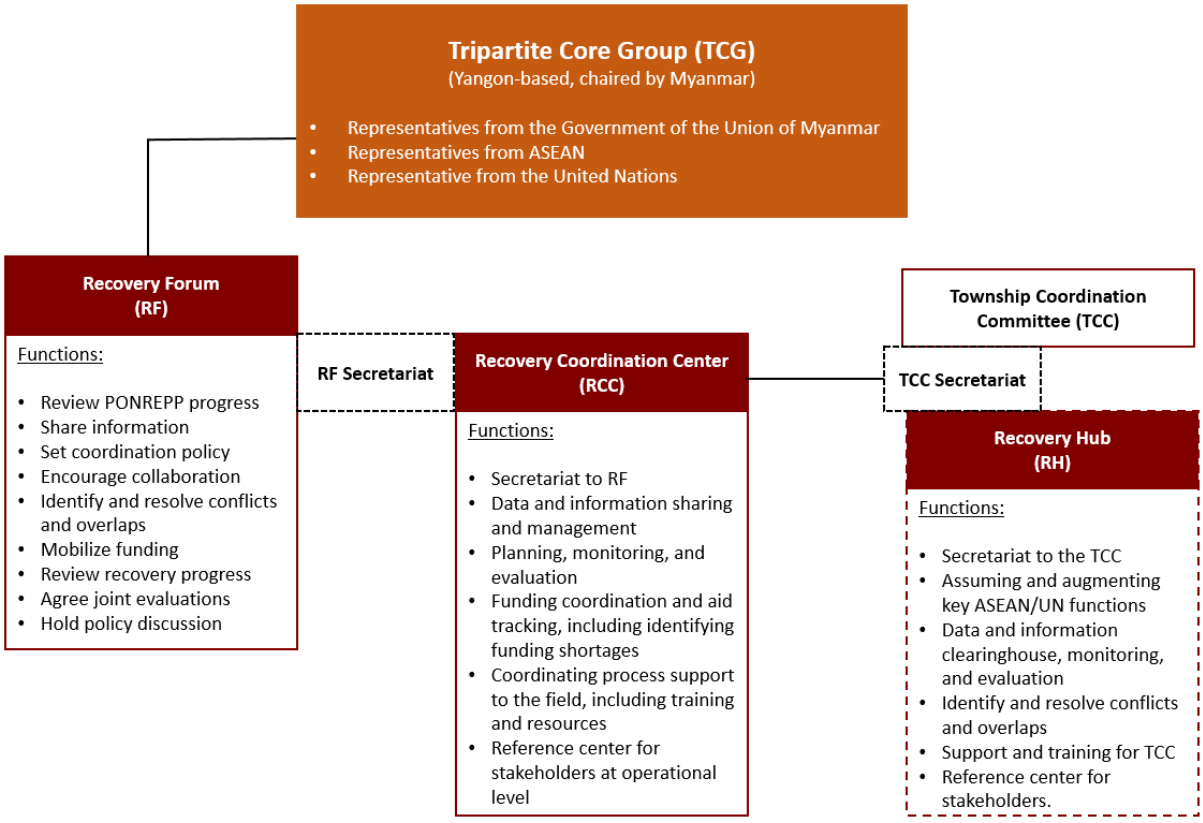
RECOVERY FRAMEWORK: POST-NARGIS RECOVERY AND PREPAREDNESS PLAN

(Source: *Post-Nargis Recovery and Preparedness Plan, 2008)*

The Post-Nargis Recovery and Preparedness Plan (PONREPP) proposed a three-year recovery framework to guide the gradual transition from the emergency relief and early recovery phases following the impact of Cyclone Nargis, to medium-term recovery. The essential guiding principle for the implementation of the PONREPP was the full involvement of villages and township communities in all stages of the recovery process—a community-driven recovery. The extent of the damage caused by Nargis also required a multi-sectoral recovery approach.

Taking these characteristics into consideration, a holistic approach to enhancing the tripartite formula for the recovery effort was adopted. TCG provided a mechanism wherein all actors engaged in post-Nargis relief and recovery could coordinate and share information using the framework and channels of assistance. To assure the continuation of effective coordination and implementation of recovery efforts, the coordination role of the TCG was consolidated to focus on:

1. Strategic and Operational Coordination
2. Aid Funding Coordination and Aid Tracking



The recovery strategy applied the TCG coordination mechanism at three levels:

1. Policy, Strategy, and Impact Monitoring—Recovery Forum (RF)
2. Programmatic Operations—Recovery Coordination Centre (RCC)
3. Field Operations—Township Coordination Committee (TCC) / Peace and Development Committees (PDC)

THE NATIONAL RECONSTRUCTION PLAN

(Source: *Post-Nargis Recovery and Preparedness Plan, 2008)*

The NDPCC issued a *Programme for Reconstruction of Cyclone Nargis Affected Areas and Implementation Plan for Preparedness and Protection from Future Natural Disasters* documenting the Government's rehabilitation and reconstruction plans. The rehabilitation and reconstruction tasks under the plan explicitly references the goal of "building back better," and consists of three broad areas:

- Rebuilding of damaged or destroyed towns and villages
- Rehabilitation and development of economic activities
- Preparedness and protection from future natural disasters

Sectoral Reconstruction Plans

Health Sector: The plan emphasizes that the revitalization of health services is crucial in all phases of recovery, resettlement, and rehabilitation. Nargis damaged or destroyed many health facilities, reducing capacity to deliver healthcare to the large number of cyclone victims. Plans to upgrade and expand a number of hospitals include increasing the number of beds in four general hospitals and constructing five new 16-bed sub-township hospitals.

Education Sector: To minimize interruption and to allow examinations to proceed, temporary shelters have been built for 360,000 students and school books, uniforms, and furniture have been supplied. In reconstructing totally destroyed school buildings, the Government plans to make them storm resistant as appropriate and necessary, depending on specific conditions prevailing in each village. In addition, an extensive program of repairs, renovation, restocking, and upgrading will be carried out with respect to thousands of schools that were damaged by the storm.

Agriculture Sector: The Government plan to rehabilitate the extensive damage suffered in the agriculture sector included three phases:

1. Rehabilitation of storm affected crop-lands to enable timely replanting—achieved through provision of farm machinery, seeds, fertilizers, and insecticides.
2. Compensating for paddy lost by increased production of paddy in other non-storm-affected regions.
3. Enhancing global food security by increasing paddy output through higher yields and expansion of sown acreage in non-storm-affected regions.

Industry and Commerce Sector: For greater protection against natural disasters, the plan included construction of stronger buildings using reinforced concrete for workers at state-owned salt fields. The Government estimated that works and inputs required to rehabilitate salt fields and replace lost equipment and material to bring production back to normal would cost approximately K38.8 billion (US$35.3 million). The Government plan also called for providing loans to established firms engaged in trade and commerce to promote investment and business expansion. A review and evaluation process was used to extend start-up capital to traders, especially those wishing to open shops to buy and sell essential household and consumer goods and services.

Housing Sector: The national plan in this sector lays considerable emphasis on proper and systematic arrangement and planning in the location and orientation of villages and related dwelling units and facilities. Fairly detailed guidelines were provided on the layout of villages, and their location in relation to typical rural geographic features. Specifications were established for design, dimensions, and materials to be used in dwelling construction.

POST-NARGIS PERIODIC REVIEWS

(Source: *Post-Nargis Periodic Review I-IV, 2008-2010)*

The VTA methodology, used in part to conduct the PDNA and inform decision making during recovery, served as the basis for the TCG's series of Periodic Review, produced in regular increments over the two years following Cyclone Nargis. The TCG used the Periodic Review process as a mechanism for monitoring and evaluation to continually assess the needs of people and communities, as well as progress toward recovery. The Periodic Review process was seen as "pioneering a new approach to post-disaster needs assessment and monitoring."

The purpose of the Periodic Review reports was not to "evaluate in detail the success of the assistance provided, or to make policy recommendations." Instead, the reports were meant to present findings from analysis of data collection from communities spread across the worst-affected areas of Myanmar.

- Post-Nargis Periodic Review I was released in December 2008 and covered assessments conducted from 29 October to 19 November 2008. Conclusions drawn from data analysis identified high priority needs (i.e. food security, public health concerns, water and sanitation needs, and support for recovery of livelihoods), and the diversity of needs present in recovering communities.
- Post-Nargis Periodic Review II (PR II) was released in July 2009 and covered assessments conducted from 7 May to 2 June 2009. In the year following Cyclone Nargis, the sustained humanitarian response had moved out of the emergency relief phase and into medium- and long-term recovery. Building upon the first Periodic Review, the goal of PR II was to provide a baseline for strategic decision making and for actors involved in then rehabilitation process, as a means to gauge activities and monitor progress.
- Post-Nargis Periodic Review III (PR III) was released in January 2010 and covered assessments conducted from 21 October to 17 November 2009. Conclusions drawn following the assessment indicated that more detailed analyses were needed to meet unresolved challenges, especially in the restoration of livelihoods and long-term food security. PR III also reinforced the need to focus efforts to maintain momentum toward recovery.
- Post-Nargis Periodic Review IV (PR IV) was released in July 2010 and detailed the status of households and the progress, or lack of progress, made during recovery. Also seen in the report are improvements and stabilizations across sectors, with comparisons of pre-Nargis conditions with those seen two years into recovery. Though improvements in food security, health care services, and household crop production had been seen over the course of the Periodic Review process, PR IV highlighted ongoing challenges among households hardest hit by the disaster. The report also stated that most households lived in weaker dwellings in May 2010 than before Cyclone Nargis, and available housing was highly vulnerable to severe storms.

Over the course of two years, the TCG's Periodic Review process provided snapshots of recovery progress, allowing recovery partners access to data analyses to better inform decision making during recovery. As a system for monitoring and evaluating recovery, Periodic Reviews highlighted areas of stabilization and improvement (supporting current efforts) and continued need (indicating the potential to change course). The Periodic Review Process also laid the foundation for developing an exit strategy to gradually transition out of recovery.

APPENDIX C: TERMS AND DEFINITIONS

FROM UNISDR

Capacity development

The process by which people, organizations and society systematically stimulate and develop their capacities over time to achieve social and economic goals, including through improvement of knowledge, skills, systems, and institutions. (UNISDR 2009)

Comment: Capacity development is a concept that extends the term of capacity building to encompass all aspects of creating and sustaining capacity growth over time. It involves learning and various types of training, but also continuous efforts to develop institutions, political awareness, financial resources, technology systems, and the wider social and cultural enabling environment.

Contingency planning

A management process that analyses specific potential events or emerging situations that might threaten society or the environment and establishes arrangements in advance to enable timely, effective and appropriate responses to such events and situations. (UNISDR 2009)

Comment: Contingency planning results in organized and coordinated courses of action with clearly-identified institutional roles and resources, information processes, and operational arrangements for specific actors at times of need. Based on scenarios of possible emergency conditions or disaster events, it allows key actors to envision, anticipate and solve problems that can arise during crises. Contingency planning is an important part of overall preparedness. Contingency plans need to be regularly updated and exercised.

Disaster

A serious disruption of the functioning of a community or a society involving widespread human, material, economic or environmental losses and impacts, which exceeds the ability of the affected community or society to cope using its own resources. (UNISDR 2009)

Comment: Disasters are often described as a result of the combination of: the exposure to a hazard; the conditions of vulnerability that are present; and insufficient capacity or measures to reduce or cope with the potential negative consequences. Disaster impacts may include loss of life, injury, disease and other negative effects on human physical, mental and social well-being, together with damage to property, destruction of assets, loss of services, social and economic disruption and environmental degradation.

Disaster Risk

The potential disaster losses, in lives, health status, livelihoods, assets and services, which could occur to a particular community or a society over some specified future time period. (UNISDR 2009)

Comment: The definition of disaster risk reflects the concept of disasters as the outcome of continuously present conditions of risk. Disaster risk comprises different types of potential losses

which are often difficult to quantify. Nevertheless, with knowledge of the prevailing hazards and the patterns of population and socio-economic development, disaster risks can be assessed and mapped, in broad terms at least.

Disaster risk management

The systematic process of using administrative directives, organizations, and operational skills and capacities to implement strategies, policies and improved coping capacities in order to lessen the adverse impacts of hazards and the possibility of disaster. (UNISDR 2009)

Comment: This term is an extension of the more general term "risk management" to address the specific issue of disaster risks. Disaster risk management aims to avoid, lessen or transfer the adverse effects of hazards through activities and measures for prevention, mitigation and preparedness.

Disaster risk reduction

The concept and practice of reducing disaster risks through systematic efforts to analyse and manage the causal factors of disasters, including through reduced exposure to hazards, lessened vulnerability of people and property, wise management of land and the environment, and improved preparedness for adverse events. (UNISDR 2009)

Comment: A comprehensive approach to reduce disaster risks is set out in the United Nations-endorsed Hyogo Framework for Action, adopted in 2005, whose expected outcome is "The substantial reduction of disaster losses, in lives and the social, economic and environmental assets of communities and countries." The International Strategy for Disaster Reduction (ISDR) system provides a vehicle for cooperation among Governments, organisations and civil society actors to assist in the implementation of the Framework. Note that while the term "disaster reduction" is sometimes used, the term "disaster risk reduction" provides a better recognition of the ongoing nature of disaster risks and the ongoing potential to reduce these risks.

Emergency Management

The organization and management of resources and responsibilities for addressing all aspects of emergencies, in particular preparedness, response and initial recovery steps. (UNISDR 2009)

Comment: A crisis or emergency is a threatening condition that requires urgent action. Effective emergency action can avoid the escalation of an event into a disaster. Emergency management involves plans and institutional arrangements to engage and guide the efforts of government, non-government, voluntary and private agencies in comprehensive and coordinated ways to respond to the entire spectrum of emergency needs. The expression "disaster management" is sometimes used instead of emergency management.

Hazard

A dangerous phenomenon, substance, human activity or condition that may cause loss of life, injury or other health impacts, property damage, loss of livelihoods and services, social and economic disruption, or environmental damage. (UNISDR 2009)

Comment: The hazards of concern to disaster risk reduction as stated in footnote 3 of the Hyogo Framework are "… hazards of natural origin and related environmental and technological hazards and risks." Such hazards arise from a variety of geological, meteorological, hydrological, oceanic, biological, and technological sources, sometimes acting in combination. In technical settings, hazards are described quantitatively by the likely frequency of occurrence of different intensities for different areas, as determined from historical data or scientific analysis.

Mitigation

The lessening or limitation of the adverse impacts of hazards and related disasters. (UNISDR 2009)

Comment: The adverse impacts of hazards often cannot be prevented fully, but their scale or severity can be substantially lessened by various strategies and actions. Mitigation measures encompass engineering techniques and hazard-resistant construction as well as improved environmental policies and public awareness. It should be noted that in climate change policy, "mitigation" is defined differently, being the term used for the reduction of greenhouse gas emissions that are the source of climate change.

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. (UNISDR 2009)

Comment: Preparedness action is carried out within the context of disaster risk management and aims to build the capacities needed to efficiently manage all types of emergencies and achieve orderly transitions from response through to sustained recovery. Preparedness is based on a sound analysis of disaster risks and good linkages with early warning systems, and includes such activities as contingency planning, stockpiling of equipment and supplies, the development of arrangements for coordination, evacuation and public information, and associated training and field exercises. These must be supported by formal institutional, legal and budgetary capacities. The related term "readiness" describes the ability to quickly and appropriately respond when required.

Prevention

The outright avoidance of adverse impacts of hazards and related disasters. (UNISDR 2009)

Comment: Prevention (i.e. disaster prevention) expresses the concept and intention to completely avoid potential adverse impacts through action taken in advance. Examples include dams or embankments that eliminate flood risks, land-use regulations that do not permit any settlement in high risk zones, and seismic engineering designs that ensure the survival and function of a critical building in any likely earthquake. Very often the complete avoidance of losses is not feasible and the task transforms to that of mitigation. Partly for this reason, the terms prevention and mitigation are sometimes used interchangeably in casual use.

Public awareness

The extent of common knowledge about disaster risks, the factors that lead to disasters and the actions that can be taken individually and collectively to reduce exposure and vulnerability to hazards. (UNISDR 2009)

Comment: Public awareness is a key factor in effective disaster risk reduction. Its development is pursued, for example, through the development and dissemination of information through media and educational channels, the establishment of information centres, networks, and community or participation actions, and advocacy by senior public officials and community leaders.

Recovery

The restoration, and improvement where appropriate, of facilities, livelihoods and living conditions of disaster-affected communities, including efforts to reduce disaster risk factors. (UNISDR 2009)

Comment: The recovery task of rehabilitation and reconstruction begins soon after the emergency phase has ended, and should be based on pre-existing strategies and policies that facilitate clear institutional responsibilities for recovery action and enable public participation. Recovery programmes, coupled with the heightened public awareness and engagement after a disaster, afford a valuable opportunity to develop and implement disaster risk reduction measures and to apply the “build back better” principle. (UNISDR)

Response

The provision of emergency services and public assistance during or immediately after a disaster in order to save lives, reduce health impacts, ensure public safety and meet the basic subsistence needs of the people affected. (UNISDR 2009)

Comment: Disaster response is predominantly focused on immediate and short-term needs and is sometimes called “disaster relief”. The division between this response stage and the subsequent recovery stage is not clear-cut. Some response actions, such as the supply of temporary housing and water supplies, may extend well into the recovery stage.

Resilience

The ability of a system, community or society exposed to hazards to resist, absorb, accommodate to and recover from the effects of a hazard in a timely and efficient manner, including through the preservation and restoration of its essential basic structures and functions. (UNISDR 2009)

Comment: Resilience means the ability to “resile from” or “spring back from” a shock. The resilience of a community in respect to potential hazard events is determined by the degree to which the community has the necessary resources and is capable of organizing itself both prior to and during times of need.

Retrofitting

Reinforcement or upgrading of existing structures to become more resistant and resilient to the damaging effects of hazards. (UNISDR 2009)

Comment: Retrofitting requires consideration of the design and function of the structure, the stresses that the structure may be subject to from particular hazards or hazard scenarios, and the practicality and costs of different retrofitting options. Examples of retrofitting include adding bracing to stiffen walls, reinforcing pillars, adding steel ties between walls and roofs, installing shutters on windows, and improving the protection of important facilities and equipment.

Risk management

The systematic approach and practice of managing uncertainty to minimize potential harm and loss. (UNISDR 2009)

Comment: Risk management comprises risk assessment and analysis, and the implementation of strategies and specific actions to control, reduce and transfer risks. It is widely practiced by organizations to minimise risk in investment decisions and to address operational risks such as those of business disruption, production failure, environmental damage, social impacts and damage from fire and natural hazards. Risk management is a core issue for sectors such as water supply, energy and agriculture whose production is directly affected by extremes of weather and climate.

FROM ASEAN DISASTER RECOVERY REFERENCE GUIDE, DRAFT 2, 1 JULY 2015

Early Recovery

A multidimensional process of recovery that begins in a humanitarian setting. It is guided by development principles that seek to build on humanitarian programmes and to catalyse sustainable development opportunities. It aims to generate self-sustaining, nationally owned, resilient processes for post crisis recovery. It encompasses the restoration of basic services, livelihoods, shelter, governance, security and rule of law, environment and social dimensions, including the reintegration of displaced populations.

Short-Term Recovery

Entails the restoration of basic functions and services, also referred to as "lifeline" services. Short-term recovery can include mobilizing recovery organizations and resources, restarting and/or restoring essential services for recovery decision-making, responding to health and safety needs beyond rescue, such as debris management, assessment of the scope of damage and needs, and restoring basic infrastructure.

Long-Term Recovery

Actions that lead to restoration of normal life, and of the social and economic functioning of the disaster-affected community, including establishing policies, plans, and institutional frameworks to organize and manage recovery; redeveloping and revitalizing the impacted area; rebuilding and/or relocating damaged or destroyed infrastructure and buildings; restoring social, economic, and natural systems; and establishing the means for self-sufficiency and sustainability, and for the resilience of organizations and individuals.

Recovery Strategy

A Recovery Strategy is developed based on PDNA results, and defines the vision for national recovery. It outlines objectives and interventions for the recovery of each sector affected by the disaster, and the timeline required to accomplish them. It also determines the costs associated with the recovery of each sector and identifies the actors who will be involved.

As appropriate, the Recovery Strategy may also be aligned with the country's strategic development goals and priorities, or inform existing development plans and policies. **(ASEAN Recovery Course, PDC 2015)**

Recovery Framework

The combination of the recovery policies and arrangements that are developed as the result of pre-planning for recovery and the practices used to develop post-disaster recovery plans, including those of government, and those prepared by the private and non-governmental sectors in a country.

Recovery Plan

A document that provides the policy, financial, and operational direction needed to carry out a specific recovery programme. Generally addresses questions of recovery policy, institutional arrangements, financing, management, and monitoring.

Post-Disaster Needs Assessment (PDNA)

An approach to analyzing disaster effects and disaster impact for the purpose of identifying recovery needs, defined from a human, socio-cultural, economic, and environmental perspective.

Damage and Loss Assessment (DaLA)

Originally developed by the Economic Commission for Latin America and the Caribbean (ECLAC), this post-disaster assessment methodology analyzes disaster effects (damage and losses) and impacts to social, economic and productive sectors, the macro-economy, and personal or household income.

Human Recovery Needs Assessment (HRNA)

A social impact assessment methodology designed to provide an understanding of the perspectives and concerns of populations affected by a disaster, including their abilities to meet basic needs and access social services, and to assess the impact of a disaster on human development.

FROM OTHER CITED REFERENCES

Assumptions

Consist of information accepted by planners as true in the absence of facts. Assumptions are not predictions. Assumptions are only used when facts are unavailable. Using assumptions allows planners to further define the scenario, identify potential response requirements, and move forward with the planning process. An assumption is appropriate if it meets the tests of **validity** and **necessity**.

Build Back Better

Approach to reconstruction that aims to reduce vulnerability and improve living conditions, while also promoting a more effective reconstruction process.

Detailed Assessment

An in-depth assessment of disaster impact, often of a single location or a single sector, such as housing or environment.

Early Recovery

A process which seeks to catalyze sustainable development opportunities by generating self-sustaining processes for post-crisis recovery. It encompasses livelihoods, shelter, governance, environment, and social dimensions, including the reintegration of displaced populations, and addresses underlying risks that contributed to the crisis.

Exit Strategy

A plan describing how recovery organizations intend to withdraw their resources while ensuring that program achievements are sustained and that progress towards program goals will continue.

Indicators

Quantitative and qualitative criteria that provide a simple and reliable means to measure achievement, to reflect the changes connected to an intervention or to help assess the performance of a development actor.

Monitoring

A continuous process of collecting and analysing information to compare how well a project, programme or policy is being implemented against expected results. Monitoring aims at providing managers and major stakeholders with regular feedback and early indications of progress or lack thereof in the achievement of intended results. It generally involves collecting and analysing data on implementation processes, strategies and results, and recommending corrective measures.

Necessity

In the context of assumptions, this means determining whether the assumption is essential for planning. If planning can continue without the assumption, it is not necessary and should be discarded. Assumptions are replaced with facts whenever possible.

Policy

A principle or rule to guide decisions and achieve rational outcomes.

Post Disaster Recovery Vision

The post disaster recovery vision that is developed during the stakeholder consultation process becomes part of the Recovery Strategy. Prior to prioritizing recovery needs, it is necessary to have consensus on what the impacted region and sectors will look like after the recovery process. The

post disaster recovery vision is developed jointly during the consultative process, which ensures the support of key stakeholders for the Recovery Strategy.

The post disaster recovery vision serves as a guide for the recovery process. It provides the overall direction and "end state" that the stakeholders desire to achieve through the recovery process. The vision statement should be clear and should broadly capture the aspirations of the country and affected population and the change they expect as a result of the recovery interventions.

Ultimately, the recovery vision should be a guide pointing towards the return to the path to development. In this context the recovery vision should be anchored in the country's long-term national development plan and poverty-reduction strategy.

It should be guided by global sustainable development goals and international human rights commitments. It should also be in tune with the goals of risk reduction and building back better. See section below on "Links to Development" for further reference.

Pre-Disaster Recovery Planning

Any planned attempt to strengthen disaster recovery plans, initiatives, and outcomes – before a disaster occurs.

Rapid Assessment

An assessment that provides immediate information on needs, possible intervention types, and resource requirements. It may be conducted as a multi-sectoral assessment or in a single sector or location.

Reconstruction

The restoration and improvement, where possible, of facilities, livelihoods, and living conditions of disaster-affected communities, including efforts to reduce disaster risk factors. Focused primarily on the construction or replacement of damaged physical structures, and the restoration of local services and infrastructure.

Recovery

Decisions and actions taken after a disaster to restore or improve the pre-disaster living conditions of the affected communities while encouraging and facilitating necessary adjustments to reduce disaster risk. Focused not only on physical reconstruction, but also on the revitalization of the economy, and the restoration of social and cultural life.

Rehabilitation

The operations and decisions made after a disaster with a view to restoring a stricken community to its former living conditions, while encouraging and facilitating the necessary adjustments to the changes caused by the disaster.

Relief

The provision of assistance or intervention immediately after a disaster to meet the life preservation and basic subsistence needs of those people affected.

Validity

Determining whether the assumption is likely to be true. “Assuming away” potential problems, such as weather, or trying to predict the outcome of a threat, may result in an invalid assumption.