Mainstreaming Community-Based Disaster Risk Reduction (CBDRR) into Local Development Planning

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Table of Content

Introduction

The 5th Asian Ministerial Conference for Disaster Risk Reduction (AMCDRR) held in Yogyakarta, Indonesia in 2012 emphasized the need for integrating local level disaster risk reduction (CBDRR) and climate change adaptation into national development planning through strengthening laws and regulations, institutional arrangements, and risk governance for DRR and CCA; link national development planning and financing with local development agenda; make use of existing regional and sub-regional resources for local capacity building; and increase the involvement of multi-stakeholders, especially the vulnerable groups including women, children, elderly and persons with disabilities, in planning and decision-making processes. The Jogjakarta Declaration agreed by all participating countries agreed to have a multi stakeholder efforts to accelerate the implementation of the Hyogo Framework for Action (HFA) 2015 – 2005: Building the Resilience of Nations and Communities to Disasters, and the achievements of its goals along with the Millennium Development Goals (MDGs).

The Government of Maldives recognizes the need for promoting a risk management approach to dealing with disasters rather than only a reactive approach that deals with the aftermath of disasters in an ad hoc manner. Accordingly the Government has developed the Strategic National Action Plan for Disaster Risk Reduction and Climate Change Adaptation (SNAP) which aims to build resilience of the nation and the island communities to disasters by sustaining progress made, by consolidating learned best practices, and by incorporating risk reduction into the strategy for decentralization. So too the Strategic Action Plan 2013 – 2009, which serves as the national framework for socio-economic development in the country, recognizes adaptation to climate change and disaster risk mitigation and management as a priority of the government, and that these considerations are to be mainstreamed into policy making and programming in all areas, and across all sectors as a cross cutting issue.

The Government of Maldives, together with development partners including the United Nations Development Programme (UNDP) and the Maldives Red Crescent (MRC), has in recent years recognized the importance of community-based disaster risk reduction as a key component of the country's comprehensive disaster risk management approach – identified in the SNAP. There is strong desire among key stakeholders to deliver a national approach to CBDRR, which is integrated within local development processes. Central to this desire is high-level advocacy, and capacity development of CBDRR planners and implementers.

The Advocacy Workshop and Training of Trainers Programme is part of the CBDRR sub-activity of the Priority Implementation Partnership (PIP) on Mainstreaming Disaster Risk Reduction (MDRD) into Local Development Planning Processes in the Maldives project supported by Asian Disaster Preparedness Center (ADPC). The support through the RCC MDRD4 program supported by the Government of Australia is based on the rationale that the local development process in rural areas must integrate DRR and CCA into policy, planning and implementation and must enforce hazard resilient standards and regulations. The outputs of the project sub-component are;

- **National CBDRR Framework, encompassing:**
  - Island (community) preparedness and response plan template
  - Guideline on integrating CBDRR into the local development planning framework
  - Terms of Reference for Atoll/Island/City Council focal points
  - Training package in CBDRR
  - National CBDRR training of trainers workshop
  - Orientation workshop for key stakeholders

The training and this accompanying training handbook will focus on the core concepts and practices of CBDRR and the linkages between local DRR initiatives and the development processes. The training is divided in 6 modules, and each session has a corresponding PowerPoint presentation:

- **Module 1: CBDRR Concepts**
  - Session 1.1: DRR Terminology and Understanding Risk
  - Session 1.2: DRR Evolution and Fundamentals
  - Session 1.3: CBDRR Features, Processes, Outcomes
- **Module 2: CBDRR Tools**
  - Session 2.1: Participatory Community Risk Assessment
  - Session 2.2: PCRA Tools
- **Module 3: CBDRR Planning**
  - Session 3.1: Participatory Community DRR Planning
  - Session 3.2: Stakeholder and Resource Analysis
  - Session 3.3: Community Managed Implementation of CBDRR Activities
  - Session 3.4: Participatory Monitoring and Evaluation for CBDRR
- **Module 4: Developing a National Framework for CBDRR**
  - Session 4.1: Key Elements of a CBDRR Framework
  - Session 4.2: The Maldives National CBDRR Framework
- **Module 5: Linking CBDRR with Local Development Planning**
  - Session 5.1: Disaster and Development Linkages
  - Session 5.2: Integration of CBDRR outcomes into Local Development Planning
  - Session 5.3: Local Level DRR Investment Decision: Opportunity for Community Resilience
- **Module 6: Measuring CBDRR Impacts**
  - Session 6.1: Scope of CBDRR for Risk Reduction in the Maldives
  - Session 6.2: Implementation and Monitoring of Maldives CBDRR

The modules, sessions, and accompanying PowerPoints are designed with flexibility and scalability for future trainings. For example, training for CBDRR implementing agency staff may focus on Modules 3 ,2 ,1, and 5; for shorter orientation training at the national level, Modules 1 and 4 may be more appropriate.

While this training handbook and accompanying PowerPoints provide an important basis for training programmes, overall training success depends largely on the skills and experience of facilitators. Such skills are gradually developed through regular practice.

Training session plan

Time	Day 1	Day 2	Day 3	Day 4	Day 5
0900-1030	1. Opening Ceremony 2. Participants Introduction 3. Group Formation 4. Expectation Review & Course Overview	**Module 2: CBDRR Tools** S1. Participatory Community Risk Assessment	**Module 3: CBDRR Planning** S1. Participatory Community DRR Planning	**Module 4: Developing a National Framework for CBDRR** S1. Key elements of CBDRR framework	**Module 5: Linking CBDRR with Local Development Planning** S3. Local level DRR investment decision: Opportunity for community resilience
1030-1045	COFFEE BREAK				
1045-1215	**Module 1: CBDRR Concepts** S1. DRR Terminology and Understanding Risk	**Module 2: CBDRR Tools** S2. PCRA Tools	**Module 3: CBDRR Planning** S2. Stakeholder and Resource Analysis	**Module 4: Developing a National Framework for CBDRR** S2. The Maldives National CBDRR Framework	**Module 6: Measuring CBDRR Impacts** S1. Scope of CBDRR for risk reduction in the Maldives.
1215-1330	LUNCH BREAK				
1330-1500	**Module 1: CBDRR Concepts** S2. DRR Evolution and Fundamentals	**Module 2: CBDRR Tools** S2. (cont.)	**Module 3: CBDRR Planning** S3. Community Managed Implementation of CBDRR Activities	**Module 5: : Linking CBDRR with Local Development Planning** S1. Disaster and Development linkages	**Module 6: Measuring CBDRR Impacts** S2. Implementation and Monitoring of Maldives CBDRR
1500-1515	COFFEE BREAK				
1515-1700	**Module 1: CBDRR Concepts** S3. CBDRR Features, Processes, Outcomes	**Module 2: CBDRR Tools** S2. (cont.)	**Module 3: CBDRR Planning** S4. Participatory Monitoring and Evaluation for CBDRR	**Module 5: : Linking CBDRR with Local Development Planning** S2. Integration of CBDRR outcomes into local development planning	**Wrap Up & Next Steps: Participant Declaration**

Module 1:
CBDRR Concepts

Session 1.1
Introduction to DRR – Concepts of Risks and Terminologies

'Introduction to DRR-Concepts of Risks and Terminologies' will discuss the evolving concepts and approaches on Disaster Risk Reduction as a broad framework of CBDRR including concepts of risks and DRR terminologies.

Learning Objectives

- Describe key concepts and definitions in disaster risk reduction
- Discuss how disaster management as a practice area has been evolved over the time
- Define and discuss evolving basic concepts and definitions in disaster risk reduction
- Understanding Terminology and Evolving Concepts in Disaster Risk Reduction

Key Concepts

1. A disaster occurs when a hazard impacts on a vulnerable community and causes damage, casualties and disruption.

2. Vulnerability is a set of prevailing or consequential conditions, which adversely affect the community's ability to prevent, mitigate, prepare for and respond to hazardous events.

3. Capacities are resources, means and strengths which exist in house¬holds and in the community and which enable them to cope with, with¬stand, prepared for, prevent, mitigate or quickly recover from a disaster.

4. Disaster Risk = $\frac{\text{Hazard x Vulnerability}}{\text{Capacity}}$

5. Disaster risk reduction includes all measures, which reduce disaster-related losses of life, property or assets by either reducing the hazard or vulnerability of the elements at risk.

INTRODUCTION TO DRR – CONCEPTS OF RISK AND TERMINOLOGIES

Community Participation in Disaster Risk Reduction

Since the 1990s parallel efforts in various regions of the world called for a shift in paradigm from the prevailing emergency management framework to disaster risk management to reverse the increasing trend in disaster occurrence and loss, especially from small and medium-scale disasters. These highlighted the need for proactive disaster risk reduction activities and the significant role of local communities.

These efforts recognized the reality that whether a disaster is major or minor, of national or local proportion, it is the community who suffers most from its adverse effects. Community members use coping and survival strategies to face and respond to the disaster situation, even before outside help from the government or non-government agencies arrive. Having experienced damage and loss, they are keen in protecting them¬selves from harm and suffering through disaster risk reduction activities.

The application of community based approaches in disaster risk manage¬ment also corrected the defects of the top-down approach in disaster management and development planning. The top-down and traditional aid approaches ignore the potential of local resources and capacities, and may have even increased people's vulnerabilities.

Community-based approach in disaster risk reduction is also very relevant in the light of radically changing patterns of disaster occurrence and loss. While occasional large catastrophes associated with earth¬quakes, volcanic eruptions and cyclones continue to occur, it has been documented that rapid increase in disaster occurrence and loss is due to the exponential increase in the occurrence of small to medium-scale disasters associated with socio-natural hazards such as landslide, flood, drought and fire.

In the International Decade for Natural Disaster Reduction conference at Yokohama, Japan in May 1994, the international community reached a broad consensus to put more emphasis on Community Based Disaster Risk Reduction programs that involved vulnerable people themselves in planning and implementation. As the guiding principle of the IDNDR Yokohama Strategy and Plan of Action for a Safer World states, *"Preventive measures are most effective when they involve participation at all levels, from the local community through the national government to the regional and international level."*

The United Nations International Strategy for Disaster Reduction (UNISDR) replaced and continued the IDNDR Strategies. As a result of the World Conference in Kobe, Japan in January 2005, the global community now implements the Hyogo Framework for Action (HFA) as a guide in disaster risk reduction. From participatory and community-based approaches in disaster management, community participation in disaster risk reduction has evolved to be called community-based disaster risk reduction (CBDRR). Other similar forms to CBDRR could be referred as community-managed disaster risk management, people-centered disaster risk reduction, community-led disaster risk management or community disaster risk reduction which all espouse and adhere to active community involvement both in the process of and share in the benefits from disaster risk reduction.

Basic Concepts and Terminology

There are many definitions in disaster risk reduction depending on the scientific, professional, organizational background and needs of the authors or practitioners involved. In achieving common ground, it is best to look into common elements in the definitions as well as how definitions are operationalized in practice.

As CBDRR is mainstreamed and integrated into local and national development planning processes and system, common language becomes important. Therefore, in order to main¬tain the standard and common understanding, this workbook uses the latest publication of UNISDR's Terminology in disaster risk reduction published in 2009. Commonly used key definitions are given bellow;

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 (ISDR, 2009).

A disaster happens when a hazard impacts on a vulnerable population or community whose capacity is inadequate to withstand or cope with its adverse effects, resulting in damages, loss and disruption in community/ society functioning. An earthquake in an uninhabited desert cannot be considered a disaster, no matter how strong the intensities produced. An earth¬quake is only disastrous when it affects people, their property and socio-economic activities.

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)

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 (ISDR, 2009).

Examples of natural hazards are typhoons, tsunamis, earthquake and volcanic eruption, which are exclusively of natural origin. Landslides, floods, drought, fires are socio-natural hazards since their causes are both natural and human-made (or human-induced). More and

more, the distinction between natural and human-induced hazards is becoming harder to delineate. For example, flooding may be increased through landfill, drainage or groundwater extraction; storm surge hazard may be worsened by the destruction of mangroves.

Human-induced hazards are associated with industries or energy genera¬tion facilities and include explosions, leakage of toxic waste, pollution, dam failures. War or civil strife is included in this category.

Hazards can be single, sequential or combined in their origin and effects. For example, an earthquake causes landslides, which dams a river and then causes flooding. A community may be exposed to multiple hazards when there is simultaneous occurrence of different hazards.

Biological hazard

Process or phenomenon of organic origin or conveyed by biological vectors, including exposure to pathogenic micro-organisms, toxins and bioactive substances that may cause loss of life, injury, illness or other health impacts, property damage, loss of livelihoods and services, social and economic disruption, or environmental damage.

Examples of biological hazards include outbreaks of epidemic diseases, plant or animal contagion, insect or other animal plagues and infestations.

Geological hazard

Geological process or phenomenon 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.

Geological hazards include internal earth processes, such as earth¬quakes, volcanic activity and emissions, and related geophysical processes such as mass movements, landslides, rockslides, surface collapses, and debris or mud flows. Hydro-meteorological factors are important contributors to some of these processes.

Hydrometeorological hazard

Process or phenomenon of atmospheric, hydrological or oceanographic nature 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.

Hydrometeorological hazards include tropical cyclones (also known as typhoons and hur¬ricanes), thunderstorms, hailstorms, tornados, blizzards, heavy snowfall, avalanches, coastal storm surges, floods including flash floods, drought, heat waves and cold spells. Hydrometeorological conditions also can be a factor in other hazards such as landslides, wild land fires, locust plagues, epidemics, and in the transport and dispersal of toxic substances and volcanic eruption material

[2] GoM (2009) The Republic of the Maldives: Strategic National Action Plan for Disaster Risk Reduction and Climate Change Adaptation 2020-2010.

Vulnerability

The characteristics and circumstances of a community, system or asset that make it sus¬ceptible to the damaging effects of a hazard (ISDR, 2009).

Vulnerability is a set of prevailing or consequential conditions which adversely affect people's ability prevent, mitigate, prepare for and respond to hazardous events. These long-term factors, weaknesses or constraints affect a household's or community's ability (or inability) also to absorb losses after disaster or to recover from the damage. Vulnerabilities precede disasters, contribute to their severity, impede disaster response, and may continue to exist long after a disaster has stuck.

Anderson and Woodrow (1989) categorize vulnerabilities into three areas, namely:

Physical/Material Vulnerability

For example, poor people who have few physical/material resources usually suffer more from disasters than rich people. People who are poor often live on marginal lands; they don't have any savings or insurance; they are in poor health. These factors make them more vulnerable to disasters and mean that they have harder time surviving and recovering from a calamity than people who are better off economically.

Social/organizational

Experience shows that people who have been marginalized in social, economic or political terms are vulnerable to suffering from disasters whereas groups which are well organized and in which there is a high commitment to each other suffer less when catastrophe strikes. Weakness in social and organizational areas may also cause disasters. For example, deep divisions can lead to conflict and war. Conflict of resources due to poverty can also lead to violence A second area of vulnerability then, is the social/organizational and economic realm.

Attitudinal/Motivational Vulnerability

Experience also shows that people who have low confidence in their ability to affect change or who have "lost heart" and feel defeated by events they cannot control, are harder hit by disasters than those who have a sense of their ability to bring about the changes they desire. Thus, the third area of vulnerability is the attitudinal and motivational realm.

Exposure

People, property, systems, or other elements present in hazard zones that are thereby subject to potential losses. Measures of exposure can include the number of people or types of as¬sets in an area. These can be combined with the specific vulnerability of the exposed elements to any particular hazard to estimate the quantita¬tive risks associated with that hazard in the area of interest.

Capacity

The combination of all the strengths, attributes and resources available within a community, society or organization that can be used to achieve agreed goals.

Capacity may include infrastructure and physical means, institutions, societal coping abilities, as well as human knowledge, skills and collec¬tive attributes such as social relationships, leadership and management. Capacity also may be described as capability. Capacity assessment is a term for the process by which the capacity of a group is reviewed against desired goals, and the capacity gaps are identified for further action (ISDR, 2009).

Capacity (as contrasted to Vulnerability) has been included in disaster management initially as a guide for both international and local agencies who work with vulnerable communities to link disasters to development — even in emergency situations disaster survivors have capacities. They are not helpless victims but have coping mechanisms on which to build on for emergency response and recovery. As the developmental and risk reduction paradigms in disaster management emerged, for many vulnerable groups, the viable track to reduce vulnerabilities has been by increasing their social/organizational capacities.

Capacities are resources, means and strengths, which exist in house¬holds and communities and which enable them to cope with, withstand, prepare for, prevent, mitigate, or quickly recover from a disaster. People's capacity can also be categorized in the same categories as was done with vulnerabilities in the previous section.

Physical/Material Capacity

Even the very people whose houses have been destroyed by a typhoon or whose crops have been destroyed by a flood can salvage things from their homes and from their farms. Sometimes they have food in storage or crops that can be recovered from the fields or farm implements for planting again. Some family members have skills, which enable them to find employment if they migrate, either temporarily or permanently.

Social/Organizational Capacity

In most disasters, people suffer their greatest losses in the physical and material realm. Rich people have the capacity to recover soon because of their wealth. In fact, they are seldom hit by disasters because they live in safe areas and their houses are built with stronger materials. However, even when everything physical is destroyed, people still have their skills and knowl¬edge; they have family and community organization. They have leaders and systems for making decisions. They have tribal loyalties or church affiliations. They have capacities in the social and organizational realm.

Attitudinal/Motivational Capacity

People also have positive attitudes and strong motivations such as the will to survive, love and concern for each other, bravery and willingness to help each other. These, too, are important capacities and form the basis for development just as much as the physical resources that people have coping mechanisms or strategies are generally considered capacities for survival.

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.

This also can be defined as the probability of harmful consequences, or expected losses (deaths, injuries, property, livelihoods, economic activity disrupted or environment damaged) resulting from interactions between natural or human-induced hazards and vulnerable conditions.

Risk depends on exposure to the consequences of uncertainty or potential deviations from what is planned or expected disruption to everyday life following the formula Risk = probability (p) x loss (l).

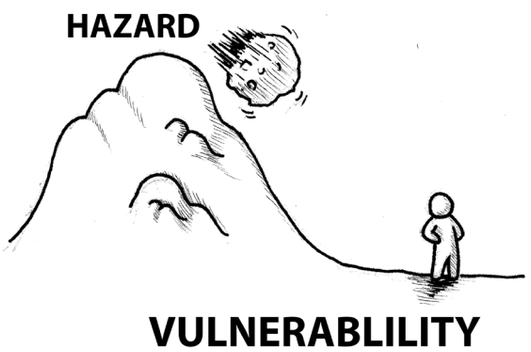
Disaster Risk can be expressed as a function of hazard x vulnerability or a function (hazard, exposure, vulnerability). How one copes depends on capacity.

The equation **Disaster Risk = Hazard x Exposure of Elements at Risk x Vulnerability** emphasizes particularly to the physical aspects of vulnerability.

Risk results from the interaction of three functions namely hazard, vulnerability and exposure. Beyond expressing a possibility of physical harm, it is crucial to recognize that risks are in-¬herent or can be created or exist within social systems. It is important to consider the social contexts in which risks occur and that people do not necessarily share the same perceptions of risk and their underlying causes.

The relationships between hazard, vulnerability and disaster have been commonly represented as:
Disaster = Hazard + Vulnerability or
Disaster = Hazard x Vulnerability

Disasters occur when Hazard strikes a Vulnerable Community whose Capacity is limited. How now to reduce disaster? Disasters may decrease in frequency and severity as Capacities are increased.



At the local and community level, disaster risk is easily understood as likelihood of a particular hazard occurrence and its probable damaging consequences for people and property. The bigger the vulnerability, the bigger the disaster risk (DR) and the bigger the Capacity, the smaller the disaster risk or

Disaster Risk = Hazard + Vulnerability - Capacity

$$\text{Disaster Risk} = \frac{\text{Hazard x Vulnerability}}{\text{Capacity}}$$

Elements at Risk: who and what can be damaged

a. People (their lives and health)
b. Household and community structures (houses, community center, school, public buildings, etc)
c. Community facilities and services (access roads, bridges, hos¬pital, electricity, water supply, etc)
d. Livelihood and economic activities (jobs, production facilities and equipment, equipment, crops, etc)
e. The natural environment (natural resources base)

Acceptable risk

The level of potential losses that a society or community considers acceptable given existing social, economic, political, cultural, technical and environmental conditions.

In engineering terms, acceptable risk is also used to assess and define the structural and non-structural measures that are needed in order to reduce possible harm to people, property, services and systems to a chosen tolerated level, according to codes or "accepted practice" which are based on known probabilities of hazards and other factors.

Disaster Management

Collective term for all activities that contribute to increasing capacities and will lead to reducing immediate and long-term vulnerabilities. Covers activities before, during and after a disaster.

Disaster management encompasses a broad range of activities designed to maintain control over disaster and emergency situations and to provide a framework for helping at risk persons avoid or recover from the impact of the disaster.

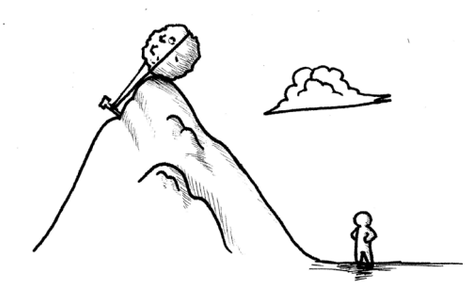
Disaster Risk Reduction (DRR)

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 (ISDR, 2009).

The main objectives of disaster risk management are to prevent and mitigate disaster and prepare effectively for occurrence of all hazards through enhancement of local capacity. Simply put, disaster risk management aims to reduce vulnerabilities and risk and increase capacities of communities and society to prepare for, prevent and mitigate hazards and its damaging effects.

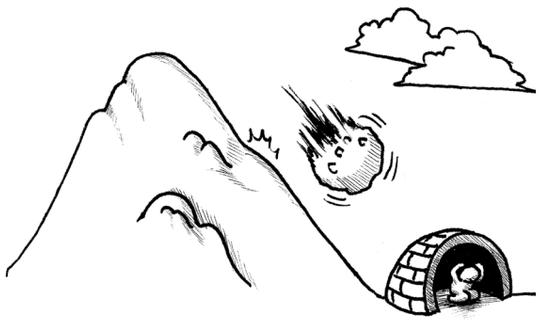
Prevention

The outright avoidance of adverse impacts of hazards and related disasters (ISDR, 2009).



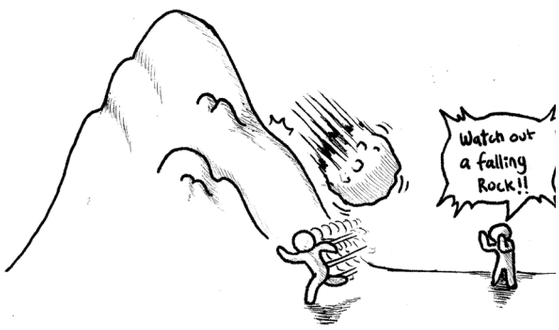
Mitigation

The lessening or limitation of the adverse impacts of hazards and related disasters (ISDR, 2009).



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 (ISDR, 2009).



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 (ISDR, 2009).

Recovery

The restoration, and improvement where appropriate, of facilities, livelihoods and living conditions of disaster-affected communities, including efforts to reduce disaster risk factors

Disaster Resilience

The capacity of a system, community or society to resist or to change in order that it may obtain an acceptable level in functioning and structure. This is determined by the degree to which the social system is capable of organizing itself, and the ability to increase its capacity for learning and adaptation, including the capacity to recover from a disaster.

Sustainable development

Development that meets the needs of the present without compromising the ability of future generations to meet their own needs (ISDR, 2009).

Community Based Disaster Risk Reduction (CBDRR)

A process of disaster risk management in which at-risk communities are actively engaged in the identification, analysis, treatment, monitoring and evaluation of disaster risks in order to reduce their vulnerabilities and enhance their capacities. This means that people are at the heart of decision making and implementation of disaster risk reduction activities.

Community

The term community can have different meanings to different people. Communities can be defined based on the following:

a. *Geographically*, such as cluster of houses, neighborhood, ward, village;
b. *Shared experience*, such as particular interest groups - local NGOs; professional groups - teachers, health professionals; age groupings - youth, children, elderly;
c. *Sector*, such as industry sector, workers in rubber products, garments or transport workers.

In CBDRR, community is taken as a group of people in a locality who by virtue of sharing the same environment (living in the locality, working in the locality or sector) are exposed to the same threats, though the degree of exposure may differ. Common problems, interests, hopes and behaviors may be shared and are basis for common objectives in disaster risk management.

Examples of these communities or villages are the Ward in Nepal, the Ban in Laos, the Commune in Vietnam, and the Barangay in the Philippines.

Contrary to usual notions, the community is not a homogenous group but can be socially differentiated and diverse with gender, class, caste, educational background, wealth, age, religion, ethnicity, language factoring for differences in perceptions, interests, values and attitudes.

Urban communities, especially in big cities, generally lack social cohesion and stability when compared to rural communities. Aside from original inhabitants, cities have permanent migrants who still maintain close ties with their places of origin and a “floating population” or temporary migrants who have no sense whatsoever of belonging to the city.

Adaptation

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

This definition addresses the concerns of climate change and is sourced from the secretariat of the United Nations Framework Convention on Climate Change (UNFCCC).

Climate change

The Inter-governmental Panel on Climate Change (IPCC) defines climate change as: “a change in the state of the climate that can be identified (e.g., by using statistical tests) by changes in the mean and/or the variability of its properties, and that persists for an extended period, typically decades or longer. Climate change may be due to natural internal processes or external forces, or to persistent anthropogenic changes in the composition of the atmosphere or in land use”.

The United Nations Framework Convention on Climate Change (UNFCCC) defines cli¬mate change as “a change of climate which is attributed directly or indirectly to human activity that alters the composition of the global atmosphere and which is in addition to natural climate variability observed over comparable time periods”.

Critical Facilities

The primary physical structures, technical facilities and systems which are socially, economi¬-cally or operationally essential to the functioning of a society or community, both in routine circumstances and in the extreme circumstances of an emergency.

Critical facilities are elements of the infrastructure that support essential services in a soci-ety. They include such things as transport systems, air and sea ports, electricity, water and communications systems, hospitals and health clinics, and centers for fire, police and public administration services.

Emergency management

The organization and management of resources and responsibilities for addressing all as-pects of emergencies, in particular preparedness, response and initial recovery steps.

A crisis or emergency is a threatening condition that requires urgent action. Effective emer¬-gency 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 manage¬-ment” is sometimes used instead of emergency management.

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For Further Reading

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Session 1.2
Disaster Risk Reduction – Evolution and Fundamental

'Disaster Risk Reduction – Evolution and Fundamental' will explore evolution of DRR over time with focus on various DRR models, the paradigm shifts, and the interrelatedness of DRR and Development. The session will also discuss fundamental concepts of DRR and introduce to risk reduction and mitigation measures that could be implemented at community level towards sustainable development.

Learning Objectives

- Discuss DRR models and relationship between Disaster and Development
- DRR Frameworks Relevant at Community Level
- Identify appropriate risk reduction measures that could be implemented at community level to reduce risk from most common disasters in the region CBDRR interventions towards risk reduction and sustainable development

Key Concepts

1. Disaster risk reduction measures cover disaster mitigation, vulnerability reduction and increasing capabilities to cope with or to withstand the nega¬tive effects of hazards.

2. Hyogo Framework for Action (HFA), provides guidance for prioritizing risk reduction activities at national, sub-national and local level

3. To reduce disasters, a shift in paradigm from the emergency management to risk reduction is needed. The community-based approach is an integral component of the risk reduction paradigm.

4. A variety of models, such as the Disaster Crunch Model, can be used to illustrate how various environmental, political and social factors, both structural and non-structural, contribute to and determine the impact of disasters.

5. Aside from the conventional disaster management continuum, new frame¬works stress the need for risk assessment and risk reduction planning by all stakeholders.

6. The overall goal in disaster risk reduction is the building of resilience of nations and communities

DISASTER RISK REDUCTION – EVOLUTION AND FUNDAMENTAL

Paradigm Shifts in Understanding and Managing Disasters

Over the last several decades, paradigm shifts have occurred in the understanding of disasters which consequently influenced the evolution of disaster management theory and practice. Initially, natural hazards were seen as "Acts of God" or "Acts of Nature" then rationality and science took over. While there was significant understanding of the natural processes that underlie the hazard events, disasters were still viewed as one-off events and responded by governments and relief agencies without taking into account the social and economic implications and more so the causes of these events.

In the **"natural science approach"** scientific and technical interventions focused on prediction of the hazard. The **"applied science approach"** focused on how to modify the impacts of the hazards using engineering and technology to mitigate damage and loss. Plans and actions focused on emergency preparedness, structural and physical mitigation measures, building codes, and land use planning. These approaches looked at disasters as exceptional events, not related to the ongoing social and developmental processes.

While the **"contingency planning approach"** with its preparedness plans, stockpiling of relief goods, and growing roles of relief agencies improved the efficiency of emergency response, it left much to be desired in terms of appropriateness and effectiveness of relief. Till a few decades ago, disasters were viewed as one-off events and responded by governments and relief agencies without taking into account the social and economic implications and causes of these events. With significant advancement in our understanding of the natural processes that underlie the hazardous events, a more technocratic paradigm came into existence which believed that the "only way to deal with disasters was by public policy application of geophysical and engineering knowledge". Gradually this attitude changed to an emphasis on preparedness measures, such as stockpiling of relief goods, preparedness plans and a growing role for relief agencies. This **"contingency planning" and "emergency management"** approaches certainly improved the efficiency of relief agencies but left a lot to be desired in terms of appropriateness and effectiveness of relief.

The alternative/progressive perspective looks at disasters as part and parcel of the "normal" development of societies, as unresolved problems of development. Study of disaster trends from the 1960s to the 1990s revealed an exponential increase in human and material losses from disaster events, though there was no clear evidence that the frequency of extreme hazard events had increased. This indicated that the rise in disasters and their consequences was related to the rise in the vulnerability of people all over the world that was related to development-related socio-economic and political structures and processes. There were large variations in vulnerability across regions, nations, provinces, cities, communities, socio-economic classes, castes and even genders. The **"social science approach"** focused on how hazards are socially perceived and conceived. From this realization that people's vulnerability is a key factor determining the impact of disaster, emphasis shifted to using "vulnerability analysis" as a tool in disaster management.

Disaster management approaches: crisis management versus disaster risk reduction		
Emergency Assistance; crisis management		Disaster risk reduction strategies
1. Primary focus on hazards and disaster events 2. Single, event-based scenarios 3. Basic responsibility to respond to an event	Emphasis	4. Primary focus on vulnerability and risk issues 5. Dynamic, multiple risk issues and development scenarios 6. Fundamental need to assess, monitor and update exposure to changing conditions
4. Often fixed, location-specific conditions 5. Responsibility in single authority or agency 6. Command and control, directed operations 7. Established hierarchical relationships 8. Often focused on hardware and equipment 9. Dependent on specialized expertise	Operations	4. Extended, changing, shared or regional, local variations 5. Involves multiple authorities, interests, actors 6. Situation-specific functions, free association 7. Shifting, fluid and tangential relationships 8. Dependent on related practices, abilities, and knowledge base 9. Specialized expertise, squared with public views, priorities
10. Urgent, immediate and short time frames in outlook, planning, attention, returns	Time Horizons	10. Comparative, moderate and long-term time frames in out- look, planning, values, returns
11. Rapidly changing, dynamic information usage, often conflicting or sensitive 12. Primary authorized or singular information sources, need for definitive facts	Information use and management	11. Accumulated, historical, layered, updated, or comparative use of information 12. Open or public information, multiple, diverse or changing sources, differing perspectives, points of view
13. Directed, 'need to know' basis of in- formation, dissemination, availability		13. Multiple use, shared exchange, inter-sectoral use of information
14. Operational, or public information based on use of communications		14. Matrix, nodal communication
15. Dispersed, lateral flows of information		15. In-out or vertical flows of information
16. Release to matters of public security safety	Socio-political rationale	16. Matters of public interest, investment and safety

Source: T. Jeggle (2001) cited in Blaikie et al. (2004)

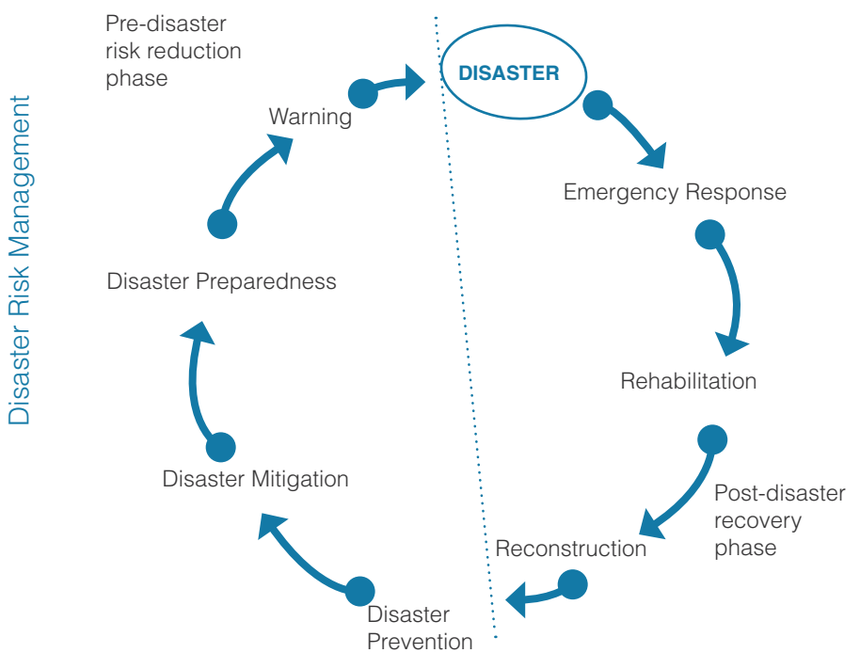
Disaster Risk Management Models

To simplify disaster risk management and planning, a number of models have been conceptualized. The value of a model is to give memorable images, simplify complex issues, and enable users to relate their situation to the model. The danger with models is to over-simplify complexity and users can give them excessive authority. New disaster risk reduction framework stress the linkage of disaster risk management to sustainable development.

a. Disaster Management Continuum

The Disaster Management Cycle or Continuum is the conventional model used. It prescribes a sequence of actions to gain control over disaster events not in a linear process (such as in designing a building) but in a cycle process of continuous development.

While giving a guide to roles and relationships in the various phases of disasters › before, during, and after › most interpretations of the disaster management cycle focus on the event itself and on disaster management activities immediately before, during and after the onset of the disaster event. Allocation of human, material and technical resources is on emergency response, emergency preparedness and structural mitigation.



b. Disaster Crunch Model & Pressure Release Model

These frameworks are now widely used in disaster risk management for analyzing, understand¬ing and explaining the causes of a disaster. It was developed by Blaikie, Cannon, Davis and Wisner, the authors of At Risk: Natural Hazards, peoples vulnerability and disasters during the first half of the IDNDR.

The "Disaster Crunch Model" for understanding why disasters occur shows the relationship of hazards and a complex set of conditions of vulnerabilities (in a situation of low capacity) in causing a disaster.

The accompanying "Disaster Release Model" shows what to do to reduce disaster risk based on the particular conditions prevailing analyzed in the "Disaster Crunch Model". It shows the strategies for the reduction of vulnerabilities. The outcome will be "safe" as opposed to "unsafe conditions", "resilient or capable communi-ties" as opposed to "vulnerable communities" and "sustainable livelihoods" as opposed to "unsustainable livelihoods".

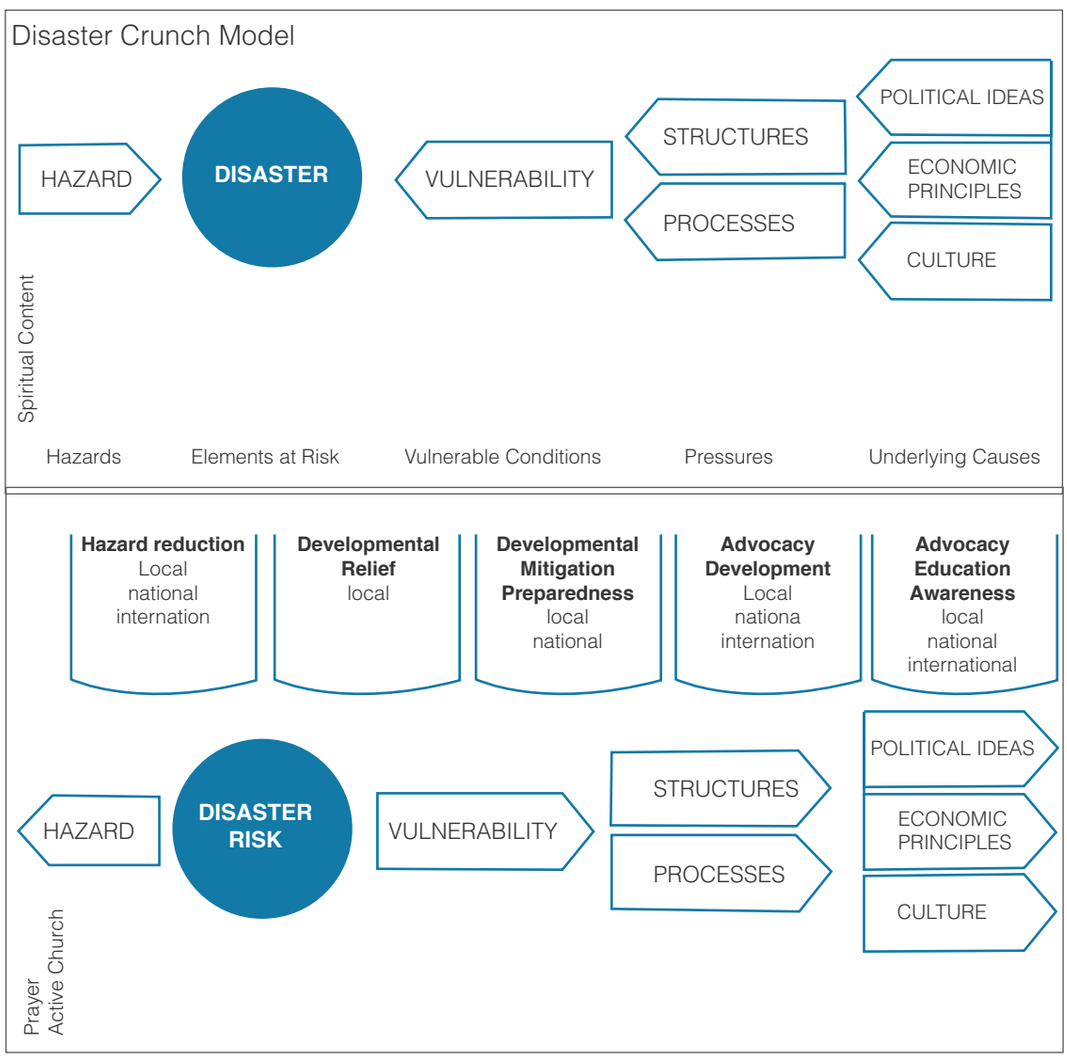


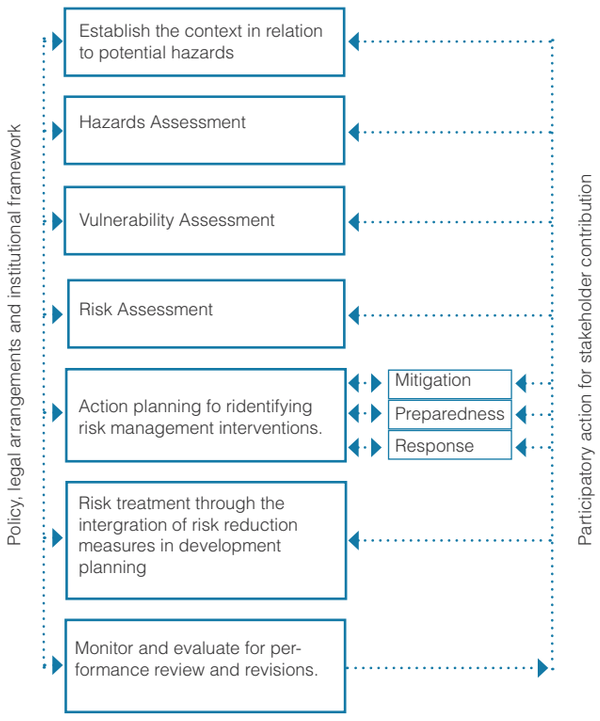
Figure 1 - Pressure Release Model, Wisner et al. (2004) pg. 51.

c. Disaster Risk Management Framework, ADPC

As disaster risk management encompasses a wider range of interests and abilities, there is a growing requirement for political and professional collaborations and partnerships. These inter-relationships address multi- level (national, sub-national), multi-hazard (flood, cyclone, earthquake, landslide, fire and volcano eruptions), multi-sector (utilities, health, education, planning, transportation and construction), multi-phases (preparedness, mitigation, response and recovery) and multi-stakeholder (government, NGOs, community groups, private sector, civil society) approaches.

The key components of disaster risk reduction include:

1. Integrating DRM for sustainable urban/rural development, community resilience and safety, poverty reduction, management of natural resources and environment
2. Policy, legal and institutional arrangements for disaster risk reduction
3. Risk assessment
4. Preparedness plan for response and recovery
5. Mitigation planning
6. Training, awareness, drills, exercises
7. Disaster risk management at the local level - stakeholders involvement, Community Based Disaster Risk Reduction, implementation
8. Implementing disaster risk reduction projects - implementation, monitoring and evaluation.
   A disaster risk management program is unlikely to succeed without the participation of all stakeholders who will be affected by the implementation of risk reduction actions. The stakeholders include the government, ministry departments, private sector companies, city developers, NGOs and communities.



Source: Disaster Risk Management in Asia: A Primer, Asian Disaster Preparedness Center and USAID, 2005

Disaster Risk Reduction

The concept and practice of reducing disaster risks through systematic efforts to analyze 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 (ISDR, 2009).

After the Participatory Community Risk Assessment, a possible course of action with a wide range of options are identified to protect people, their assets, and the environment. These risk reduction measures aim to reduce and manage disaster risks and build disaster resil¬ience. Disaster risk reduction measures focus on:

- How to stop the potentially damaging hazard event? How to stop the harmful event from being a disaster? How to stop all the harmful effects of an event?
- How to make the hazard event smaller? How to reduce the harmful effects of the event?
- What can be done before, during or after the event?

Disaster risk reduction comprises measures, interventions, solutions, strategies, activities, and actions to reduce people's vulnerability and strengthen capacities. These can be cat¬egorized as:

1. measures to reduce the impact of hazards;
2. vulnerability reduction; and
3. capacity building including reinforcing people's positive coping strategies.

'Risk Treatment' or 'treating the risk' is concerned with what will be done:

- To avoid the risk
- To control the risk
- To transfer the risk
- To retain the risk

Proactive disaster risk reduction covers:

Prevention: measures to provide permanent protection from disasters or reduce the inten¬sity/frequency of a hazard event. While natural hazards cannot be prevented, human-made hazards such as those associated with industries, technological failures, pollution and civil strife can be prevented.

Mitigation: reduces and limits the destructive and disruptive effects of hazards on the ele¬ments at risk.

Preparedness: involves measures taken in anticipation of the disaster event to ensure that appropriate and effective actions are taken during the emergency.

Disaster Risk Reduction at the Local and Community Level

Examples of appropriate and do-able disaster risk management activi¬ties to undertake before, during and after the disaster are as follows:

Structural and non-structural prevention and mitigation measures	Preparedness Measures	Emergency Response and Recovery:
• Engineering works (bridges, protective dykes, embankments); • Safe building design and construction; • Retrofitting; • Coastal wind breaks or shelter belts (planting coconut trees along the beach), mangroves reforestation; • Safety measures at home, in the community and work places; • Strengthening livelihood and food security; • Strengthening community health; • Nutrition improvement and food security; • Literacy program; • Relocation to safer location; • Risk communication and public awareness; • Risk assessment; • Risk reduction planning; • Land use planning and zoning; • Legislation; • Strengthening institution and organizations; • Environmental management; advocacy on disaster and develop¬ment issues; • Insurance and micro-insurance.	• Setting up systems for early warning; • Evacuation drill; • Training on evacuation center; • Training on emergency operations center management; • Strengthening inter-agency coordination and institutional arrangements; • Stockpile of supplies and logistics; • Contingency planning	• Distribution of emergency supplies

Identifying Appropriate and Adequate Risk Reduction Measures

Communities at risk identify appropriate risk reduction measures us¬ing the results of Participatory Community Risk Assessment (PCRA) or Hazard, Vulnerability Capacity Assessment (HVCA): ensuring the appropriateness and relevance of the risk reduction measures. Risk reduction measures are identified following these basic steps:

a. Identify the hazard
b. Determine the elements at risk (people and health; property; livelihood; community structures; critical facilities; environment, etc.)
c. Determine conditions and factors of vulnerability. Why can the elements at risk be dam¬aged? (physical, economic, social, motivational, reasons)
d. Identify existing coping strategies and capacities/resources (material, human, institutional/organizational, motivational, etc.)
e. Identify measures or solutions to reduce the vulnerability of the elements at risk. How to protect and strengthen the elements at risk and how to reduce the impact of the hazard?
f. Prioritize risk reduction measures to undertake: immediate, short-term, medium-term, long-term

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Session 1.3
Community-Based Disaster Risk Reduction: Essential Elements, Processes, and Outcomes

'Community-Based Disaster Risk Reduction (CBDRR): Essential Elements, Process and Outcomes' will present and discuss significant features of CBDRR with regard to the essential elements, processes involved in adopting CBDRR approach and outcomes. The session would highlight on these components and how they contribute to encourage, facilitate and optimize community's and stakeholders' engagement at CBDRR activities including Community Risk Assessment, Community Planning, and Implementation & Monitoring.

Learning Objectives

- Discuss essential Features & Elements of CBDRR
- Relate the CBDRR elements and processes to expected outcomes and indicators of disaster resilient communities
- Enumerate six steps of CBDRR process

Key Concepts

1. The CBDRR involves reducing vulnerabilities and increasing capacities of households and communities to prevent and withstand damaging effects of hazards. CBDRR contributes to progressive realization of safety, disaster resilience and development for all.

2. The aim of CBDRR is creating resilient people living in resilient environ¬ments within resilient countries.

3. While the community is the main actor in CBDRR, the support of local as well as national stakeholders is important

COMMUNITY-BASED DISASTER RISK REDUCTION (CBDRR): ESSENTIAL ELEMENTS, PROCESS AND OUTCOMES

Importance of Community Based Disaster Risk Reduction

Whatever the scale of hazards, big or small, it is the community that either suffers the dev¬astation or survives from hazards effects. The community is the first to be affected and, as such, also becomes the first/initial responders who manage the emergencies at the house¬hold and at the community levels. By managing emergencies well, it prevents the escalation of these emergencies into disasters. But more than this, local communities take measures to manage risks long before the hazards strike.

In the IDNDR conference at Yokohama, Japan in May 1994, the international community endorsed new IDNDR strategy that recognized the importance of community participation in disaster risk management. As the guiding principle of the IDNDR Yokohama Strategy and Plan of Action for a Safer World states, "Preventive measures are most effective when they involve participation at all levels, from the local community through the national government to the regional and international level."

Madhavi Ariyabandu of the Intermediate Technology Development Group - Sri Lanka in a paper presented to the IDNDR Closing Forum in July 1999 cited the merits of the community based approaches in disaster management:

- Communities are knowledgeable about their own environment and are often able to predict unfavorable events. They are rich in experience of coping both in preparedness and emergencies. The community coping methods evolve over time, and suit the local socio-economic, cultural and political environment best.
- This approach has the benefit of enabling communities to be more independent of relief during disaster periods and strengthen them to increase their capacities to support their own livelihoods.
- Interventions with community participation have the potential to positively address gen¬eral socio-economic concerns. Participation will empower them with new knowledge and skills develop leadership skills of the community members, which will further strengthen their capacity to contribute to development initiatives.
- The impact of disaster situations on women, and also women's concerns and capacities to cope and contribute are different from that of men. Community based approaches, which recognize this concern has the potential to contribute towards the social issue of gender equity.
- The empowering nature of community based approaches has the capacity to remove some of the causes of vulnerability, thereby reducing the impact of future extreme natu¬ral events.

Applying lessons in CBDRR from Development Practice on the bottom-up approach vs. the top-down approach:

Practical considerations

- nobody can understand local opportunities and constraints better than the local residents themselves;
- nobody is more interested in understanding local affairs than the community whose survival and wellbeing are at stake;
- people are the country's most abundant and valuable development resource, which should be harnessed and developed.

General elements of the bottom-up approach

- local people are capable of initiating and sustaining their own com¬munity development
- while role government, private sector and NGOs are important, the primary requirement for grassroots development is local leadership and local responsibility
- a successful bottom-up strategy will include broad-based local par¬ticipation in comprehensive planning and decision-making, activi¬ties that promote motivation
- educational opportunities should correspond to identified local needs
- emphasis is on improving the utilization and management of re¬sources should be on local resources
- responsible utilization of outside financial assistance is required
- replication of a community's success is a powerful factor in continu¬ing local initiative
- responsibility for change rests with those living in the local com¬munity

Creating Resilient People in Resilient Environments

CBDRR is an approach and process of disaster risk manage¬ment in which at risk communities are actively engaged in the identification, analysis, treatment, monitoring and evaluation of disaster risks in order to reduce their vulnerabilities and enhance their capaci¬ties. This means that people are at the heart of decision making and implementation of disaster risk management activities. The involvement of the most vulnerable is paramount and the support of the least vulner¬able is necessary.

Simply put, the aim of CBDRR is to reduce vulnerabilities and strength¬en people's capacity to cope with hazards. A thorough assessment of the community's hazard exposure and analysis of the specifics of their vulnerabilities as well as capacities is the basis for activities, projects and programs to reduce disaster risks. Because the community is in¬volved in the whole process, their felt and real needs as well as inher¬ent resources are considered. There is more likelihood that community problems will be addressed with appropriate interventions.

Essential Features and Elements of CBDRR

Experiences in the implementation of CBDRR point to these essential features:

- Centrality of the role of the community disaster management. The focus of attention in disaster management is the local community. The CBDRR approach recognizes that the local people are capable of initiating and sustaining their own development. Responsibility for change rests with those living in the local community.
- Disaster risk reduction is the aim. The main strategy is to enhance capacities and resources of the most vulnerable groups and to reduce their vulnerability in order to avoid the occurrence or lessen the impact of disaster in the future.
- Recognition of the link between disaster risk management and the development process. CBDRR should lead to general improvement in people's quality of life and of the natural environment. The approach assumes that addressing the root causes of disas¬ters, e.g. poverty, discrimination and marginalization, poor governance and bad political and economic management would contribute towards the overall improvement of the wellbeing and quality of life of people and of the environment.
- Community as the key resource in disaster risk reduction. The community is the key actor as well as the primary beneficiary of the disaster risk reduction process.
- Application of multi-sectoral and multi-disciplinary approaches. CBDRR brings together the community members, community groups, local as well as national stakeholders to expand its resource base for disaster risk reduction.

- CBDRR as an evolving and dynamic framework. Lessons learned from practice continue to build into the theory of CBDRR. The sharing of experiences, methodologies and tools by communities and CBDRR practitioners continues to enrich practice.
- CBDRR recognizes that different people have different perceptions of risk. Specifically, men and women, adult and children (boys and girls too!) who may have different understanding and experiences in coping with risk may have a different perception of risk and therefore may also have different views on how to reduce the risks. It is important to recognize these differences.
- Various members and groups in the community have different vulnerabilities and ca¬pacities. Different individuals, families and groups in the community have different vulnerabilities and capacities. These are determined by age, gender, class, occupation/ sources of livelihood, ethnicity, language, religion and physical location.

Closely related to the above mentioned features the following elements and which also serve as overall targets to work for and parameters/ indicators to keep track of in CBDRR.

- Participatory process and content: involvement of community members, particularly the most vulnerable sectors and groups in the whole process of risk assessment, identification of mitigation & preparedness measures, decision making, implementation; the community directly benefits from the risk reduction and development process
- Responsive: based on the community's felt and urgent needs; considers the community's perception and prioritization of disaster risks and risk reduction measures so the community claims ownership
- Integrated: pre-, during and post-disaster measures are planned and implemented as necessary by the community; there is linkage of the community with other communities, organizations and gov-ernment units/agencies at various levels especially for vulnerabilities which the local community can not address by itself
- Proactive: stress on pre-disaster measures of prevention, mitigation and preparedness
- Comprehensive: structural (hard, physical) and non-structural (soft, health, literacy, public awareness, education and training, livelihood, community organizing, advocacy, reforestation and environmental protection, etc) preparedness and mitigation measures are undertaken; short-, medium- term and long-term measures to address vulnerabilities
- Multi-sectoral and multi-disciplinary: considers roles and participation of all stakeholders in the community; combines indigenous/ local knowledge and resources with science and technology and support from outsiders; addresses concerns of various stakehold¬ers while upholding the basic interest of the most vulnerable sec¬tors and groups
- Empowering: people's options and capacities are increased; more access to and control of resources and basic social services through concerted action; more meaningful participation in decision making which affects their lives; more control over the natural and physical environment; participation in CBDM develops the confidence of community members to participate in other development endeavors.
- Developmental: contributes to addressing and reducing the complex relation of conditions, factors and processes of vulnerabilities present in society, including poverty, social inequity and environ-mental resources depletion and degradation

Community Based Disaster Risk Reduction Process

The goal of CBDRR is to transform vulnerable or at-risk communities to be safe, disaster resilient and developed communities. Although steps may vary from community contexts and organizational mandates, the process for community based disaster risk reduction can be generalized as follows:

a. Selecting the Community
b. Building Rapport & Understanding the Community
c. Participatory Community Risk Assessment
d. Participatory Risk Reduction Planning
e. Community Managed Implementation
f. Participatory Monitoring and Evaluation

1. Selecting the community

How does a community start with disaster risk management?
Presently, NGOs, disaster management agencies, the government and other intermediary organizations such as national or regional level people's organizations play a key role in initiating the process of Community Based Disaster Risk Reduction. They either respond to requests coming from vulnerable communities or select at-risk communities where disaster risk reduction programs should be prioritized. Criteria for their selection of at-risk communities may include the following: most disaster prone area, most vulnerable to a particular hazard, least served by the government and/or NGOs, additional consideration such as possibility of replication or spread effects of the program to neighboring communities, presence of existing development projects or community partners.

In some cases, several community members or an organization in the community approaches an intermediary organization for assistance after experiencing a disaster or in preparing for an impending disaster threat.

In many instances, an impending disaster threat can be turned into an opportunity to start a community-based disaster risk management program. When the knowledge, skills and experiences in disaster risk reduction which are in communities are systematized and disseminated, surely there will be more community-to-community sharing on how to get started and implement Community Based Disaster Risk Reduction.

2. Building rapport and understanding the community

Outsiders who support the community in disaster risk management need to build a picture of the nature, needs and resources of the community. This step usually involves building rapport/trust with the community through integration with them and gathering basic information to have a general description and understand of the community.

An understanding of the community's development position and the context upon which disasters will impact includes the following basic elements:

- Social groups
- Cultural arrangements
- Economic activities
- Spatial characteristics
- Vulnerable households and groups

3. Participatory community risk assessment

Community risk assessment is a participatory process to identify the risks that the community faces and how people overcome those risks using local knowledge and resources. The Participatory Community Risk Assessment unites the community in common understanding of its disaster risks. The size of its problem as well as the resources and opportunities involved are identified and analyzed.

Community risk assessment has four components as follows:

- Hazard assessment
- Vulnerability assessment
- Capacity assessment
- People's perception of the risks

Participatory rapid appraisal tools are adapted for community risk assessment.

4. Participatory Disaster Risk Reduction Planning (Action Planning)

Preparedness and mitigation measures to reduce disaster risks are identified. These risk reduction measures are not necessarily big projects. The important point is to start off the risk reduction process through community mobilization based on existing capacities and resources within the community's immediate reach.

Overall objectives, strategies are translated to operational plans and activities. The people, timetable, resources within and outside the community needed to turn the intent of the plan into reality are identified. Community targets in undertaking preparedness and mitigation measures in terms of particular capacities increased and vulnerabilities decreased are also identified.
At the planning stage, agreements with intermediary organizations are formalized regarding their supports in the risk reduction plan implementation and their expectations/requirements for resources, which they commit to mobilize. Outsiders are usually expected to assist the community in the following areas:

- Community capability building through training and education activities and materials;
- Resource mobilization to supplement the community's efforts to generate resources to realize the risk reduction plan;
- Facilitate linkages with concerned government agencies and NGOs for access to information, resources, etc.

5. Community Managed Implementation

The formation and/or strengthening of community disaster management machinery is usually helpful in the implementation of the risk reduction plan. A wide range of organizational arrangements which can be the core in the implementation of the plan include the following – a committee of an existing community organization, a disaster volunteers team, a community organization, a project management committee, a network of community organization for disaster management, etc.

Aside from monitoring the progress of plan implementation, this core group usually motivates the community through the translation of plan objectives and targets into disaster reduction activities. This group also leads in necessary adjustment of targets and plans, when necessary to keep on course with set objectives to reduce vulnerabilities and increase capacities in the immediate and long term.

6. Participatory Monitoring and Evaluation

Evaluation is concerned with the effects of the risk reduction measures in terms of reducing the vulnerability situation of the community. If vulnerability has not been significantly reduced, the reasons for this are analyzed. The significance of building on existing capacities and those which have been actually increased are also analyzed.

It is concerned with the difference the results of the risk reduction measures have made to the community situation and its overall quality of life. Lessons are drawn and best practices are shared with other groups and communities to promote the CBDRR framework and strategy.

Outcomes of the CBDRR Process

The CBDRR process should lead to progressive improvements in public safety, community disaster resilience or resistance, and equitable and sustainable community development.

While respecting diversity of community based approaches in disaster risk management, key indicators, standards or benchmarks for successful CBDRR process and outcomes have been developed by about 25 NGO leaders in 2006 as part of the Partnership for Disaster Reduction South East Asia project (PDR-SEA3) undertaken by ADPC and UNESCAP with DIPECHO support.

Related key outcomes of the CBDRR process are as follows:

1. Community Based Organization - To establish, strengthen and sustain an organizational mechanism at the community level to implement CBDRR activities. This CBO will be comprised of local residents in the community.

2. Community Disaster Risk Reduction Fund - To ensure availability of resources for the implementation of community disaster risk reduc¬tion and preparedness measures.

3. Community Hazard, Vulnerability Capacity Map (HVCM) - To form the basis for community based disaster risk reduction and community learning.

4. Community Disaster Management Plan - To ensure collective ac¬tion by community for disaster risk reduction through mobilization of local resources.

5. CBO Training System - To enhance the technical and organizational capability of the community based organization and its committees on CBDRR first aid, search and rescue, evacuation, management, relief operations management, and emergency shelter management, damage and needs assessment, and safer construction.

6. Community Drills System - To ensure the readiness of communities for disaster response.

7. Community Learning System - To enhance the understanding of individuals, families and communities about hazards, disasters, vulnerabilities, risk reduction and preparedness.

8. Community Early Warning System - To contribute to the safety of the community through facilitating precautionary measures.

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Module 2: CBDRR Tools

Session 2.1:
Participatory Community Risk Assessment

'Participatory Community Risk Assessment' will discuss concepts and process on conducting PCRA which is the primary CBDRR process to understand the risk and perceptions of risks as reflected by the community themselves. This will be the first step to understand the context, needs and problems on disaster and other related issues before planning and implementation of appropriate CBDRR interventions at community level. PCRA highly emphasizes on participatory approach, inclusiveness, and multi-aspects.

Learning Objectives

- Explain the importance, components and process of community risk assessment
- Understand the recommended five stages of PCRA in the Maldives

Key Concepts

1. Participatory Community Risk Assessment provides a systematic pro¬cess for identifying, estimating and ranking local disaster risks.
2. Participatory Community Risk Assessment is a necessary step for the adoption of adequate and appropriate risk reduction measures.
3. Participatory Community Risk Assessment three interrelated compo¬nents — hazard assessment, vulnerability assessment and capacity assessment

PARTICIPATORY COMMUNITY RISK ASSESSMENT

"...local people, especially the poorer, enjoy the creative learning that comes from presenting their knowledge and their reality....

They themselves learn more of what they know and together present and build up more than anyone knew along. The process is then empowering, enabling them to analyze their world and can lead into their planning and action"

(Robert Chambers)

Participatory Community Risk Assessment means that the affected target populations are involved in the various stages of risk assessment. Particularly at the local and community level, risk assessment should be a participatory and systematic process to identify and ana¬lyze local disaster risks. Participatory risk assessment unites the various stakeholders in the locality, most especially the community in common understanding of the disaster risks. The Participatory Risk Assessment is the basis for sound planning and implementation of appropriate and adequate risk reduction measures.

Participation of community members is an essential component of community based risk assessment which determines the methodologies and tools and techniques to use. Community risk assessment combines both scientific and empirical data concerning known hazards and other possible threats to the community. Although indigenous knowledge is vital, scientific data is especially important in a situation when the hazard has not yet been experienced by the community.

Components of Risk Assessment

Hazard Assessment	Vulnerability Assessment	Capacity Assessment
determines the likelihood of experiencing any natural or human-made hazard or threat in the community. Assessment includes the nature and behavior of each of the hazards the community is exposed to.	identifies what elements are at risk and why they are at risk (unsafe conditions resulting from dynamic pressures which are consequences of root or underlying causes).	identifies the people's coping strategies; resources available for preparedness, mitigation and emergency response; who has access to and control over these resources.
What disasters have been experienced in the past? What are new and emerging threats? Intensity or Severity of Hazard/s Nature and Behavior of Hazard - Origin - Force - Warning Signs & Signal - Speed of Onset - Frequency - Seasonality - Duration	What are elements at risk? What are probable damages and loss of each of the elements at risk? Why will the elements at risk be damaged? - Physical/Material - Social/ - Organizational - Economical - Motivational/ - Attitudinal Conditions, Root Causes	How has the community responded to past disasters and how have they coped hazards and threats? What resources are available for disaster and emergency preparedness, mitigation, and prevention? Who has control and access to these resources?

Components of Risk Assessment

Participatory Risk Assessment is more holistic than earlier approaches in risk assessment which were mainly technical and quantitative. Risk perception is taken into consideration as well as the inter-linkages of technical and physical elements with socio-economic and political factors. Understanding people's prioritization of risks is necessary component of coming to a common understanding of disaster risk in the locality as basis for appropriate and adequate risk reduction measures which are owned by the affected population and communities.

Perception of risk is the subjective judgment that people make about their characteristics and severity of a risk and explains why people make different estimates of the danger and decisions to avoid, reduce or accept. Risk has different meanings to different groups. Experts judge a risk through objective indicators, while the community people perceive the risk with subjective characteristics.

Community people may regard real every day concerns or problems such as livelihood, health, family (drinking, gambling) as more immediate threats than the infrequent natural hazard. Local authorities may be more concerned with street fighting and solid waste man¬agement problems than disaster risk. How high the risk is judged also depends on the available information about the hazards and possible damaging consequences. How people prioritize risks also depends on options and workable solutions open to them. With growing poverty there are more and more situations in which the affected population accept a high level of risk and locate in flood prone areas or degraded environments in urban centers to be near employment opportunities.

Factors which account for varying perceptions of risks:

a. Socio-economic characteristics - age, gender, ethnicity, income, education, employ¬ment, health
b. People's knowledge about of their environment resulting in adopting local coping strategies
c. Lack of knowledge (and experience) about the hazards or threats
d. Ability to cope with hazards & risks through technology, financial attributes, education, political power and having a voice (related to Item a)
e. Ability to access help from outside

Adapting Tools from Participatory Development Planning

The community risk assessment process leads to a common understand¬ing of the community's disaster risk situation. Participatory tools and techniques are valuable in generating and analyzing information with communities for PCRA and risk reduction action planning. Through the use of these tools and techniques, community members (men, women, boys, girls, the elderly, CBOs, sectoral groups, etc.) are encouraged to participate.

Aside from fostering engagement in the PCRA process, use of the participatory tools also facilitates understanding even among il¬literate groups. Through use of these participatory tools and techniques, different views of community groups and stakeholders in the locality are brought into the open and data and information from many sources are validated and shared. Even at the stage of PCRA, there are already solu-tions to disaster and development-related problems which are surfaced and discussed.

The following principles and features of Participatory Risk Assessment

- Recognition of multiple perspectives and offsetting biases
- Context specific
- Brings together outsiders and local people
- Participatory process leads to debate about change, and debate changes the perceptions of actors and their readiness to contemplate action
- Triangulation of information is used as a form of cross-checking
- Offsetting biases and being self-critical
- Use a mix of techniques, which are flexible and informal
- Purposive data gathering and avoids over collection of unnecessary details
- Analysis of information is part of fieldwork

Other benefits of using participatory tools and techniques:

- Good relations can be developed immediately with the community
- Participants freely share their ideas openly and freely
- Builds confidence of community people that they know and they can do.
- People get a reward in seeing the results of the creative work they have done on their own
- People generally speak from the heart so effective in generating authentic information

On the other hand, some difficulties and challenges to hurdle:

- Takes time to do
- Takes time to organize people for activities/sessions
- Accurate quantitative data may not be generated
- Requires skill and facility of the facilitators

Planning for PCRA

a. Formation and orientation of the community risk assessment team/s
b. What are the data and information needed?
c. What are the tools which can be used? Recognize that not all tools are suited to all situations and social groups
d. Who and where are the sources of the information needed? From whom or where can the data be gathered?
e. When will these participatory tools be used? What is the sequence of tools to be used?
f. What are the roles of team members? Who will act as the facilitator & process observer, documenter?

To systematize planning the participatory community risk assessment, the following Participatory Data Gathering Table or Matrix can be used.

Participatory Data Gathering Matrix

Information needs	Tools	Info source/ informant	Schedule/ sequence	Which team	Tasking Who does what?
What data do we need to gather to determine the community's perception of risk? (Hazard, Vulnerability, Capacity Assessment)	Which tools can be used to collect the needed in-formation?	From whom or where will we collect the data (sources)?	When will you apply tools (start, middle, and end)? Arrange this matrix according to sequence	Which team will do what?	Who does what? Who within each team will do what? (facilitator, documenter, process observer,

Conducting Participatory Community Risk Assessment in the Maldives

The section above indicates the various issues that the CBDRR facilitator must consider when conducting hazard, vulnerability, and capacity assessments – in order to complete the PCRA. Within the context of the Maldives, a suitable process was developed and extensively tested by UNDP in 2006 onwards. The suggested stages are presented below – the details of each tool are provided in the next session. The CBDRR facilitator may need to adapt the stages (and tools) depending on the specific conditions of the island community.

Stage 1: Review and Analysis of Past Disaster Events

Community members know the hazards that confront their communities. This stage of the planning process entails discussion of what happened in the island during the last disaster. It shall make the community discuss and share their experiences and the general situation of the people before, during and after the disaster event. Further, the exercise gives everyone the opportunity to know how each one fared and how the island emerged in broad or specific terms after the disaster event. This exercise would also give an overview/ pattern of the past disasters in terms of their frequency & time of occurrence.

Moreover, this stage also makes the community review the different hazards it had faced during the last 20 years or so. Likewise, they are also able to draw out seasonality of occurrence of these hazards and make an analysis of this hazard events vis-à-vis other key elements of community life like population concentration, mobility and seasonality of livelihood activities, etc.

Key output of this stage should identify, list down and describe the nature of hazards that affect the community in terms of its recurrence, seasonality, indigenous coping mechanisms employed by the community and general knowledge of the people about the hazards.

Suggested Tool for this Stage:

Timeline can be used to obtain data about occurrence of past disasters.

Seasonality Calendar can be used to map occurrence of different disasters in different months of a year.

Focused Group Discussion (FGD) can be used to describe the chronology of the disaster event that hit the island and capture people's experiences (both vivid and emotional), issues and concerns confronted before, during and after the disaster event.

Stage 2: Island Mapping/Situational Analysis

The purpose of this exercise is to help the people know their own community better in terms of the social, economic, demographic and other resources. This mapping exercise would facilitate the process of analyzing the vulnerabilities, strengths and weaknesses of the island.

Particularly, it involved doing a thorough and in-depth situational analysis of the island community. This stage will make the participants describe the key features of the island and its general situation in terms of geographical, topographical, terrain, vegetation, infrastructure and socio-economic and institutional patterns, resources and assets including the habitation of the island will also be identified.

The community members, volunteers, Govt. Officials and Non-Govt. officials are to draw and indicate on a map the following characteristics:

Geography and topography of the island: Elevation of the island, forest/vegetation cover, low lying areas, elevated areas, high tide lines, windward and leeward side. Direction and distance from the nearest inhabited island, atoll capital, country capital.

Housing type: Identify on the map the habitation in the village and where they are located. Identify number of houses by construction e.g. single storied/ multi-storied, RCC, titled, weak houses, strong houses .

Demography: Make a list of population e.g., number of households, number of families, men, women, children, disabled persons, pregnant women, old/aged, people who are terminally ill etc.

Natural resources: Identify on the map the natural resources in the community e.g., wells, forest/ vegetation cover, fruit trees etc.

Infrastructures: Identify infrastructures in the community e.g., health posts, telephone booths, strongly built houses, mosque or any other community infrastructure that can be used to house people in emergencies, schools and education facilities, drinking water facilities, power generating units, medicine stores, roads & jetty etc.
Livelihood assets: Dhonis, speed boats, fish catching gears, fruit bearing trees, shops etc.

This information should be put in a map and displayed in public. The community members may study it and suggest any errors or oversights.

Listing out what caused damage in past events and where

The community identifies based on the experience of the earlier events, what are the different hazard that might affect their island. The community members also identifies where in the community these hazards are most likely to impact. This list may include:

- Area that sustained damage in the past disasters
- Infrastructures (power generating unit, water desalination plant, health post, boat repairing factory, telecommunication facilities, fuel storage, harbor/jetty, roads etc.) that sustained damage
- Livelihood assets (fruit bearing trees, boats & nets, shops etc.) impacted in the last disaster events
- Houses (old and weak houses, thatched houses, houses in close proximity to sea etc.) that got damaged

Suggested Tool for this Stage:

Transect Map can be used to describe the island terrain and land elevation, vegetation, concentration and/ or distribution of residential plots, vulnerable people of the island, resources, livelihoods, infrastructures, etc.

Resource Map can be used to identify and plot the different resource base of the community and make an inventory of their capacities.

Social Map can be used to show the location/dispersion of residences in the island. It also shows the socio-economic profile of the island.

Venn Diagram can be used to show different social groups, organizations and institutions existing in the island. It also shows their linkages and networks.

People by past experience would able to list what were the major causes of damage (strong winds, high waves, storm surges etc.) in last disasters and what were impacted most (area, infrastructure, livelihood, houses etc.) The list helps the community to know where the geographical weakness of the village lies and who and what get affected because of it. Preparedness planning would focus on mitigating the disaster impacts by identifying the existing weakness.

Examples:

Strong winds might have caused damage to weak & old houses, trees and plantation and so on

Tsunami waves might have caused damage to houses and infrastructures located to the shoreline including the harbor, boats, trees and plantation etc.

Stage 3: Hazard Mapping (Listing what causes damage in a disaster and where the damage is)

This exercise makes the community members know the hazards that confront their communities. Hazard map is a tool that allows community members to identify graphically the vulnerable members of the community especially the elderly and disabled who are put at risk by hazards. The hazard mapping activity is instrumental in making the community realize their level of vulnerability to such hazards. It also identifies where in the community are most likely to affect life, property, infrastructure and economic activities.

Further it entails plotting in a map, areas near sea, coastlines, flood plains and low lying areas. It also includes identifying weak structures and critical infrastructures which are prone to such hazards.

Over and above the hazard map that the community will draw, the process is as equally important as the output. The process would entail the community discussing and brainstorming all together the different hazards that they have faced or may potentially face in the future. In effect, it increases their motivation to be prepared and increase the community's resiliency through proper planning and undertaking both mitigation and development initiatives to harness local coping capacities and reduce potential impacts when disaster occurs.

Stage 4: Assessing who is at risk and what is at risk (Risk/vulnerability mapping)

The objective of this mapping is to identify who and what are the most at risk in the community from specific hazards. The community members based on the experience of the previous disasters identify the groups who fared worst in the community. A list is made of who is at risk and what is at risk in the community.

Example:

Who is at risk	What is at risk
• Elderly/aged people and the disabled • Children and pregnant women • Sick and ailing people • Single women • Families living near the sea, in old and weak houses	• Livelihood infrastructures such as boats, nets & shops etc. • Family valuable document (passports, bank pass books, property documents etc.) • Fruit bearing trees • Weak/old houses and aging infrastructures • Boat repairing sheds • Livestock • Fuel storage, water supply, electric generation and communication facilities including roads

Stage 5: How to Reduce Rsk (opportunity/resource mapping)

The purpose of the exercise is to identify existing resources in the community, which will help to reduce the hazard risk to life and property. This is a powerful tool which enables community members to look at their resource base and make an inventory of their capacities.
During this stage, the community should identify any assets/people/institutions that could provide the community with opportunities during a disaster event. Examples of assets/people/institutions that should be identified are the following:

- Safe/strong houses (RCC houses with elevated plinth area) and buildings (Tsunami/ multi-purpose shelters/ tsunami platforms/ double storied school buildings, mosques, Govt. offices) which can withstand strong winds and heavy rain- where families may take shelters during an emergency
- Roads for easy evacuation of families to safe shelters
- Existing health and communication facilities
- Dhonis and speed boats for transportation of large number of evacuees out of the island
- Water rescue gears and debris cleaning equipments
- Motivated volunteers to perform different tasks during emergencies
- People with special skills e.g., first aid, rescue, swimming, boat repairing etc.
- Sources of funds for taking up disaster mitigation activities
- Agencies in the area responsible for disaster mitigation activities.

Sources

- UNDP Maldives (c2005) A Guide to Community Based Disaster Preparedness Plan

Session 2.2:
Participatory Community Risk Assessment Tools

'Participatory Community Risk Assessment Tools' will discuss the different tools that can be used during the participatory community risk assessment.

Learning Objectives

- Use Participatory Community Risk Assessment (PCRA) Tools for Hazard, Vulnerability, Capacity assessments
- Understand the recommended PCRA tools in the Maldives

Key Concepts

1. Participatory Community Risk Assessment provides a systematic pro¬cess for identifying, estimating and ranking local disaster risks.
2. Participatory Community Risk Assessment is a necessary step for the adoption of adequate and appropriate risk reduction measures.
3. Participatory Community Risk Assessment three interrelated compo¬nents — hazard assessment, vulnerability assessment and capacity assessment

Key Tools Used in Participatory Community Risk Assessment (PCRA)

a. Review of Secondary Data - Collecting information that is relevant to the community from published and unpublished sources (maps, aerial photos, newspapers clippings, reports) to get an overview of the situation and context.

b. Direct Observation - Systematic observation of people and relationships, objects, events, processes, and recording these observations to obtain a better picture of the community.

c. Semi-structured interviews - discussions in an informal and conversational way using a flexible guide of questions to obtain general and specific information, to analyze problems and opportunities and to discuss plans, etc. Types of semi-structured interviews are group interviews, focus group discussions, individual interviews and key informant interview.

d. Drama, Role Play and Simulation - Acting out who are affected and what is damaged during a disaster or how the community prepares for and responds to particular hazards.

e. Diagramming and Visualization Tools - Diagrams and visualizations are pictorial or symbolic representations of information, and are a central element of participatory risk assessment. Maps, models, diagrams, matrices are learning aids in making analysis, in making comparisons and in establishing relationships and trends.

    1. Historical Profile - Gathering information about what happened in the past to understand the present situation.

    2. Mapping - Making a spatial overview of the area's main features and landmarks; households and community facilities which are vulnerable to particular hazards; location of resources which can be mobilized for preparedness, mitigation and emergency response.

    3. Modeling - Representation of various aspects of the community using sand, clay and other indigenous materials.

    4. Transect - A systematic walk through the community to explore different land uses, economic activities, ecological systems, etc while taking notes, pictures and asking questions from key inform¬ants.

    5. Seasonal Calendar - Making a calendar of months when the com¬munity is exposed to particular hazards; main production, economic and socio-cultural activities of men, women and children.

    6. Institutional and Social Network Analysis - Shows the key institu¬tions, organizations and individuals in the community and their relationships and importance in decision making.

    7. Livelihood/Class Analysis - Diagram presenting the sources of live¬lihood and expenses of households to understand their behavior, decisions and coping strategies.

    8. Gendered Resource Mapping - Shows gender differences in re¬source use and control to identify the flow of access to and control over resources.

9. Gendered Benefits Matrix - Profile of gender differences in access and control of the benefits of production.

10. Problem Tree - Identifies problems, effects and root causes.

11. Ranking and Scoring - a tool for exploring people's perceptions, elicit their criteria and understand their choices in measuring and prioritizing disaster risks to be addressed and the measures to be adopted.

12. Folk Songs, Stories, Poetry - To collect information on indigenous knowledge, beliefs and practices from songs, folk stories and poems.

Participatory Community Risk Assessment Results

a. Some tools to Use for Hazard Assessment: Focused Group Discussions, Interviews combined with tools for visualization like diagrams, maps, etc., Historical Profile or Time Line, Hazard Assessment Table or Matrix, Hazard map, Seasonal Calendar, Review of songs, poetry, etc., Transect walk , community watching

b. Some tools to Use for Vulnerability Assessment: Focused Group Discussions, interviews combined with tools for visualization like dia¬grams, maps etc., Hazard Map showing elements at risk, Transect walk, community watching, Seasonal Calendar, Historical Profile, Time Line, Institutional and Social Network Analysis, Livelihood Analysis, Livelihood and Coping Analysis, Problem Tree, Fish Bone Analysis (Ishikawa Diagram), Disaster Crunch Model

c. Some tools to Use for Capacity Assessment: All tools for vulnerability assessment, Resources Mapping, Gendered resource mapping, Gendered benefit analysis, Community Drama or Skit

d. Some Tools for Analyzing Results of PCRA: Mapping, 3-D maps, Hazard Vulnerability Capacity Assessment Table or Matrix, Disaster Crunch Model, Ranking and Scoring, Diagrams, mind maps, Applications of higher technology: Participatory GIS

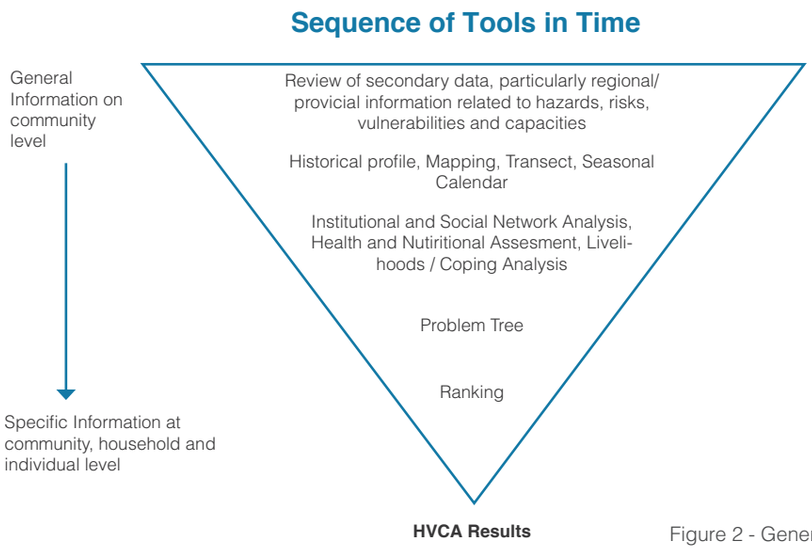


Figure 2 - General Sequence of Tools for PCRA

The Participatory Community Risk Assessment Tools in the Maldives

The section above indicates the plethora of suitable tools for conducting PCRA. Within the context of the Maldives, a selection of appropriate tools were developed and extensively tested by UNDP in 2006 onwards. While successful PCRA relies on skilled facilitators with the ability to adapt the methodology, the tools and processes described below may be of assistance:

Stage 1: Review and Analysis of Past Disaster Events.

The *"How To"* of Review and Analysis:

1. Randomly divide the participants into 3 groups, making a group with at least 11 members each (good enough to work in a small group discussion).
2. After having grouped the participants, ask each group to situate themselves in a space within the workshop venue most convenient for them to do a small group activity.
3. Assign each group with a specific task for Stage 1 (Review and Analysis) of the process as follows:
    a. Group 1: Focus Group Discussion
    b. Group 2: Timeline (of Hazards that hit the Island during the last twenty years, major or minor)
    c. Group 3: Seasonality Diagram (of occurrence of hazards and other events/ elements)
4. For Group 1, one of the Main Facilitator should serve as the FGD facilitator. Though, we may assign a note-taker and a presenter from the group.
5. For Groups 2 and 3, ask the group to identify/assign a facilitator, a note-taker, and a presenter.
6. Provide each group with the materials needed for the activity.
7. Start the process per group (more detailed information about the tools is given in the next chapter).

The Focused Group Discussion (FGD)

Focused Group Discussion (FGD) is one form of sensitive interviewing and dialogue. This is done with a small group of around 10 members convened to discuss a particular topic. In this case, the group shall discuss and share the chronology of the disaster event (before, during and after) that hit the island. This should also elicit a description of people's experiences (both vivid and emotional), issues and concerns encountered during the disaster event. The process shall give the participants with the opportunity to review and recollect their experiences (including coping mechanisms employed) during the disaster.

Objectives:

- To share and learn how each one fared in the last disaster that hit the island.
- To make the participants (community) describe/narrate their experiences including coping mechanisms they have employed during the recent disaster.

Focused Group Discussion (FGD) is one form of sensitive interviewing and dialogue. This is done with a small group of around 10 members convened to discuss a particular topic.

How to facilitate:

1. Make the group members sit comfortably and make each one feel at ease before you'll start the process.
2. Once everyone is at ease and ready, then start the FGD by asking the group members the different questions one at a time (please refer to the guide questions below).

Guide Questions:

- Before the event: Was any early warning received? Were you aware about the possibility of occurrence of such an event? Did you experience it for the first time? Did you take any precautionary measures?
- During the event: What did you experience? What did you all do during the event? Did you panic? Was there anybody giving instructions or directions on what to do and where to go? What were the roles that women played during the disaster?
- After the event: What did they do after the event was over? What did they lose and what did they protect? Who/ what sustained maximum damage and why? What all materials were needed? What did they receive as help? Did the help reach in time? Was the relief distributed equitably? Who suffered the most and why? How did they react to the situation? What do you think is needed to avert such situations in the future? How that can be done?

3. To maximize participation from all members, direct the question to a particular participant to respond. Then encourage the other group members as well to respond to the question until you've exhausted all possible answers and obtained key information.
4. The note-taker should be instructed to take down the whole proceedings of the exercise.
5. After the discussion, ask the group to list down all important/key points of the discussion for presentation in the plenary.

Timeline (of Hazards)

Timeline is a very simple tool that narrates the disaster history and significant events that happened in the community. It is presented in a matrix form with one column showing the year, the other column indicates the hazards and/or disaster events that took place in the island, and the third column narrates very briefly the damage it caused or potential damage it may have caused in the community.

Objectives:

- To learn what are the significant events (hazards and/or disasters) that occur in the community.
- To make the community members discuss, review and recollect the different hazard/disaster events that strike the island and how these did affect them including their assets, properties, livelihoods and infrastructures of the community.

How to facilitate:

1. Make the group members sit comfortably and make each one feel at ease before you'll start the process.
2. Proceed then by asking the participants to make a quick recollection of past hazards – (major or minor and during the last 20 years at least) that hit or strike the Island.

   (Note: Please keep in mind that Hazards may not be a disaster at all. But may have strike the Island in a particular period)

Sample key questions:

- What are the hazard/disaster events that happened or are happening in your island? When did they happen (Month/Year)?
- What are other significant events that affected the community? When did they happen (Month/Year)?

3. Aside from the type of hazards, the participants should be asked also to discuss and take note of what damages or potential damage these hazards/disasters may have caused to human, assets, livelihoods, houses and infrastructures.
4. Encourage all members to participate and share their recollection and experiences.
5. After brainstorming, ask the group to plot the output of their discussion in the matrix as shown below for presentation in the plenary.

An example of a Timeline

Timeline (of Hazards/Disaster Events) of V. Felidhoo Island

Date/Year of Occurrence	Date/Year of Occurrence	Damage it caused or Potential Damage it may have caused
1982	Cholera	Greater proportion of the population got affected and many lost their lives.
1991	Heavy Rain	Some minor & major damages to a number of houses and many trees were up rooted.
1991	Measles	Nearly 50% of the child population of the Island was affected.
1992	Heavy & Strong Rain	Low-lying area of the Island was badly flooded & huge damages caused to the houses and vegetation.
2003	Pest Infestation (abundant growth of caterpillars on the trees)	Number of trees & individuals got affected.
2004	Tsunami	Lost of livelihood, shelter, household materials.
2004	Shipwreck	Many people from G.Dh Gadhoo lost their lives and huge damage to the boat & materials.
2005	Unusual rise of sea level	G.Dh Gadhoo, M.Dhiggaru,Madduvvary were affected.
2005	Multi Party System	Stopping of the one & only regular transportation mode from home atoll to capital Male' since the situation in the Male' was very bad. Shortage of many consumer used items from the shops.
2005	Shipwreck	Damages to huge number of goods and the boat was totally damaged.

Seasonality Calendar

Seasonality Calendar contains a lot of information about seasonal changes and related hazards, diseases, community events and other information related to specific months of the year. Using five stones (five being the highest score) indicates degree, severity and extent of change.

Objective:

To learn about seasonal activities, hazards and disasters that occurs in the island.

How to facilitate:

1. The facilitator must prepare a calendar on a flip chart before the activity.
2. Make the group members sit comfortably and make each one feel at ease before you'll start the process.
3. It is common to start this activity by asking the community members which months are the rainy and summer seasons.

   (Note: There are different ways by which community members to mark the calendar. Some use a tick (√) or (x) per month to indicate the wet and dry season. Others use symbols such as drawing a sun to indicate summer or a cloudy caricature to indicate rainy season, while others simply use five pebbles (five being the highest score) to indicate degree, severity and extent of change. Some others simply use colors to shade months of occurrence of events)
4. Proceed by asking further the group to discuss the seasonality of hazards that often strike the island and other community activities. You may use the sample key questions below.

Sample key Questions:

   a. Which months of the year are the rainy and summer seasons?
   b. What are the hazards/disasters that occur in the community? When do they happen?
   c. When is there scarcity of food supply in the island?
   d. What are the common illnesses during rainy or cold season?
   e. Which months of the year is the peak for fishing activities?
   f. When are the times/months it is difficult to leave the island?
   g. Which months is the peak season for tourists visiting the island?

8. After obtaining answers to the above questions, ask the group to plot them in the seasonality calendar as shown in the example below.

A sample Seasonality Calendar (V. Felidhoo Island)

Type of Hazards	Jan	Feb	Mar	Apr	May	Jun	July	Aug	Sep	Oct	Nov	Dec
Heavy Rain and Flooding						■	■					
Drought											■	■
Storm (Tornado)						■	■					
Tidal Waves											■	■
Other Events:												
Fishing Season (High Catch)											■	■
Tourism	■	■										
In & Out Migration of People	■											
Diseases		■										
Crime									■			
Reef Damage (due to seasonal changes)											■	■
Trees Damage											■	■
Agriculture						■	■					
Lack of Drinking Water	■	■										

Stage 2: Island Mapping/Situational Analysis.

The *"How To"* of Island Mapping/Situational Analysis:

1. Randomly divide the participants into 4 groups, making a group with at least 7 members each (good enough to work in a small group discussion).
2. After having grouped the participants, ask each group to situate themselves in a space within the workshop venue most convenient for them to do a small group activity.
3. Assign each group with a specific task for Stage 2 (Situational Analysis) of the process as follows:
    a. Group 1: Transect Map
    b. Group 2: Resource Map
    c. Group 3: Social Map (showing location/dispersion of all residences in the Island and Wealth Rankings (socio-economic status of HH) events/elements)
    d. Group 4: Venn Diagram (showing linkages and networks of people, groups and institutions in the Island)
4. Ask each group to identify and assign a facilitator, a note-taker, and a presenter.
5. Provide each group with the materials needed for the activity.
6. Start the process per group (please see mechanics for each activity in next chapter)

Transect Map

Transect is a highly enjoyable activity since this involves walking around the community following a certain path or direction. Transect Map is drawn after the walk. A team roams around the island community and notes all of the resources they see as they pass along the way. Afterwards the data are reflected in a map that is drawn cross-sectional. Transect map helps the community to identify the relationship of one resource to another, or its ecological balance and interrelations.

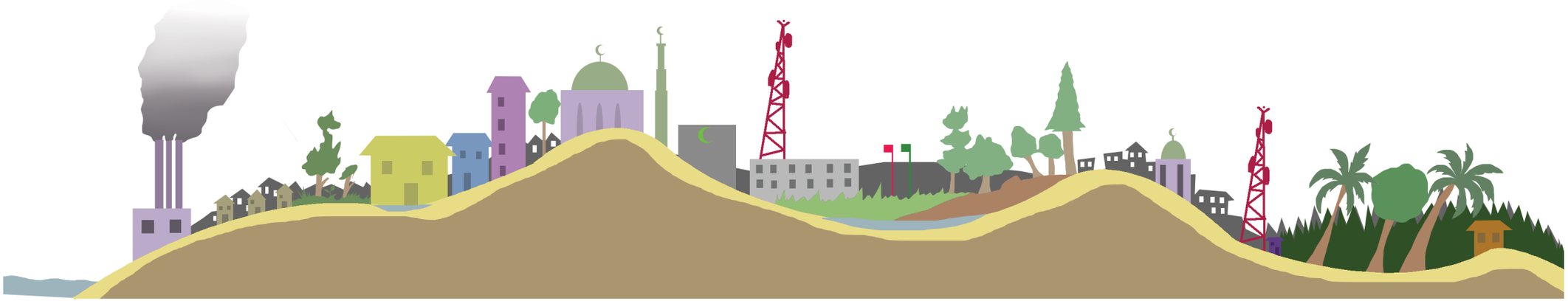
Objective:

- To get a picture of the vulnerability of the community and the resources that is available or maybe available for disaster risk management.

How to facilitate:

1. Discuss with community members the kind of information needed from this activity such as the following:
    b. Island terrain and land elevation showing high grounds and low-lying areas
    c. Vegetation areas
    d. Residential locations/concentration
    e. Location of critical infrastructures and facilities
    f. Livelihood facilities and assets
    g. Transportation and communication facilities

Transect Map



Sample Key Questions:

a. Which area in the island is a high ground? Where are low-lying areas which are oftentimes prone to flooding?
b. What resources are found in the high grounds? In the low-lying areas?
c. What resources and facilities can be found near the seashore?
d. Which are the houses located close to sea most likely to be affected by high waves?
e. Where can we find two-storey buildings in the island? Are there other buildings which can accommodate people during a disaster?
f. Which area of the island was badly hit by the recent disaster?

2. Make the community decide what direction to take and the best path to follow during the walk.
3. Walk with community members who can give information while transect walk is being done.
4. Ask the note-taker to write down the observations and input from community members.
5. After the transect walk, make the group members sit comfortably and make each one feel at ease before you'll proceed.
6. Proceed then by asking the participants to draw a cross-sectional map of the island (following the path/direction they have taken during the walk). The cross-sectional map should indicate island terrain and land elevation, vegetation, residential locations, infrastructures and other key features they have noted while doing the walk around the island a while ago. The observations should be written below the map. Divide the cross-sectional map into three (3) columns and indicate specific observations in the columns.
7. A sample transect map is provided below for reference.

Resource Mapping

In the context of disaster management, Resource Mapping is a method for collating and plotting information on availability of local resources, for handling emergency situations within the economic and cultural domain of a specific community.

Resource mapping" or "sketch mapping" helps people in picturing resources and features on a given base and in graphically manifesting the significance they attach to them. Resource mapping is best associated with other tools and in particular with transect walks, which contribute to a more critical analysis of the individual resource.

Resource mapping should be conducted at the onset of a community based activity, but only after rapport has been established with the community.

Knowledge on the social structure of the participating community is a prerequisite for the facilitator. This is because the community may consider resource distribution, use and access as sensitive issues.

Objective:

To identify available resources (natural, physical, economic and social/human resources) that could be used by community members in disaster risk management.

Resource Map

- CHILDREN'S CENTER
- WATER PROVIDERS
- JAIL
- ROUTES FOR INMATE TRANSPORT
- GUEST HOUSES
- DIVING SCHOOL
- MOSQUE
- SCHOOL
- CLINIC
- SINGLE STOREY HOUSE
- MULTI STOREY HOUSE
- FOOTBALL STADIUM
- ROUTES TO SAFETY
- POWER STATION
- POLICE STATION

How to facilitate:

1. Make the group members sit comfortably and make each one feel at ease before you'll start the process.
2. Proceed by instructing the group to sketch a spatial map of the island first indicating only major divisions in terms of streets, plots and blocks.
3. Once this is done, the group should then mark on the map the geographical and topographical details of the island to include the following:
    a. Total population, # of HH
    b. Distance from sea
    c. Elevated lands, inclines, low lying areas
4. The group must discuss and brainstorm on what are resources available in the community.

    Sample Key Questions:

    a. Are there any strong houses or double storied houses in your island that can withstand strong winds?
    b. Can you identify on the map the building in your community that would not be flooded by a 5 feet?
    c. What would you do if some houses in your islands collapse? Do you have the requisite equipments to clean the debris? Where are these equipment kept?

5. The group must also mark in the map the habitations in the island and where they are located. They should classify each dwelling in terms of thatched, tiled, bricks but unplastered, bricks and plastered or concrete. They can use colors to assign coding for each classification.
6. Moving on, the group should also mark on the map the natural resources in the island like crops, vegetation, fruit trees, coconut, lands and fields…
7. Also mark the important basic services institutions and livelihood enterprises available in the island like pharmacy, health centers, shops…
8. Further, they should also mark on the map existing infrastructure in the island and where they are located like mosque, buildings, schools and education centers, health center, powerhouse, telephone, offices, etc.
9. The resource map and the lists will then be presented in the plenary.

Social Mapping

Social Map is a method of collating and plotting information relative to the socio-economic stratification or profile of the island community. This would also show the location (concentration/dispersion) of the residences and population in the island. It would likewise present the locations of the most vulnerable groups in the island.

Objective:

- To identify and understand the community's socio-economic stratification and profile.
- To present the population dispersion/concentration including the classification of the most vulnerable groups in the island.

How to facilitate:

1. Make the group members sit comfortably and make each one feel at ease before you'll start the process.
2. Proceed by instructing the group to sketch a spatial map of the island first indicating only major divisions in terms of streets, plots and blocks.
3. Once the sketch of the map is done, the group should mark on the map the dispersion of all the residences in the Island.
4. Make a list of the population – classify them into Men and Women. Classify further as follows: children, the disabled, pregnant women, mothers, elderly, etc. Assign a code (you may use symbols) for each classification and indicate their location in the map
5. Further, ask the group to classify the different households in terms of socio-economic status. They may agree on the classification and they will then need to provide justification or rationale for such categories. Then color code each classification and indicate them on the map as well.

   Note: This would allow them to analyze who are the most vulnerable families (economically speaking) in the island.
6. Ask the participants to also make a list of various livelihoods and assets of the community such as boats and fishing crafts, food grain stores, shops, as well as the list of different livelihoods practiced by the people.
7. The social map will then be presented to the plenary.

Venn Diagram

Venn Diagram shows the interrelation of the institutions and organizations involved in the development processes of the island community. Institutional and social network analysis is a pictorial presentation in circles of different individuals, groups and organizations involved in the community.

The significance of these individuals, groups and organizations are reflected in the size of the circles. Relationship of the community to these individuals, groups and organizations is shown in the circles position in the diagram. For instance, a local NGO may be implementing a small project (represented by a small circle) in the community but people trust them. This trusting relationship can be shown by putting the small circle very close to the community.

This helps the community to identify potential partners and appraise needs to be provided by the institutions operating inside and outside the community.

Objective:

- To identify different individuals, groups and organizations that are supporting community activities and programmes.

How to facilitate:

1. The facilitator prepares color paper circles of different sizes.
2. Facilitator asks community members to write the names of the individuals, groups or organizations involved in the community and the nature and amount of assistance they extend to the community.
3. Facilitator then explains to the community members that each circle represents an individual, group or organization – that the biggest circle represents the individual, group or

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organization that may have given the community the biggest amount of assistance. For example, providing wells or regular health services. The smallest circle provides the least assistance in terms of amount.

4. Community ranks the individuals, groups and organizations using the circles. Facilitator instructs the community members NOT to paste them yet.
5. After the first ranking exercise, the facilitator asks the community members which of the individuals, groups and organizations are the most important and significant to them. Importance and significance will be reflected in how far or near these circles are to the community.
6. Allow the community members to discuss and as they do so, they will keep moving the circles until everyone has agreed. Lines can be drawn to indicate the relationship of the community and these groups. Heavy solid lines can indicate trusting relationship and good coordination while broken lines can mean poor coordination.

Stage 3: Hazard Mapping (Listing what causes damage in a disaster and where the damage is)

Hazard Mapping

This exercise makes the community members know the hazards that confront their communities. Hazard map is a tool that allows community members to identify graphically the vulnerable members of the community especially the elderly and disabled who are put at risk by hazards. The hazard mapping activity is instrumental in making the community realize their level of vulnerability to such hazards. It also identifies where in the community are most likely to affect life, property, infrastructure and economic activities.

Further it entails plotting in a map, areas near sea, coastlines, flood plains and low lying areas. It also includes identifying weak structures and critical infrastructures which are prone to such hazards.

Over and above the hazard map that the community will draw, the process is as equally important as the output. The process would entail the community discussing and brainstorming all together the different hazards that they have faced or may potentially face in the future. In effect, it increases their motivation to be prepared and increase the community's resiliency through proper planning and undertaking both mitigation and development initiatives to harness local coping capacities and reduce potential impacts when disaster occurs.

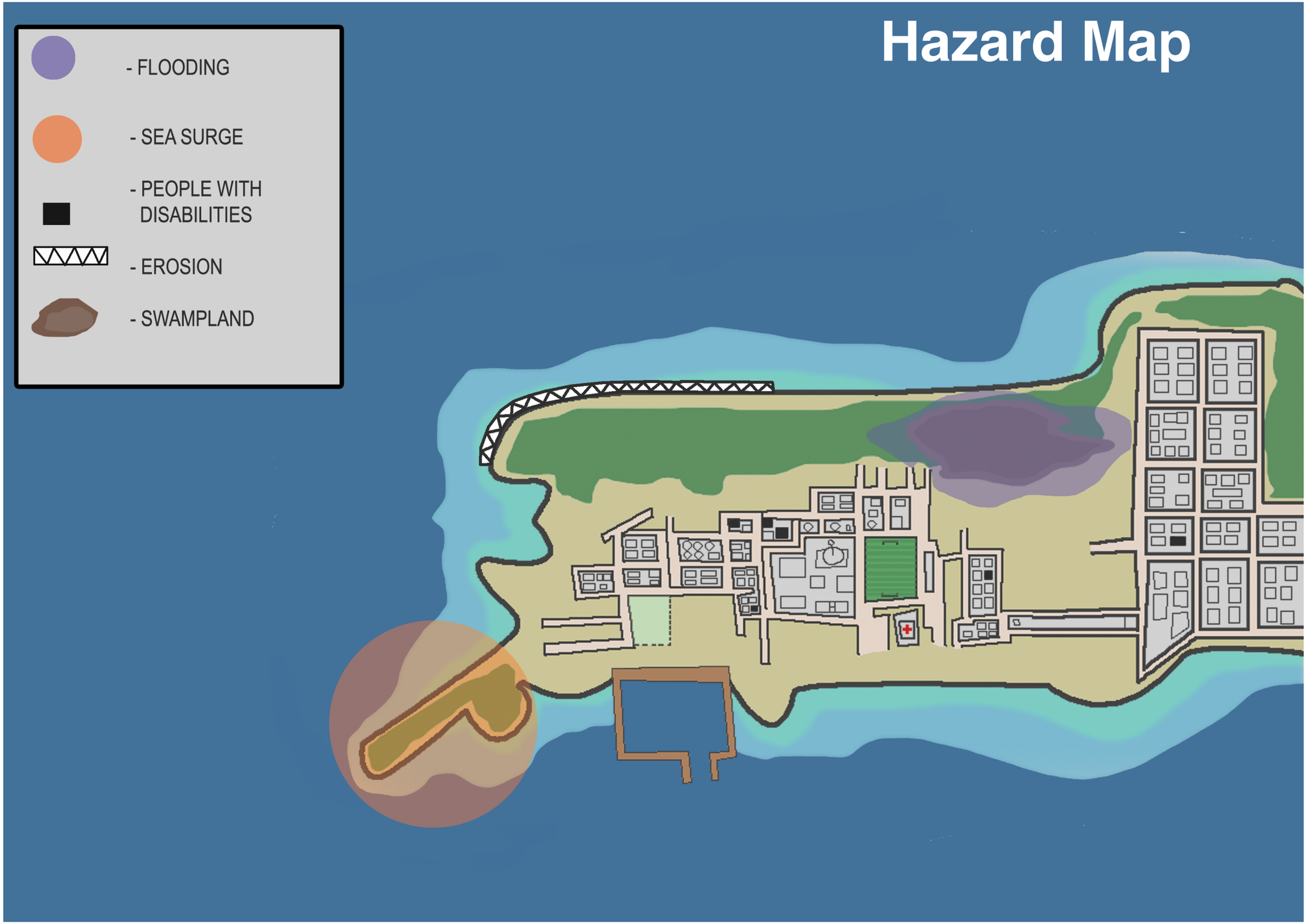
Objective:

- To identify areas at risk from specific hazards and the vulnerable members of the community

How to facilitate:

1. Ask the group to identify and assign a facilitator, a note-taker, and a presenter.
2. Provide the group with the materials needed for the activity.
3. Make the group members sit comfortably and make each one feel at ease before you'll start the process.

Hazard Map


- FLOODING
- SEA SURGE
- PEOPLE WITH DISABILITIES
- EROSION
- SWAMPLAND

4. Instruct the group to undertake the following:Identify based on their previous experience the different hazards it has faced.
    a. Identify WHERE in the island these hazards are most likely to affect life, property, infrastructure and economic activities.
    b. Draw a spatial map of the Island again.
    c. For each hazard type, they have to mark on the map AREAS near sea or coastlines, flood plains, low lying areas.
    d. Also mark on the map locations of infrastructure installations and livelihood facilities prone to be affected by the hazard.
    e. Also mark on the map weak structures vulnerable to high speed winds, trees and plantations most likely to be affected, electricity and communication facilities
    f. Also mark on the map locations of thatched houses and other structures prone to such hazard
5. The hazard map will then be presented to the plenary for discussion and critiquing.

Stage 4: Assessing who is at risk and what is at risk (Risk/vulnerability mapping)

Risk/Vulnerability Mapping

The objective of this mapping is to identify who and what are the most at risk in the community from specific hazards. The community members based on the experience of the previous disasters identify the groups who fared worst in the community. A list is made of who is at risk and what is at risk in the community.

Risk/Vulnerability Mapping

Who is at risk	What is at risk
• Elderly/aged people and the disabled • Children and pregnant women • Sick and ailing people • Single women • Families living near the sea, in old and weak houses	• Livelihood infrastructures such as boats, nets & shops etc. • Family valuable document (passports, bank pass books, property documents etc.) • Fruit bearing trees • Weak/old houses and aging infrastructures • Boat repairing sheds • Livestock • Fuel storage, water supply, electric generation and communication facilities including roads

How to facilitate:

1. Maintain the group who did the Hazard Mapping for this next exercise.
2. Provide the group with the materials needed for the activity.
3. Make the group members sit comfortably and make each one feel at ease before you'll start the process.
4. Taking cue from the Hazard Map they have drawn and a 5-minute brainstorming activity, ask the community members to LIST DOWN who is at risk and what is at risk in the Island. They can use the matrix below:

Who is at risk	What is at risk

5. The matrix could generate a general classification of who is at risk and what is at risk. So, ask the participants further to MAKE A LIST of the most vulnerable individuals in the island (such as children, elderly, pregnant women, disabled, etc.).
6. Using color codes or symbols, ask the group to plot on the map the locations of the most vulnerable (based on the list they have made) individuals and properties or assets in the Island.
7. The risk map will then be presented to the plenary for discussion and critiquing.

Stage 5: How to Reduce Risk (opportunity/resource mapping)

Opportunity/Resource Mapping

The purpose of the exercise is to identify existing resources in the community, which will help to reduce the hazard risk to life and property. This is a powerful tool which enables community members to look at their resource base and make an inventory of their capacities.

The community members should identify:

- Safe/strong houses (RCC houses with elevated plinth area) and buildings (Tsunami/ multi-purpose shelters/ tsunami platforms/ double storied school buildings, mosques, Govt. offices) which can withstand strong winds and heavy rain- where families may take shelters during an emergency
- Roads for easy evacuation of families to safe shelters
- Existing health and communication facilities
- Dhonis and speed boats for transportation of large number of evacuees out of the island
- Water rescue gears and debris cleaning equipments
- Motivated volunteers to perform different tasks during emergencies
- People with special skills e.g., first aid, rescue, swimming, boat repairing etc.
- Sources of funds for taking up disaster mitigation activities
- Agencies in the area responsible for disaster mitigation activities.

Upon the identification of vulnerable people and assets and resources a plan could be devised so as to mitigate risks from specific hazards.

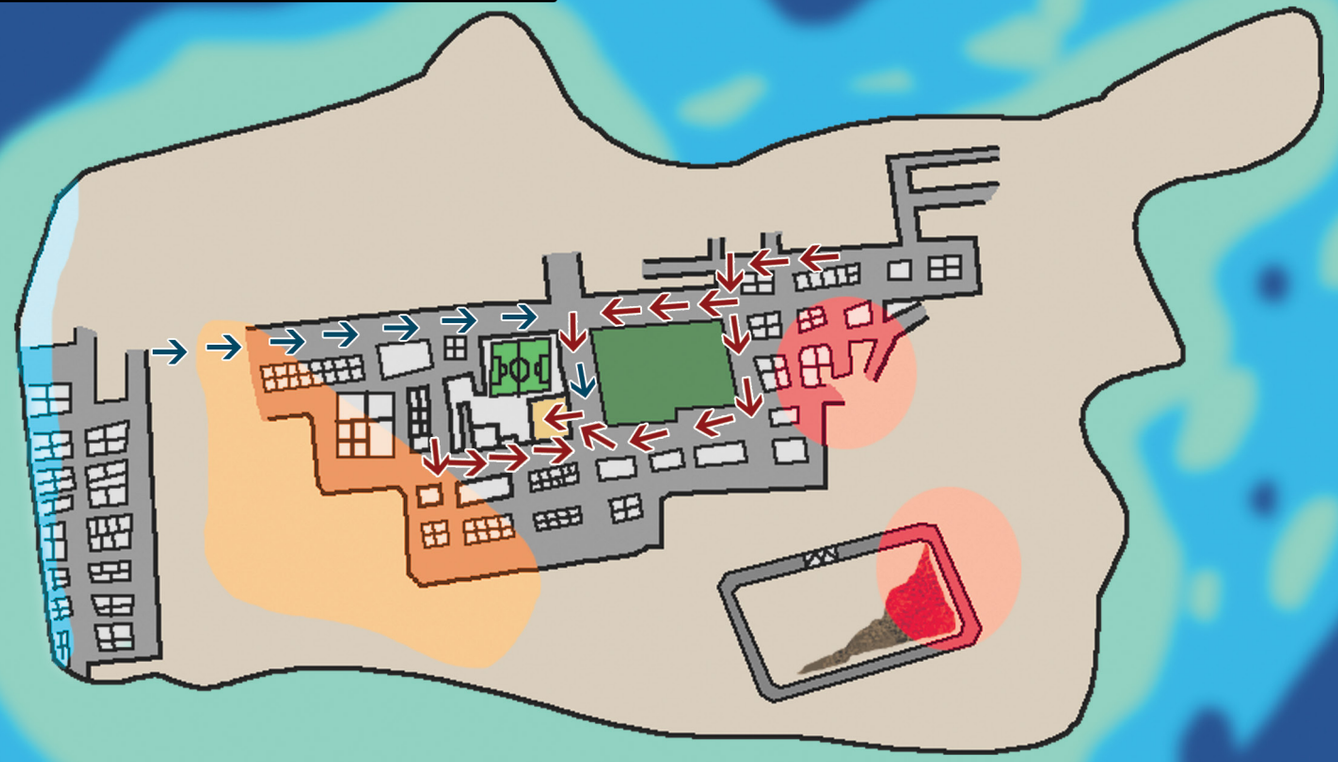
How to facilitate:

1. Maintain the group who did the Hazard and Risk Mapping for this next exercise.
2. Ask the group to situate themselves in a space within the workshop venue most convenient for them to do a small group activity.
3. The group should identify and assign a facilitator, a note-taker, and a presenter.
4. Provide the group with the materials needed for the activity.
5. Make the group members sit comfortably and make each one feel at ease before you'll start the process.
6. Ask the community members to identify and make a list of resources existing in the Island which will help reduce risks to life and property. These resources to be identified may be as follows:
    a. Safe houses and buildings where families can take refuge in case of a disaster
    b. Elevated lands, hillocks and similar natural barriers where livelihood facilities could be secured (participants could also refer to the resource map prepared the previous days)
    c. Safe evacuation routes
    d. Existing health, medical and sanitation facilities that can be used

        (items a to d should be plotted on the island map as well)
    e. Possible sources of funds to carry out contingency and preparedness activities
    f. List of motivated men, women and youth volunteers who can implement and supervise the activities of the contingency plan
    g. Precautions to safeguard people and property which were identified during the risk mapping sessions. A list of precautionary measures may be made for each of the vulnerable sector and property.
7. The output of this exercise will then be presented to the plenary for discussion and critiquing.

Evacuation Map

- ROUTES FOR PEOPLE LIVING ISLAND CENTER
- ROUTES FOR PEOPLE LIVING NEAR SEASIDE
- SCHOOL
- FIRE HAZZARD
- FLOODING



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Module 3:
CBDRR Planning


SCHOOL
DISASTER UNIT
HOSPITAL
POLICE
SAFETY MAP
EVACUATION ROUTE
EVACUATION ROUTE
EVACUATION ROUTE

Session 3.1:
Participatory Community Disaster Risk Reduction Plan and Implementation

'Participatory Community Disaster Risk Reduction Plan & Implementation' will discuss how to identify, plan and implement appropriate risk reduction measures and interventions at community level based on Participatory Risk Assessment.

Learning Objectives

- Explain the importance of participatory community risk reduction plan¬ning;
- Describe the process in crafting the community risk reduction plan;
- Identify the main parts of the community risk reduction plan.

Key Concepts

1. The Community Disaster Risk Reduction Plan (CDRRP) unites the com¬munity in commitments and actions to reduce disaster risks.
2. The CDRRP charts the course of the community's progression towards safety, disaster resilience and sustainable development.

COMMUNITY DISASTER RISK REDUCTION PLAN

"The local community is taken as the primary focus of attention (in disaster reduction) since that is the common unit which is affected by disaster and, more importantly responds to deal with the event. Disaster planning is seen as an ongoing social activity which needs to be incorporated into social life..."

(Russell Dynes)

Why Plan?

Participatory Community Risk Assessment unites the community in un¬derstanding the disaster risk (hazards exposure, elements at risk and why they are at risk, local resources and coping strategies). The Community Disaster Risk Reduction Plan (CDRRP) unites the community (and with other stakeholders) in commitments and actions to reduce these risks.

What to Plan?

The Plan is the blue print, road map, or guide in changing or transform¬ing their at-risk community to become a disaster resilient community. The CDRRP charts the course of the community's progression towards safety, disaster resilience and sustainable development.

The CDRRP is geared towards prevention, mitigation and preparedness measures, specifically how the community can:

- Avoid loss, rather than replace loss
- Avoid social dislocation
- Protect assets of households, community, and government
- Protect community safety nets (family, health, food supply, business, education, culture)

The CDRRP is also referred to by communities and organizations by different names — Community Disaster Management Plan, Community Preparedness and Mitigation Plan, Community, Contingency Plan, Com¬munity Counter Disaster Plan, or Community Development Plan.

Parts of the Community Disaster Risk Reduction Plan (CDRRP)

a. Brief Description of the Community
   - o Location, population, livelihood, community in relation to other villages (significance of community)

b. Community Disaster Situation
   - o Summary of Disaster History and Risk Assessment Results
   - o People and other elements at risk in the community
   - o Why they are at risk
   - o Attachments: Risk Assessment Maps

c. Objectives and Targets of the CDRRP
   - o Target number of population or families to cover; target percent¬age decrease in deaths and damages to property

d. Strategies and Activities for Risk Reduction
   - o Hazard mitigation/prevention, vulnerability reduction, capacity building
   - o Preparedness for emergency response and recovery
   - o When will these be done?
   - o Who is/are responsible?
   - o What Community Resources can be used for the activity? What other Resources are needed?
   - o What Agency/ies or organization/s can support the community?
   - o When will the activity be completed?

e. Roles and Responsibilities
   - o Persons, committees and organizations to be in-charge of particular functions and activities; relationships of persons, committees,
   - o Relationships of persons, committees and organizations. An organizational Structure to implement the plan may be drawn as needed

f. Schedules and Timetables
   - o When activities will be initiated and completed

g. Annexes
   - o Maps, tables, and matrices from the community risk assessment and planning
   - o List of community residents, directory of organizations and important local government and media contacts, list of members of the community disaster response organization
   - o Inventory of vital community resources for the preparedness activities.
   - o Operational procedures and policies such as procedures in canvassing, stockpiling and inventory; reporting requirements and formats; use and replenishment of the community contingency fund
   - o Details of tasks of the various committees
   - o Evacuation procedures and route and procedures in management of the evacuation center and/or Emergency Operations Center

Community Disaster Risk Reduction Action Plan

The community may not able to formulate an elaborate Disaster Risk Reduction Plan. However, the community is able to document the results of the Participatory Disaster Risk Reduction Planning into a Community Disaster Risk Reduction Action Plan format. Underneath you can find a generic community disaster risk reduction action plan.

Generic Community Disaster Risk Reduction Action Plan
(July - December 20__)

Hazards:
Objectives:

Element at Risk	Activities	Schedule/ Timetable	Responsible			Resources	Support Agencies	Completion date
			Organization	Committee/ Task Force/ Action Team	Person			

Note: If doing the action plan for several hazards, do the action plan for each hazard first, and then organize into a multi-hazard action plan.

Parts of the Community Disaster Risk Reduction Plan (CDRRP)

Many of the useful participatory tools in action planning to set priorities get consensus and get the action going are taken from Participatory Rural Appraisal (PRA), Participatory Learning and Action (PLA) and Participatory Project Development Monitoring and Evaluation (PDME).

a. Setting Objectives and Priorities

Visioning

What is the ideal condition and future of the locality and community? How would the locality and community look if problems & issues were addressed perfectly well? Draw a picture of a safe, disaster resilient and developed locality and community.

Converting Problem Tree to Solutions/Options Tree

Convert the Problems into positive statements when these problems would have been solved.

b. Gathering Support and Spreading Responsibility in Plan Implementation

This can be done through Stakeholders Analysis with the use of following tools

- *Social and Organizational Analysis Table*
- *Institutional and Social Network Analysis (Venn Diagram)*
- *Influence and Impact Grid*

c. Resource Analysis

- *Capacities and Vulnerabilities Analysis*
- *Resource Analysis Matrix*
- *Resources Mapping*
- *Livelihood and Coping Analysis*

d. Getting Consensus and Reality Checks

It is essential consensus building to set ground rules of openness and respect for each other's ideas in discussions plenary and small groups

- *Ranking and Scoring*

  Aside from simple show of hands, objects like paper, sticks, leaves, stones and the like can be used. Most number of sticks is the highest priority and the least number, the least priority. Shapes such as circles and triangles can also be used with the most preferred option being indicated by the biggest circle and the least preferred by the smallest.

- *Force Field Analysis*

  Can be used to evaluate the various risk reduction solutions and proposed strategies. Facilitating forces (or positive factors) as well as hindering forces (negative factors) are identified. Measures which have more facilitating forces working for them are preferred.

e. Some Reminders on Participatory Disaster Risk Reduction Planning

- Plans must be clear. Aims must be positive, clear and precise
- Plans must be flexible. Events will seldom go exactly as anticipated; planning data and assumptions will never be absolutely correct.
- Ensure there is an effective management information system. Good information is funda¬mental to sound planning and effective response.
- Continuity in management is essential. Wherever possible adhere to the existing organizational infrastructure.
- Make maximum use of all resource. Planning is a cooperative effort.
- Plan in packets. Think in round numbers or ball park figures.
- Create and maintain reserves. If the inventory of resources precisely matches the anticipated workload, there will not be enough. Always create and maintain reserves for the unexpected.
- Coordinate at all levels and at all stages.
- Train and practice regularly, not just once. Practice plans to identify and correct weaknesses in them.
- Validate and evaluate. The lessons which have been learned can be applied in future planning.

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Session 3.2: Stakeholder Analysis and Resource Analysis for CBDRR

'Stakeholder Analysis and Resource Analysis for CBDRR' will discuss on how to do analysis on stakeholder to understand key people as stakeholder, their interest, level of engagement, impacts, influence and contribution towards effective planning and implementation of CBDRR. The session will explore how to access the various kinds of resources available to undertake activities as outlined in the plan, what are still in need and other possible sources to mobilize such resources.

Learning Objectives

- Explain the elements and process of stakeholder and resource analysis at the community level;
- Examine and use tools in stakeholder and resource analysis for Participatory Community Risk Reduction Planning;
- Describe the roles of various stakeholder and partners in CBDRR;
- Link roles of stakeholders to the objectives and activities of the Community Risk Reduction Plan;
- Discuss the use of results of Resource Analysis in mobilizing resources for the implementation of Community Risk Reduction Plan.

Key Concepts

1. 1Stakeholders Analysis is a procedure for identifying and understanding the key people and who have a stake or interest in community disaster risk management.
2. With the identification of the interest of different groups, ways to harness the support of those in favor of local and community based disaster risk reduction while managing the risk posed by stakeholders against local and community based disaster risk reduction are made.
3. While the communities are the main actors in CBDRR, they cannot reduce their vulnerabilities and disaster risks on their own.
4. Disaster risk management is necessarily multi-sectoral, multidisciplinary and multi-stakeholder, with the Community Disaster Risk Reduction Plan specifying roles and partnerships with various stakeholders
5. Using Resource Analysis, strategies and interventions to generate and mobilize resources for community based disaster risk reduction can be worked out
6. Mobilizing internal resources for implementation of the Community Risk Reduction Plan promotes community self-reliance and social cohesion.

STAKEHOLDER ANALYSIS

"It is increasingly recognized that disaster risk management at the local level is a key element in any viable national strategy to reduce disaster risks, building on the quality of community networks, the social fabric and effective municipal governance."

(UNDP, 2004)

Stakeholder Analysis in Community Disaster Risk Reduction

Stakeholders in disaster risk reduction include all actors and groups who affect or have influence on, and /or are affected (positively or nega¬tively) by, the policies, decisions, and actions in disaster risk reduction. Stakeholders are also referred to as the actors, key actors, and parties. Partners refer more to the collaborative relationship between and among stakeholders.

Stakeholder Analysis (SA) *is a process or instrument to identify and understanding the key people and groups who have a stake or interest in local and community based disaster risk reduction.* Through SA, the key actors or stakeholders that may be involved in or impacted by (positively or adversely) by a potential intervention, project, policy, or change are identified and analyzed.

Stakeholder Analysis can be done as part of Participatory Community Risk Assessment or as a component of Participatory Disaster Risk Reduction Planning. SA is also sometimes referred to as Participation Analysis taking account the following: 1) Who are the key actors and supporters for the planned interventions?; 2) Who will benefit?; 3) Who will be adversely affected?; and 4) What then are the necessary strategies and activities to mobilize and sustain the participation of these stakeholders.

Elements and Process Stakeholder Analysis

Some Categories of Stakeholders

a. *Active and Passive Stakeholders:* Active stakeholders are those who affect or determine a decision, action or outcome. Passive stakehold¬ers are those who are affected by the decision or action (whether positively or negatively). Those affected can be further categorized as directly affected (those who stand to benefit or lose) and indirectly affected groups (e.g. intermediary of representative organization).

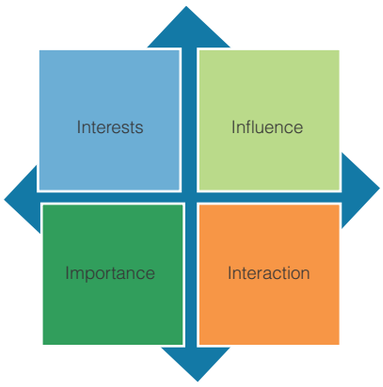
b. *Primary and Secondary Stakeholder:* Primary stakeholders are the community members and groups who are at the heart of interest and who should benefit from the interventions and secondary stakeholders are all others who are not the direct beneficiaries of the intervention or project.

c. *External Stakeholders* are actors or groups that are not directly involved by an intervention or project, but who are interested in its outcome

d. According to *relative importance:* those whose needs and interests are the priorities

e. According to *relative influence:* power certain stakeholders have over the success of a project

Four Most Relevant Stakeholder Attributes (JJ Verplanke & Liza Groenendijk, ITC)



a. Interests

- What are the stakeholders' **expectations**?
- What benefits are there likely to be for the stakeholders?
- What resources might the stakeholder be able and willing (or not willing) to mobilize?
- What other interests does the stakeholder have which may conflict with the intervention or project?

b. Influence (Power)

- The power to control decisions; power may be derived from the position in relation to other stakeholders (e.g. control of funds)
- The ability to persuade others into a course of action; power may be derived from informal forms of influence (e.g. personal connections to ruling politicians)
- Facilitate implementation of an intervention or project or affect it negatively; power may derive from resources introduced by the project (e.g. access rights)
- Power, mandate, legitimacy

c. Importance

- Is the priority given to satisfying a stakeholders needs and interests?
- Is most obvious when stakeholder interests converge closely with objectives sets
- Is distinct from influence (e.g. primary stakeholders who have weak capacity to participate and have limited power to influence key decisions have high importance)

d. Interaction

- Relationship of interests position and needs
- Conflicts involve stakeholders or actors. Conflicts occur when people have to choose between alternatives
- Conflict sources: Interdependence, ambiguity, scarcity, and communication barriers
- Task of "conflict managers": build mutual understanding (between and among actors); ensure equity (not equality); create viable options (alternative solutions)

Basic Process of Stakeholder Analysis

a. Identifying Key Stakeholders

- Who are potential beneficiaries?
- Who might be adversely impacted?
- Have vulnerable groups been identified?
- Have supporters and opponents been identified?
- What are the relationships among the stakeholders?

b. Determining Stakeholder Interest

- What are the stakeholders' expectations of the policy, project, and intervention?
- What benefits are there likely to be for stakeholders?
- What stakeholder interests conflict with the objectives of the policy, project, and intervention?
- What resources might the stakeholder be able and willing to mo¬bilize?

c. Determining Stakeholder Power and Influence

- What are the relationships between the various stakeholders? Who has power over whom? Who is dependent on whom?
- Which stakeholders are organized? How can that organization be influenced or built upon?
- Who has control over resources? Who has control of information?

d. Formulation of a Stakeholder Participation Strategy

- Take into account interests, influence and power, as well as level and timing of participatory activities.

Basic Process of Stakeholder Analysis

a. Social and Organizational Analysis Table

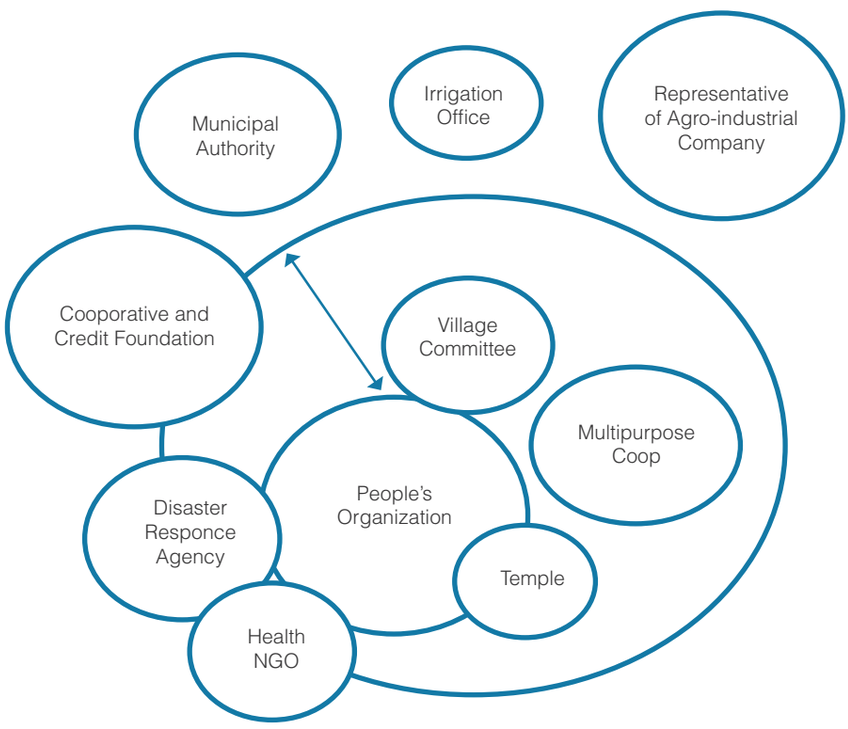
- Stakeholders who can support Community Based Disaster Risk Reduction
- Stakeholders who are expected to oppose the CBDRR
- Current status of relationship with the community
- Interests & Expectations of each stakeholder
- Power and Influence wielded
- Role in the implementation of the CBDRR
- Necessary Actions or interventions to involve the identified stakeholders by addressing their particular issues and concerns to widen support base for CBDRR, sustain and increase involvement and participations, and "win over" or "neutralize" opponents

Social & Organizational Analysis Table

Possible Actors and Supporters	Possible Opponents	Nature of Relation-ship with Community	Interest in CBDRR	Power and Influence	Roles in CBDRR Implementations	Action needed

b. Venn Diagram

Venn diagram is a pictorial presentation in circles of different individuals groups and organizations involved in the community. The significance of those individual groups and organizations are reflected in size of their circles. Relationship of the community to these individuals, groups and organizations is shown in the circles position in the diagram. The diagram will present stakeholders and social networks and their relationship with the community.



c. Influence and Impact Grid

Influence/ Power				
	High			
	Medium			
	Low			
		Benefit	Neutral	Harm
		Effects of Disaster Risk Management Plan Implementation		

d. Problem frame stakeholder map (from John M.Bryson)

Support	Weak Supporters	Strong Supporters
Oppose	Weak Opponents	Strong Opponents
	Low **Stakeholder Power** **High**	

Resource Mobilization for Community Based Disaster Risk Reduction Planning & Implementation

Sharing in the goal to have safety, disaster resilience and equitable and sustainable develop¬ment, the community members share among themselves and with other key stakeholders the responsibility of mobilizing resources to implement the Community Based Disaster Risk Reduction.

Resource analysis involves the identification and assessment of the resources needed to implement Disaster Risk Reduction Plan at community level.

Why do resource analysis?

- To ensure that local coping strategies/mechanisms and capacities/resources are recognized and strengthened in the CBDRR. At the minimum, community capacities and resources should not be undermined in addressing vulnerable conditions.
- To identify immediately doable risk management activities, i.e. those whose required resources are existing and readily accessible.
- To identify and schedule those activities whose required resources are existing but have to be accessed or those resources that are not available, and how to make these accessible or available.

Resource analysis can also help in sustaining the natural resource base or life support system of the community. Resource analysis can go as far as determining how to manage/ sustain community's natural resources, addressing issues of depletion and environmental degradation.

As part of the Participatory Risk Reduction Planning, Resource Analysis focuses on resources to be mobilized in the implementation of Community Based Disaster Risk Reduction activities.

Guiding Questions for Resource Analysis

- What resources are needed?
- What are existing resources? Is it readily accessible? If not, why?
- What have to be generated?
- How can these resources be made available?

Resource Analysis Process

a. Make an Inventory of the local and community resources

All communities, even those that are very poor, have resources such as people, organizations and institutions as well as physical or natural resources that can help address individual and shared needs.

Use relevant results of the Participatory Community Risk Assessment, specifically on Capacity Assessment. With regards physical/natural re¬sources, document their current range, distribution and condition. It will be helpful to note "Must Dos or Must Avoids" to sustain these resources.

Specifically, look into the following:

- People: What skills, time, materials, labor or cash can residents contribute for particular risk reduction solutions and activities? When are these available?
- Organizations: What community groups exist and for what pur¬pose? What resources can they contribute? What existing or planned activities can be aligned to CBDRR?
- Informal Social Networks and Communications: How do people learn about important developments in the community? How can these be used as a resource in the implementation of the prepar¬edness and mitigation activities?
- Local Institutions: NGOs, businesses, schools, health centers, etc. What are each institution's assets? What services do they contribute to the community? How can these assets and services serve the purposes of Community Disaster Risk Reduction?
- Local government: What are government legislation, policies and programs which cover the objectives and activities of Community Disaster Risk Reduction? How can these be tapped?
- Physical Characteristics/Resources: land and natural resources, open spaces, transportation, etc. What are underutilized resources? What are renewable resources?

b. Establish Resource Requirements to implement CDRR Plan.

List all the resources needed to implement the CDRRP. What resources are needed to implement pre-, emergency phase, and post-disaster risk reduction measures, solutions and activities? (Human/manpower, labor, Skills, knowledge, technology, Materials and supplies: first aid kits, megaphone, cement, stones, seedlings, Animals, Equipment: communications & transportation such as megaphone, facilities, money, organization, leadership, etc.)

c. Compare Existing Resources with Resource Requirements in CDRRP

- Identify resources that are but cannot be immediately tapped for CBDRR implementation. Why are these not immediately accessible? How to make these available for CBDRR?
- Determine the resource gaps. What resources have to be generated? Where are they available? How and when can these be made available?

d. Use the Resource Analysis Matrix or Table.

Sample: Resource Analysis Matrix

Planned CBDRR Measures/Activities	Resources needed	Existing resources	Resource Gaps

Sample: Detailed Resource Analysis Matrix

Key Risk Reduction Measure/ Solution/ Activities	Resources needed to implement the risk reduction measures/ and activities	Time when needed	Existing Resources & Location/ Ownership/ Control		Actions or interventions needed to make existing resources accessible. How long will it takes to make these available?	Actions or interventions needed to make existing resources accessible. How long will it takes to make these available?
			Accessible	Not Accessible & why		

Some Participatory Tools to Use

a. Resources Mapping
b. Focused Group Discussions on the Resource Analysis Matrix
c. Livelihood and Coping Analysis
d. Transect Walk
e. Organizational/Institutional Capability Analysis (SWOT Analysis) and Venn Diagram

Using the Results of Resource Analysis

Community Risk Reduction Planning is like preparing for a long road trip. The plan serves as the road map. “Where are we going?” and “How do we know we have arrived?” describe the goals and objectives of disaster risk management at the community level, and the expected outcomes of this process. “How do we get there?” refers to the risk reduction strategies, measures, and activities. Stakeholders Analysis answers the question “Who is coming along?” Resource Analysis an¬swers the question “What do we need to get there?” Simply put, the vehicle will not move forward and reach its destination without fuel or gasoline. After identifying what we need to get there, an estimation of the cost of resources is made together with an indication of the source of these budget items.

The Resources Mobilization Matrix can be used both as a tool and an end product of the resource mobilization process. It is useful to note that human, physical and natural resources can be directly employed for delivery of inputs, while financial resources can be used to hire the other three kinds of resources.

Resource Mobilization Matrix

Inputs	Resource Required				Sources		
	Human	Physical	Natural	Financial	Commu-nity	Outsiders	
						NGOs	Govt.
Technical							
What kind of expertise is required							
How much is required							
When is it required							
Where is it required							
For how long is it required							
Materials							
What kind of material inputs required							
How much is required							
When is it required							
Where is it required							

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Session 3.3: Community Managed Implementation of CBDRR Activities

'Community Managed Implementation of CBDRR Activities' will discuss the roles and functions of Community-Based Organizations and other similar community self-driven bodies on CBDRR. The session will describe the characteristic of the CBOs, and suggests capacity building of the CBOs through training and other activities to empower them for effective CB-DRR planning and implementation and ensure sustainability of the organizations.

Learning Objectives

- Understand the importance and process of building a Community Disaster Risk Reduction Organization (CDRRO);
- Enumerate various functions of the CDRRO;
- Describe various organizational forms and structures of the CDRRO
- Explain the process of sustaining the Community Disaster Risk Reduction Organization

Key Concepts

1. The Community Disaster Risk Reduction Organization (CDRRO) is a key outcome of the CBDRR process.
2. The CDRRO is necessary to implement the Community Disaster Risk Reduction Plan.
3. With similar basic functions, some communities and organizations call the CDRRO as Disaster Management Committee, Disaster Volunteers Team, or Village Disaster Response Committee.
4. CBDRR Training is important to build the capacity of the Community Dis¬aster Risk Reduction Organization (CDRRO) to undertake its functions.
5. Capacity building and public awareness activities enable the CDRRO and the community at large to increase participation in CBDRR and to sustain the disaster preparedness and mitigation activities.

COMMUNITY DISASTER RISK REDUCTION ORGANIZATIONS

"In essence the intention of CBDRR is not merely projects and pro¬grammes that are located in a community, but risk reduction projects and programmes that are managed by the people themselves in a community."

- Zenaida Delica-Willison

Organizational Mechanism to Implement the Community Risk Reduction Plan

When a plan is made, the next key requisite to achieve its goals and targets is the organizational mechanism for its implementation. The Community Disaster Risk Reduction Plan (CDRRP) will just remain on paper or in the minds of those who participated in the planning activities, if there is no group/s of people, organization or team at the community level to see the plan implementation through.

Ordinarily, organizational mechanisms in disaster risk reduction are as¬sociated with government agencies and non-government organizations. Asked who the key players in disaster management are, even the com¬munity people themselves would have quickly referred to the government offices and the NGOs that are visible in assisting them.

CDRRO as a Key Outcome of CBDRR Process

In general, the goal of CBDRR is to transform vulnerable or at-risk communities to safe, disaster resilient and developed communities.

Within this process, the formation and strengthening of the Community Disaster Risk Reduction Organization (CDRRO) or CDRR volunteer team is key to mobilize communities for sustainable disaster risk reduction. The community volunteers, groups and organizations are essential in sustaining the risk reduction process for the community to meet intended aims and targets in CDRR in progressively achieving safety, disaster resilience and community development. These community volunteers, committee and organizations are also the necessary conduits or channels for outsiders such as NGOs or government agencies to assist/ support the community at-large.

The aim of the Community Disaster Risk Reduction Organization (CDRRO) is to enable communities to become better prepared for impending threats and to become resilient in the long term.

Key characteristics of a functional CDRRO are the following:

- Members agree on common goals and objectives to develop the community into a prepared community in the immediate-term and into a resilient one in the long-term
- Members should include representatives of most vulnerable groups
- Elected officers and committees/task forces/working groups formed perform disaster risk management functions
- Members of the CDRRO have agreed on the CBDRR Plan, policies and procedures
- Have agreed on how to pool resources for preparedness and mitigation activities
- Have identified and networked with government and non-government agencies to tap financial and technical supports
- Well informed about developments affecting the community
- Commitment and leadership in mobilizing the community-at large in implementation of the CDRR Plan

Organizational Forms

The range of organizational expression may vary, but the basic functions remain the same. In some communities, the CDRRO is referred to as the:

- Community Disaster Management Committee, Team or Group
- Disaster Management Task Forces
- Village Protection Unit
- Community Disaster Management Group,
- Grassroots Disaster Response Organization
- CBOs (community based organizations)
- Island Disaster Management Committee

While these groups are specifically created in the community for disaster risk management, an existing community/people's organization engaged in developmental activities such as self-help groups, farmers association, women's organization, etc. may also realign one of its committees or have a separate committee for disaster risk reduction functions. The CDRRO can also take the form of a network or coalition among various community/people's organizations and NGOs in disaster response, especially for emergency operations during major disasters.

Functions of the CDRRO include:

Prevention, Mitigation, Preparedness

- o Share CDRR Plan/Counter Disaster Plan/Contingency Plan with all community members
- o Mobilize community members in plan implementation activities
- o Mobilize resources that the community cannot produce or access on its own
- o Conduct disaster preparedness training with community members
- o Raise awareness on what to do before, during, and after a disaster
- o Monitor disaster threats, conduct drills, and draw lessons to improve the CDRM , counter disaster or contingency plan
- o Network and coordinate with government disaster management committees or councils, NGOs, other communities, etc.

- o Engage in advocacy and lobby work regarding disaster risk reduction and development-related issues to support local and community disaster risk management
- o Lobby for favorable legislation and policies to enable CBDRR on the ground
- o Expand membership and community involvement (as well as involvement of other stakeholders) in committees, working groups, task forces and activities
- o Liaise with community journalists and media, particularly highlighting threats and community mobilization and activities for disaster risk reduction

Emergency Response

- o Issue warning
- o Manage evacuation
- o Organize search and rescue with community participation
- o Provide first aid and arrange subsequent medical assistance
- o Conduct Damage Needs Capacity Assessment and report damages and needs to government and disaster management agencies for assistance
- o Coordinate, plan, and implement relief delivery operations with aid agencies
- o Provide status on emergency situation, community efforts and gaps
- o Liaise with community journalists and media, particularly highlighting on community efforts and gaps in emergency response

Recovery functions

- o Facilitate social, economic and physical rehabilitation of community; e.g. livelihoods, trauma counseling, reconstruction of houses and infrastructure
- o Coordinate with government and aid agencies to receive assistance in rehabilitation
- o Ensure that risk reduction measures are integrated during the reconstruction and rehabilitation phase
- o Evaluate the performance in terms of CDRRO capacity and effec¬tiveness to promote safety and reduce disaster risk and identify strategies for future improvement

Strengthening the Capacity of the CDRRO and DRR Volunteers Team

Capacity building and public awareness activities enable communities to increase participation and to sustain the CBDRR activities. Capacity building involves various training workshops with community members on the why, what and how of CBDRR; the facilitation of the formation and organizational development of CBDRR volunteers, DMCs, and CBOs to include leadership training, study tours to other communities engaged in CBDRR and gov¬ernment agencies; technical assistance and support in fund-raising; facilitation of contacts and networking to involve a wide range of stakeholders in the CBDRR process. Within this capacity building process, information made available to the people is an important means to empower communities.

Enhancing knowledge and skills on various areas of disaster risk management are combined with organizational strengthening activities. Aside from training on search and rescue, first aid, management of an emergency operations center, and other preparedness activities, training on specific disaster mitigation measures should also be undertaken. These include sustainable agriculture, retrofitting and safe building construction, community based health care, and the like. Organizational development involves development of leadership skills like facilitation of meetings, planning and assessment, and finance management. Negotiation and

conflict resolution skills are also important within the CDRRO and in building partnerships with other stakeholders.

Aside from training workshops, study tours to government warning agencies and other institutions, and cross visits to other communities are important forms in capability building in CBDRR for the CDRROs and volunteer groups.

Guidance for the CDRRO:

- Start simple. Keep the structure of the CDRRO simple and the scale of the activities small and manageable, progressively (or even incrementally) growing as capacity develops.
- Harness people's collective strengths. Strive to build broader consensus and reach.
- Designing organizational structures and procedures which encourage participation and ensures transparency and accountability
- Maximize the power of numbers and unity. Addressing issues and concerns of members to strengthen unities.

Keep in Mind: Community organizing is a means, not a solution to disaster- and development related problems. The establishment of the CDRRO is not enough; the CDRRO should continue to build its organizational capacity, strengthen its linkage with the community members and other stakeholders, and lead in disaster risk reduction actions.

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Session 3.4: Participatory Monitoring and Evaluation for CBDRR

'PARTICIPATORY MONITORING AND EVALUATION FOR CBDRR' will discuss the process of participatory monitoring and evaluation for CBDRR including the importance to conduct the process as part of CBDRR, rationale and accountability as well as how to utilize the result for further improvements.

Learning Objectives

- Explain the importance of and process in participatory monitoring and evaluation for Community Based Disaster Risk Reduction (CBDRR);
- Analyze issues related to participatory monitoring and evaluation for CBDRR

Key Concepts

1. 1Monitoring and evaluation is a weak area in CBDRR implementation. Between monitoring and evaluation, there is more monitoring and little evaluation happening.

2. The aim of Participatory Monitoring and Evaluation is to measure progress with the risk reduction in order to take actions to progressively improve the process

3. Targets and indicators for CBDRR are context specific and use the results of the Community Risk

PARTICIPATORY MONITORING AND EVALUATION FOR CBDRR

What is monitored and what is evaluated: Treating the Risks

Inputs are the human, financial and technical resources deployed for disaster risk reduction. Their effectiveness, cost effectiveness and appropriateness can be assessed. Activities and Processes cover the performance of tasks and factors affecting this.

Outputs are the immediate results the disaster risk reduction project achieves (sometimes called "deliverables")

Impact (or outcomes) are the significant or lasting changes in people's lives brought about by a given disaster risk reduction action or series of actions.

Monitoring is the continuous or periodic review to ensure that input deliveries, work schedules, target outputs and other required actions are proceeding according to plan. Monitoring provides timely, accurate and complete information on the effectiveness of the input being used to provide the desired results. Monitoring is mainly descriptive. Monitoring should be frequent, throughout the project.

Evaluation is an assessment of the results and effects of the project. Evaluations focus on outputs, to what extent objectives have been met, and especially on impact. Evaluation is more analytical, Impact assessment is mainly analytical, and concerned with long-term outcomes. Evaluation is infrequent. It is usual to have evaluation at the end of a phase or towards the end of the plan or project implementation.

Project evaluation helps to find out whether the project has been successful or not. If not, it has to be determined why not; maybe the project still has to be continued or needs to be adjusted in order to obtain the desired results. Mid-term or formative evaluations or for are valuable in identifying if projects are heading in the right direction. Summative or terminal evaluations are done towards the end of the project.

Features of Participatory M & E:

- Monitoring system designed by stakeholders
- External monitoring needs defined from local monitoring needs, not the other way around
- Provides ongoing information on project progress
- Ensures information transparency
- Information is analyzed locally
- Follow-up actions defined and implemented locally

Strengths of Participatory Evaluation:

a. *Collaborative decision making* by stakeholders on the objective, process and methods to be used in the evaluation
b. Builds *local capacity* to reflect, analyze and take action
c. *Problem-solving Orientation:* helps develop lessons learned that leads to taking on corrective actions and more appropriate solutions.
d. *Generates knowledge:* When communities are actively involved in data collection and processing, information is transformed into knowledge which usually leads to self-sustaining actions.
e. *Promotes effectiveness:* As information is provided on the degree to which project objectives have been met and how resources have been used, stakeholders are able make critical decisions about im-plementation processes. Useful lessons and tangible and realistic tools for better managing their project or program are provided.
f. *Creates ownership* since stakeholders are involved from the start in problem identification to project development through implementation and evaluation.
g. *Empowers stakeholders* to transform their environment when their experiences and knowledge are valued.
h. *Uses multiple methods:*
    - Participatory evaluation methods are eclectic (i.e. they borrow from many disciplines) and can be adapted to meet the specific job at hand
    - If available tools are considered inappropriate , new tools are cre¬ated
    - Validity and reliability are achieved through the use of multiple methods and by including different users and stakeholders in ar¬riving at consensus views
i. *Releases Creativity:*
    - Through the participatory process, tasks like mapping, drawing and sorting pictures release such energy and enthusiasm that the challenge often becomes bringing the process to a close, rather than struggling to keep it going
    - Participatory evaluation methods are creative and fun. Learning in this environment builds self-esteem and confidence essential for initiating action. People become involved in defining and carrying out the work.
    - This enthusiasm can often provide “spin-offs” in the form of locally initiated development processes
a. *Forward looking:* Participatory evaluations not only look into the past, but also guide stakeholders in developing projects into the future.
b. When “experts” are involved as facilitators, their role is to *merge specialized expertise* with local experience, indigenous knowledge and learning systems

Strengths of Participatory Evaluation:

In risk reduction planning (or in a disaster risk reduction project), the community risk assessment or hazard vulnerability capacity assess¬ment (HVCA) should provide the baseline data for setting plan targets and indicators. The progress in the achievement of these targets and indicators are then tracked in monitoring and the outcomes evaluated.

Quantitative Indicators show changes which can be monitored numerically, like number of participants, volumes of water, meters of irrigation canal constructed, percent of seeds germinated, yield of rice, weight and age of children, etc.

Qualitative indicators show changes which cannot be measured, but must be described. For instance in increase in knowledge is difficult to measure. But how knowledge is being

applied and practiced can be de-scribed. Or the quality of drinking water, decision making, commitment, etc. also need to be described. These indicators are of equal importance as quantitative indicators.

It is important that realistic targets that stand a reasonable chance of being achieved. Examples, 75% of elements at risk are protected, instead of 100% over a 5 year period of implementation. Then, after 2 years with M&E, the targets can be revised, either to be expanded or to be terminated.

Targets and indicators are context specific, basing on the community risk assessment (or HVCA). Outcome indicators have been suggested in the CBDRR Critical Guidelines (ADPC, 2007) for Participatory Monitoring and Evaluation.

Participatory Monitoring and Evaluation Indicators

Aim: To measure progress with the risk reduction in order to take actions to progressively improve the process .

Key Outcome Indicators:*

Steps in the Process	Key Outcome Indicators
1. Funding is committed to enable Participatory Monitoring and Evaluation to take place	• Funding allocated
2. Mechanisms are in place to continually monitor risks, noting changing hazards, vulnerabilities and capacities	• Risk assessment data
3. Mechanisms are in place to continually monitor the planning process in a dynamic system	• M&E systems in place
4. Mechanisms are in place to continually monitor the planning process in a dynamic system	• Monitor the performance of individuals during their training • Measure enhanced performance by staff who have partici¬pated in training courses • Review the performance of the trainers and the training pro¬gram by conducting an in-house evaluation of the performance of staff under simulated conditions
4. Evidence is collected concerning existence and effectiveness of Participatory Monitoring and Evaluation	• Measures the level of enhanced awareness and knowledge of hazards and safety measures within the community • The monitoring and evaluation of risk reduction measures will strengthen the accountability and improve future actions. This will enhance confidence in the business community and in investors in the community. • All risk reduction projects are designed with built in monitoring and evaluation procedures. • Project evaluation using internal and external evaluators.

Source: ADPC (2006) CBDRR Critical Guidelines
* Note: Indicators have been made for the other steps in the CBDRR Process.

Indicators should be SMART AND SPICED

SMART	SPICED
Specific: Indicators should reflect those things the project intends to change, avoiding measures that are largely subject to external influence	**Subjective:** Information have a special position or experience that gives them unique insights which may yield a very high return on the investigators' time. In this sense, what may be seen by others as anecdotal becomes critical data because of the source's value.
Measurable: Indicators must be defined precisely so that their measurement and interpretation are unambiguous. They should give objective data, independent of who is collecting the data. They should be comparable across groups and projects, allowing change to be compared and aggregated.	**Participatory:** Indicators should be developed together with those best placed to assess them. This means involving a project's ultimate beneficiaries, but it can also mean involving local staff and other stakeholders.
Attainable: Indicators should be achievable by the project and therefore sensitive to the changes the project wishes to make Interpreted and communicable: Locally defined indicators may not mean much to other stakeholders, so they often need to be explained.	**Relevant:** It must be feasible to collect data on the chosen indicators within a reasonable time and at a reasonable cost. Indicators should be relevant to the project in question. Cross-checked and compared: The validity of assessment needs to be cross-checked, by comparing different indicators and progress, and by using different informants, methods and researchers.
Time-bound: Indicators should describe by when a certain change is expected.	**Empowering:** The process of setting and assessing indicators should be empowering in itself and allow groups and individuals to reflect critically on their changing situation.
	Diverse and aggregated: There should be a deliberate effort to seek out different indicators from a range of groups, especially men and women. This information needs to be recorded in such a way that these differ. nal evaluators.

Source: C. Roche Impact Assessment for Development Agencies: Learning to Value Change, Oxford: Oxford/ Novib, 1999 cited in Twigg, 2006

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Module 4: Developing a National Framework for CBDRR

Session 4.1: Key Elements of a CBDRR Framework

"Key Elements of a CBDRR Framework" will introduce the five elements which are necessary for effective and long-term implementation of CBDRR in the Maldives. The elements form the core of the National Community-Based Disaster Risk Reduction Framework in the Republic of Maldives 2014. The session will illustrate each of the five elements with examples from other countries from the Asia-Pacific region.

Learning Objectives

- Understand the rationale for 5 elements for local disaster risk reduction
- Provide examples of local disaster risk reduction in other Asian countries
- Explain the strengths and challenges for the 5 elements in the Maldives

Key Concepts

1. For effective and long-term implementation, CBDRR requires elements and an enabling environment.
2. The following five elements are necessary for a national system for CBDRR: institutional arrangements, human capacity, technical capacity, partnerships, and financial resources.
3. While there are many examples from Asia-Pacific countries on the five elements, each country is different and has different needs, strengths, and challenges.

1. Institutional Arrangements.

This refers to the characteristics of the institutional and legislative system related to DRR/CCA.

The key aspects of institutional arrangements for local and community-based disaster risk reduction include:

- **Political authority and mandate for DRR at different levels.** One of the most important institutional arrangements is the political authority and mandate for DRR at different administrative levels within the country; policies and regulations at national, sub-national, and local levels.
- **Legislation (and its implementation or enforcement) is also important** – whether specific "disaster management" laws, or laws which are supportive of community-based and local approaches to disaster risk reduction including "decentralization", "climate change adaptation", "development planning", "environmental assessment" etc.
- **Integrated risk management tools and procedures within local development proces**ses are important mechanisms to influence safer development practices.
- **Institutional arrangements which are both flexible and adaptive**, allows effective responses to new and local risks and opportunities. At the local level, risks are particularly dynamic.
- **Institutional arrangements which are both connected and accountable to civil society at all levels** are important to allow real partnerships for risk reduction. Such connections and accountability can typically be linked with broader participatory planning processes.
- **The establishment and functioning of active local Disaster Management Committees** are a key aspect for local level risk reduction. DMCs have a clear role before, during, and after; and are active when linked with government sector departments and with community (civil society) disaster management committees.
- **Institutional arrangements which support multi-sector relationships at the local level** form an important function, where different departments and agencies are linked formally and informally.

CASE STUDY 1: Mechanisms for integration into local development processes

Local DRR/CCA is best accomplished and sustained when it is integrated to local development processes, influencing local development plans and actions. However, it is typically evident that at the local level, there is often a lack of prioritization and planning with regard to DRR/CCA. There may also be a lack of support from the national level to create an enabling environment for the flow of supportive interactions between different levels of administration.

Bangladesh provides an example of how DMCs help to support a system of DRR within the country that reaches the lowest tier of government administration. As per Bangladesh's Standing Orders on Disaster, DMCs at national and sub-national levels have been established throughout the country. This has helped information flow upwards from local levels. The lowest administrative level of these government-led committees is the Union level. However, several non-governmental organizations (NGOs), Community-based Organizations (CBOs), and the Bangladesh Red Crescent Society (BDRCS) identified that there was often a critical gap between the Union DMC and the communities themselves.

Therefore, in order to provide linkages, selected communities have been supported to establish their own DMCs. These informal structures (i.e. established through a project, not government-mandated) have brought DRR/CCA-related needs and issues to the attention of the Union DMCs in a participative manner.

In some cases, the annual Disaster Management Plans developed by the Union DMC, and subsequently submitted to higher administrative levels, have included these issues identified by the communities. In some cases, communities have been involved in disaster management planning processes and have been able to indirectly influence risk reduction decision-making at higher levels. Similarly, NGOs operating at community levels have supported Union DMCs to prepare annual plans, as well as engaging with and advocating to the Union. In several instances, NGOs have also engaged with DMCs at the "Upazilla" level (the administrative tier above Unions). This has helped strengthen linkages between the Upazilla and Union DMCs, improving the disaster management system more broadly.

2. Human Capacity.

This refers to awareness; knowledge, skills, and attitudes; leadership among key stakeholders.

The key aspects of human capacity for local and community-based disaster risk reduction include:

- **One key aspect of human capacity at the local level is a local leader who drives forward and advocates for risk reduction.** The leader may be formal (e.g. politically-elected such as a mayor, or has seniority in a government role) or informal (e.g. civil society organization leader, or religious leader). Core skills include humility (acceptance of a participatory approach to problem-solving is necessary), creativity, flexibility, communication and coordination skills.
- **Informal networks to share knowledge, skills and attitudes** form an important mechanism to gradually build human capacity through information sharing.
- **The human capacity of community-based organizations or local civil society organizations to engage in local development processes and with the local government administration.**
- **Advocacy for disaster and disaster risk reduction awareness** among the local government and public is an essential component of local human capacity.
- **The integration of community-based disaster risk reduction modules into existing civil service training** curriculums is one approach to sustainably build local human capacity.

CASE STUDY 1: Attitudes, knowledge and skills
DRR and CCA cannot flourish without the 'right' attitude, knowledge and skills amongst local level leaders and other stakeholders. The influence and participation of local people is often minimal, ad hoc and limited to short-term interventions and small locations due to the often prevalent attitude of a lack of respect for the participation of local communities in development decision-making. Even basic skills of communication played a significant role in the ability of districts and cities engaging on DRR and CCA. In particular the ability of a place to entice private investors and external funding and resources was in large part determined by the ability of the local leadership to engage with various stakeholders outside of the immediate locale.

In ***Viet Nam***, provincial, district and commune disaster management staff work part time, and similarly it was identified that limited human capacity exists at the Disaster Management Centre (DMC) to implement the National CBDRR program. The DMC responsible for CBDRR has an overwhelming task, and limited human capacity to implement it. Similarly, at the provincial level most staff working on CBDRR are not educated in disaster management, but in irrigation and dyke management, with their time divided between Department of Water Resources and Flood and Storm Control. Structural solutions prevail as a consequence of provincial officials' backgrounds and experience.

3. Technical Capacity.

This refers to the availability of tools and combination of scientific and traditional knowledge; risk assessments; learning transfer.

The key aspects of technical capacity for local and community-based disaster risk reduction include:

- **Technical capacity for local and community-based disaster risk reduction also refers to traditional practices and local knowledge.** Communities may already practice risk reduction activities and measures (even if not identified as specifically "DRR"); these practices can be encouraged.
- **Scientific knowledge and its practice is a key feature of technical capacity;** when traditional knowledge and local risk reduction measures are not sufficient, communities need scientific data in understandable and contextual formats.
- **Local risk assessments (and down-scaled national risk assessments) are essential for local risk reduction actions.** In particular, participatory risk assessments are valuable, as it is an opportunity to engage multiple stakeholders (government and civil society) in the process, which helps understanding and risk reduction implementation.
- **Information and risk assessment sharing is an important mechanism to build technical capacities** for risk reduction. Sharing technical information between different sectors and from national-to-local levels removes overlaps and makes full use of existing information.
- **The learning transfer between local government departments and between local government and communities is another feature for long-term technical capacity.** For example, transferring risk reduction technical knowledge at local meetings.
- **Blending scientific warnings with local knowledge and appropriate responses** is a key feature of a 'people-centered' approach to Early Warning Systems.

CASE STUDY 1: Traditional Knowledge

In the case of Bhutan, while local development processes do not systematically incorporate traditional experiences, there are examples where the benefits of doing so are recognized and encouraged. For example, learning from mistakes in the Khuruthang and Bajothang town planning, the town development in Bumthang follows a traditional design layout. This has increased tourism potential. With respect to disaster and climate risks, anecdotal observation and past experience from disaster events has exhibited that traditional construction practices have proven to be resilient. The government therefore encourages such practices, especially in the renovation and construction of most cultural heritage assets.

4. Partnerships.

This refers to availability of multi-stakeholder partnerships and decision making processes, especially between government and civil society.

The key aspects of partnerships for local and community-based disaster risk reduction include:

- **Local partnerships for 'resilience' offer a practical and efficient means towards risk reduction,** and focus on the perspectives of communities – where 'natural' disasters may be one of several shocks and stresses faced by the community. For example, 'resilience' also incorporates food security. Resilience partnerships include for: sustainable livelihoods, poverty reduction, disaster risk reduction, climate change adaptation etc.
- Community organization and mobilization for 'resilience' or specifically risk reduction, through community disaster management committees, offer **strong partnership mechanisms at the community level.**
- **Local partnerships include active mechanisms for community participation in local decision-making processes.** For example, civil society organizations are present and have formal decision-making rights in government Disaster Management Committees or Planning Committees.
- **Coordination among key local disaster risk reduction stakeholders are the basis for partnerships** between the government, non-government, academic, private etc. Such partnerships are important at the national, sub-national, and local levels.
- **Local platforms which are not associated with any politics (and not perceived to be), can be important mechanism for genuinely inclusive multi-stakeholder partnerships.** For example, a research institute may a suitable platform.
- **Partnerships are also formed by engaged mass organizations for risk reduction advocacy and activities.** In many countries, country-wide neutral organizations such as Women's Union, Red Cross/Red Crescent, Youth Unions are potential partnership mechanisms.

CASE STUDY 1: Partnerships at the Local Level

There are alternatives to government-led institutions that may offer the potential for less politicized decision-making, help to overcome some local governance concerns, and might offer longer term approaches because they are less likely constrained by the political cycle.

For example, in the case of ***the Philippines,*** river basins have been identified by the President as a focus suitable for the assistance of communities and provinces to bring together tools, people and agencies. There are 18 river basin capacity building projects overall, led by the Department of Interior and Local Government.

The secretariat of the multi-stakeholder forum that manages the risks associated with the volcano Mt Merapi in ***Indonesia*** is hosted by a national institution that holds the highest authority over geological hazards. This has been an effective strategy because the institution is perceived as more or less free from vested interests and can be accepted by all local participants as a neutral arbiter.

5. Financial Resources.

This refers to availability and characteristic of financial resources at central/national and local levels.

The key aspects of financial resources for local and community-based disaster risk reduction include:

- Financial resources at the national level include **either budget allocations (and expenditure) solely for community-based disaster risk reduction, or allocations integrated within existing development budgeting processes.**
- The **ability for civil society to influence government expenditures at the local level** itself - for community or local risk reduction activities - is a key characteristic of financial resources.
- A common phenomena for community and local financial resources for disaster risk reduction, is that **pre-disaster activities (planning, mitigation and preparedness) receive less funding than post-disaster activities (response and recovery).**
- While financial resources are certainly necessary for risk reduction activities, by focusing on **low-cost implementation and the efficient use of limited funds, can help gradually improve resilience in a sustainable manner.**
- **Partnerships which emphasize the mutual benefits of different stakeholders of risk reduction** can be effective for mobilizing necessary funds. For example, local private sector businesses may contribute small funds towards community-based risk reduction activities, or external development donor agencies may have discretion to allocate funds.
- Another **source of small-scale financial resources is the community itself,** through a community-managed fund with voluntary contributions. Alternatively, in-kind contributions (identified through community resource analysis) may be applicable.
- **Tax incentives offer an indirect mechanism for financial resources, whereby local risk reduction are encouraged through financial incentives.** For example, reduced taxes if certain environmental protection criteria are met by a local business, such as safe disposal of trash in order to prevent blocked waterways (which exacerbates flood events.)

CASE STUDY 1: Local Funds

Decentralization increases the chance of the flow of resources for DRR and CCA to local levels through increasing efficiency and decreasing waste of resources for large operations and administrative processes at higher levels.

When local leaders are more aware of the risks faced there is then a greater likelihood that risk reduction efforts go deeper, such as reported in An Giang province, **Viet Nam.** Here like in other disaster-aware places the authorities have partnered with NGOs to increase the reach of their own resources. The An Giang People's Committee for Flood and Storm Control has used their own budget and NGO funding to run CBDRR training sessions in each district, enhancing the capacity of more than 600 commune staff.

Current Limitations of CBDRR Implementation in Maldives

At a training of trainers programme for CBDRR held in early 2014, participants were requested to identify the current (at that time) limitations and challenges to coordinate and implement CBDRR in the Maldives. The participants listed and explained a number of issues. As may be noted common themes include convincing communities of the value of risk reduction, sustainability of CBDRR activities beyond a single project, coordination for CBDRR implementation among local partners, and evaluating impacts of CBDRR impacts (and the institutionalized monitoring and evaluation system). Such themes are linked to all five elements necessary for an enabling environment for CBDRR.

- Communities do not prioritize CBDRR
- Many disasters are only small-scale
- Tangible DRR measures are more important – costly, but there are some expectations.
- CBDRR message is difficult
- Island Disaster Management Committees (IDMCs) not institutionalized/ lack of mandate
- Local government needs more support: a lifelong process (financial and moral)
- Needs to build in daily life
- Coordination: island -, atoll council ; different local departments
- CBDRR concept is still new in Maldives (lack of capacities to implement)
- Project-based approach; needs long-term commitment
- Need for community ownership
- Local political cycles – some activities are supported, some not (disturbances)
- Project outcomes and evaluation – responsibility for evaluation

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- ADPC (2010) Manila Regional Consultative Committee (RCC)-8 Statement on Implementing national programs on community-based disaster risk reduction in high-risk communities.

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Session 4.2: The Maldives National CBDRR Framework

"The Maldives National CBDRR Framework" session explores the recently prepared Framework, developed through a consultative strategic planning exercise with key stakeholders. It orientates participants around the key features of the Framework, and refers to the specific operational systems and anticipated responsibilities of the participants.

Learning Objectives

- Explain the key features of the National Community-Based Disaster Risk Reduction Framework in the Republic of Maldives 2014.
- Understand the required actions by different stakeholders, according to the Framework.

Key Concepts

1. CBDRR offers a particularly effective means to reduce local risks, and is a cost-effective approach for a geographically-isolated country such as the Maldives.
2. Within the scope of a national comprehensive and holistic strategy for disaster risk management, the Maldives intends to incorporate CBDRR as a core component.
3. In order to ensure a sustained, harmonized, and large-scale approach for CBDRR implementation, a clearly-defined framework and supporting documents are necessary.
4. Success of a large-scale approach to CBDRR depends not only on individual communities, but also on an enabling environment at different administrative levels. Five strong elements are essential:
    a. Institutional Arrangements
    b. Human Capacity
    c. Technical Capacity
    d. Partnerships
    e. Financial Resources
5. Success of a large-scale approach to CBDRR depends not only on individual communities, but also on an enabling environment at different administrative levels. Five strong elements are essential:

THE MALDIVES NATIONAL CBDRR FRAMEWORK

(Refer to the Framework document and its annexes).

Sources

- NDMC (2014) National Community-Based Disaster Risk Reduction Framework in the Republic of Maldives 2014.

Module 5: Linking CBDRR with Local Development Planning

Session 5.1: Disaster and Development Linkages

"Disaster and Development Linkages" will describe the concept and many linkages between disaster and development processes, and vice versa. The session will then proceed to explain the importance of 'mainstreaming' disaster risk reduction concepts and practices into the country's development.

Learning Objectives

- Briefly describe the linkages between disaster and development; and
- Highlight the importance of mainstreaming disaster risk reduction in development.

Key Concepts

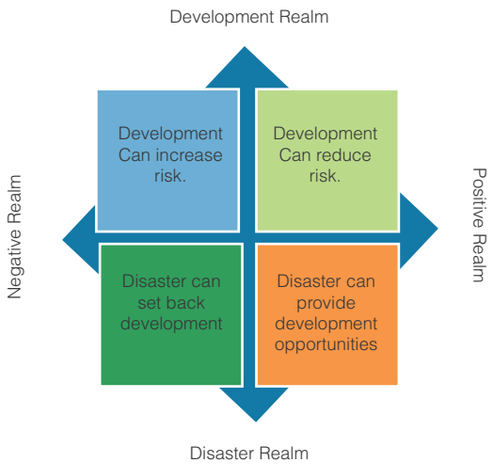
1. The eternal challenge of development is to do better. Usually this is tackled by identifying and developing policies, programmes and projects.
2. The relationship between disaster and development vary from one hazard type to another. Seismic activity turns into human tragedy when it interacts with poorly constructed infrastructure that cannot absorb the shocks. Floods wash away houses constructed in low-lying areas, erodes communication infrastructure that cannot withstand the pressure.
5. Disasters erode decade's long development gains. Development may increase vulnerabilities to natural hazards if it does not take existing and future risks into account.
6. Development needs to be risk sensitive to ensure its sustainability, strengthen hazard resilience and protect lives and livelihoods of communities at risk.

DISASTER AND DEVELOPMENT LINKAGES

Disaster and Development

The eternal challenge of development is to do better. Usually this is tackled by identifying policies, programmes and projects (Chambers 1997). Several indicators are used to gauge a country's overall development. Nonetheless, ultimate purpose of development is the provision of basic facilities, equal and sustainable livelihood opportunities, peace, security and safety for all.

The relationship between disaster and development is complex and varies from one hazard type to another. Seismic activity turns into human tragedy when it interacts with poorly constructed infrastructure that cannot absorb shocks. To some extent, it can be argued that earthquake is a development-induced hazard. Since, early warning is not available for earthquake, the best solution to avoid the losses from earthquake is to build earthquake-resistant infrastructure in seismically active areas. Flood's relationship with development is relatively unique of all hazards.



For instance, construction of dams, land use planning for irrigation system and agriculture can exacerbate or mitigate flood risk.

Disasters erodes development gains

Besides their immediate physical, economic and social impacts on the lives and livelihoods of people, disaster impacts ripple outwards. Severed bridges and eroded roads restrain the mobility of human resource and goods to and from the affected areas. In the absence of functional communication infrastructure disaster response phase become harder and expensive.

Far-reaching ramifications of slow-onset disasters (drought or dzud), can be understood by the fact that these disasters has the potential to affecting countries economy to a family living far from disaster affected area for a longer period of time. These disasters strike the very existence of livestock, agriculture and environment. Affected people have to abandon their homelands in the face of soaring food insecurity and threats of epidemics. Market fails to get its share of supplies from slow-onset disaster affected areas, which increase inflation and hamper the economic growth of the country.

Development can increase disaster risk

In the development context, it is the social, cultural, economic and political environment that makes people vulnerable to shocks, to disease, to any negative force (Ariyabandu 2001). Hazard-insensitive development initiatives at local level designed and implemented without the participation of local people may generate new forms of vulnerabilities.

Ill-informed land use planning, human settlements in highly disaster prone areas, politically motivated public-sector infrastructure, lack of monitoring of private construction companies working for public sector, usage of sub-slandered construction material increase the vulnerability manifold.

Increased hazard occurrence: The skewed development is contributing to climate change, which is reconfiguring the hydro√meteorological hazards. For example, the construction of the embankment/dam may lead to occurrence of floods. Increased sea surface temperature may lead to cyclone of higher intensity.

Increased vulnerability: Development could threaten susceptibility of people, physical assets, and environment if undertaken without adequate enforcement of development regulations or lack of concerns on certain vulnerable attributes that might be induced by development activities. Poor structural design, lack of building regulations, structures not resistant to earthquakes, cyclone, tsunami, etc. impact could increases the chances of people being injured by falling structures.

Development can reduce disaster risk

Development helps communities learn how to cope with disasters. For instance, a program amid at education development might be instrumental in raising awareness among children and parent and teachers about DRR. An efficient sewerage system reduces health problems and promotes the culture of hygiene and sanitation. Similarly, poverty alleviation initiatives help communities attain economic independence and resilience to the disasters.

Ways in which development can reduce vulnerability can be observed by examining the three interlinked elements of sustainable development √Economic, Social and Environmental.

Economic development: Economic development provides better opportunity to mitigate and prepare for disasters. Increased incomes that come with economic development, allows people to have greater access to self-√protection methods and healthcare.

Social development: Education and training can reduce vulnerability in 2 ways: the higher educational attainment achieved the better potential employment and livelihood. This decreases disaster vulnerability as higher incomes, and diverse livelihoods, allow for the better self-protection from disasters as well as ability to recover after a disaster event.

Disaster provides development opportunities?

It is strongly argued that disaster provides development opportunities. Level of awareness among at-risk communities and governments after the onset of a mega disaster is considered to be high enough to motivate them to incorporate DRR measures into development framework of reconstruction and rehabilitation phase.

Governments should consider ex-ante investments for a safer community and sustainable development, as they are responsible for the safety and security of their citizens. In addition, they have the mandate, authority and resources to ensure that new developments consider DRR measures and strategies.

Besides some high profile projects, governments hardly regulate housing and other private infrastructure during the reconstruction and rehabilitation phase of a mega disaster. On the other hand, victims of small-scale disasters lack financial capacity to rebuild their houses resilient to disaster.

Missing link of disaster and development

Besides the loss of lives, countries suffer from substantial economic losses every year due to many types of disasters. Yet, the development planners do not mainstream DRR into development planning or devise such programs that can reduce disaster risk. Similarly, the governments have to divert development funds to response, relief and reconstruction phases of disasters but there are very few examples of mainstreaming DRR into post disaster development programs. At the same time, government still prefer investing more in emergency preparedness instead of making communities more resilient and development projects hazard sensitive.

One possible answer to these questions is that protection of investment decisions from disaster risk had not been a priority. There is a discord between national disaster management organizations ("NDMOs") and sector development agencies. Disasters are dealt by the government agencies (NDMOs) that are not considered strong and financially independent in their operations. The department and ministries that have financial independence and political authority take development decisions. Despite having elaborate DRR institutional systems in place, decision-makers still treat disasters as mere isolated events. Moving towards achieving development goals, hazards and disasters are identified as happenings or events, which hinder the development process (Ariyabandu 2001). This approach of the government toward DRR has led the international community to suggest that DRR policy responsibility should be placed in a more powerful ministry. GAR-2013 also suggests to: 'place policy responsibility for DRM and climate change adaptation in a ministry with political authority over national development planning and investment'. Development needs to be risk-sensitive to ensure its sustainability, and to strengthen hazard-resilience and protect lives and livelihoods of communities.

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Session 5.2: Integration of CBDRR Outcomes into Local Development Planning

"Integration of CBDRR Outcomes into Local Development Planning" will provide an overview of development plans and processes, and will then explore the potential application of CBDRR outcomes into development planning processes. In particular, it will highlight the application of CBDRR outcomes in local development plans, and the specific entry points and measures for integration.

Learning Objectives

- Understand the entry points for integrating disaster risk reduction in local development planning;
- Discuss how to integrate CBDRR outcomes.

Key Concepts

1. Local development plans are formulated in line with long-term national socio-economic development plans/policies and allocated resources to achieve specific goals within a given timeframe.
2. Local development is a continuous cyclical process that can absorb CBDRR outcomes at many stages.
3. Results from risk assessments carried out under CBDRR programs, as well as data about vulnerable groups in specific areas can be a substantial input to hazard-sensitive development planning.
4. Consultation, training and advocacy on CBDRR are some of the essential tools to motivate local governments for integrating CBDRR outcomes in the development planning process.

INTEGRATION OF CBDRR OUTCOMES INTO LOCAL DEVELOPMENT PLANNING

What is a Development Plan?

A development plan is a document that contains and embodies the aspirations, vision and hopes of the people for the future. Its preparation undergoes a process that varies according to the thinking, beliefs and ideology of the government or people preparing the plan. There are no prescribed forms or templates for development plans but usually they contain:

Goals, objectives and targets

Goals and objectives are usually expressed as the desired state or condition such as improved quality of life; a tiger economy; a safe and secure society; etc.

Targets are individual, observable achievements directly related to a goal. Baselines are important to be set before targets are defined in order to have a clear measurement of performance. Targets are normally expressed in terms of quantitative and qualitative indicators like State Gross Domestic Product (SGDP); Gross State/National Product (GSP/GNP); Mortality and Morbidity Rates; Unemployment; Poverty Incidence; Crime Incidence; State of the Environment; presence of effective and efficient institutions; etc. It must be noted that the goals and targets are based on certain assumptions which the country may not have control of like the global economic crisis; climate change; etc.

Policies and strategies to be adopted to achieve the goals and objectives

Policies are broader tools to effect the achievement of the objectives. Examples of policies are opening the economy to foreign investors; government borrowing; declaration of certain areas as protected; partnering with the private sector; peace talks with political or armed groups; etc.

Strategies are details of how the policies will be put into action. Examples are labor-intensive construction method to generate employment; build-operate transfer schemes with the private sector; building more ports and airports; easier access to visa for tourists; taxation; regulations; etc.

Policies and strategies to be adopted to achieve the goals and objectives

These are the responsibilities and accountabilities of the actors or stakeholders in relation to the activities identified. Activities that need multi-agency or multi-stakeholder work are highlighted in this section. Oftentimes procurement procedures, auditing and accounting procedures, monitoring and evaluation, advocacy work, among others, are stated here.

Sources of financing

Taxes and revenues, international loans, foreign grants, etc. are identified as sources of the budget that will finance the programs and projects of the development plan.

Time frame

A development plan has a time frame usually tied to the terms of political administration or terms of elected officials. Achievement of the goals, however, may be expressed in terms of annual accomplishment or mid-term of the administration.

Types of Development Plans

By time frame

- Short-term (1-2 years)
- Medium-term (3-10 years)
- Long-term (10 years and above)

By administrative level

- State/National development plan – The overall development plan of the state/country covering all sectors of the economy and instrumentalities of the government, private sector and civil society.
- Regional development plan – A development plan covering a cluster of geographically linked areas whose level of governance and administration may differ. Development strategies for a certain region are expected to be synergetic and cost-efficient whose benefits can accrue to the individual local governments concerned.
- Provincial and/or District development plan – A development plan at the lower level of government where the strategies of the national plan are usually put into action. The degree of autonomy of local governments in planning, implementing and budgeting for the plan depends on the prevailing system of government in individual countries
- Village development plan – The lowest level of government where activities of the plan are implemented.

By scope and purpose

- State/National – Contains the general policies; strategies; macro and meso targets that the government intends to pursue and achieve within a given budget.
- Sector – Programs and projects and the budget for a certain sector in accordance with the policies and strategies enunciated in the state/national development plan. Plans under this category may be agricultural productivity plan; industrial development plans; health improvement plans.
- Special Plans – Examples of these are:
- Poverty Reduction Strategy Plan (PRSP) – The specific strategies, programs and projects aimed to reduce poverty as required from highly-indebted and low-income countries and in some cases from developing countries.

- Gender and Development (GAD) Plan; Plan for Indigenous Peoples (IP Plan), etc. – Plans that are aimed specifically for the sectors whose goals and objectives are consistent with the state/national development plan.

Development Planning Process

The development planning process provides the backdrop for integrating CBDRR outcomes into development. The development planning process covers range of regulatory process and mechanisms on development policy formulation, planning, investment programming/ budgeting, programmes/project appraisal, approval, implementation, monitoring and evaluation. These are public management functions designed to achieve common development results. In order that risk reduction becomes part of the development goals and the priority programs and projects allocated with budgets, information on hazards, vulnerability, risks from natural hazards should become part of this process.

The development planning process begins with the analysis of the existing situation, challenges and trends; identification and review success, and gaps from the previous development phases. This forms specific context where strategic development policy will be formulated. The development policy, often formalized as legislation, is developed by government officials and agencies. It could cover certain time span (long or immediate) and address overall socioeconomic and environment policy. The public policy could also be developed to guide development of focused particular sectors such as industrialized policy, forestry policy, environmental policy, etc.

Plans articulate targets/goals of desired state or conditions or what to be achieved within timeframe. The plans normally outline and prioritize specific objectives and key areas of interventions, and responsibilities and accountabilities of actors. Socio-Economic Development Plans (SEDPs) are among significant national plans that express socio-economic target such as attaining GDP at so and so level, poverty eradication of rural population by certain percentage or expanding exports/or manufacturing to certain level. SEDPs also states specific actions towards achieving the set targets such as promote market economy, create welfare services and livelihood diversification, or technical support to promote skilled-labor, etc.

Sector-specific or local specific plans are such as Infrastructure Development plan, Public Health Promotion plans, and Basic Education development plans. The plans identify resource, budget and channel for fund mobilization to finance the activities outlined. The plans form the planning phase which set the framework for programs and projects cycle.

Projects/programs are developed to translate the plans into operationalization so as to realize certain outcomes that contribute to achieve the broad target of the plans. The programs and projects, indicated or detailed out in the plan, serve as the main inputs into the investment programming phase. This are primarily the steps undertaken the course of annual planning or fiscal year plan. Based on a predetermined set of criteria, programmes/project will be screened and ranked. The multiyear investment program will be broken down into annual investment program as per annual expenditure requirement determined and budget allocation will be approved for individual programmes/projects. Implementation of the programmes/ project will be undertaken in the time frame with monitoring and evaluation.

Each of the stages in the planning framework serves as an entry point for mainstreaming DRR. This would include:

- State/National Development Plans and Poverty Reduction Strategy Papers
- Physical framework/Land use plans
- Development Plans at sub-national levels HANDBOOK
- Processes related to implementation of plans; Investment Programming, Budgeting and financing,
- Project appraisal, Implementation, Monitoring and Evaluation
- Project cycle of individual projects
- Environmental policies and plans
- Sectoral policies, plans and programs

CBDRR Outcomes and Development Planning

The key outputs of the CBDRR process that can be utilized for local development planning fall under the following three categories:

Maps, such as Community Hazard, Vulnerability, Capacity Maps (HVCM)

Data, such as the results from risk assessments carried out under CBDRR programs, as well as data about vulnerable groups in specific areas

Local Institutions, such as CBOs or Community Disaster Risk Reduction Organizations (CDRROs)

Example of the Use of the Hazard Map[1]

What is a Hazard map and how is it linked with DRR?
A hazard map depicts areas at risk from natural hazards at a given time. These maps can also include evacuation routes and the location of shelters. Additionally, hazard maps can reveal the frequency of previous disaster events. Warning systems can be developed based on the information shown. Hazard maps must be updated on an ongoing basis as new information becomes available. They can be developed through community consultations and drawn by hand, or be as complex as maps developed using Geographic Information Systems (GIS) in combination with remote sensing data and satellite imagery.

Which actors are usually involved at the national level?
There are potentially a wide range of actors involved in both the creation and use of hazard maps. In some countries NDMO's play an important role in raising the awareness of the value of using hazard maps at key levels of government. Government ministries dealing with agriculture, land, water, natural resources, mining, and transport and to a lesser extent tourism all have a vested interest in using these maps to promote sustainable development in their respective sectors

How are hazard maps used?

- Hazard maps can be used alone or in conjunction with other tools to:
    - identify special areas/ zones at risk of natural hazards, environmental management,
    - locate properties and buildings in risk prone areas,
    - administer management regulations and to mitigate damages of natural hazards,
    - determine if insurance is required in the construction or purchasing of land,
    - assist in the development of building standards and land use guidelines.

Hazard maps can be used in the planning of new projects, to develop land use plans and risk management plans for tourism and other sectors and/or to guide improvements to infrastructure and in the developing risk management plans for tourism and other sectors.

What are the challenges of developing and using hazard maps?
Challenges to the development and use of hazard maps include lack of access to data, conventional maps and training for government workers in how to interpret and develop the maps.

When a GIS system is used there are additional challenges (including but not limited to):

- Setting minimum standards and methodologies for collecting data, that provides comparable outputs,
- Cost of the GIS system,
- Technical skills that are not present in the area on how to use the GIS system,
- Difficulties for local interpretation and usage of the hazard maps.

[1]http://www.drrgateway.net/content/hazard-map-tool-mainstreaming-drr

Integration of CBDRR Outcomes into Local Development Planning

Considering physical, economic, human, and environmental development as the best defense against disaster risks, government needs to open up for the communities to play their roles in DRR. Irrespective of the magnitude of the disaster, the impacts are felt by the vulnerable. It highlights the value of inclusive development planning processes that requires the practical participations of at-risk communities.

Development organizations that work with communities in various disaster-prone areas enable them to use both indigenous and scientific knowledge to cope with and respond to disaster. However, the sustainability of CBDRR programs and level of knowledge retention depend on the willingness of governments to integrate CBDRR outcomes into local level development planning process. Results from risk assessments carried out under CBDRR programs, as well as data about vulnerable groups in specific areas can be a substantial input to hazard-sensitive development planning.

Entry Points for Integrating CBDRR outcomes in Local Development Planning

Local development is a continuous cyclical process that can absorb CBDRR outcomes at many stages. Each of the stages in the planning framework serves as an entry point for integrating CBDRR outcomes in local development planning. This may include:

Analysis of existing situation/problem

- What hazards and risks are prevalent in a particular geographical location?
- How these hazards and risks have impacted the communities?
- What are the projections about the identified hazards and risks vis-à-vis their future occurrence and impact?
- What could be possible measures that can be taken to reduce the future impact of identified hazards and risks?
- What resources would be required to ensure the implementation of the identified actions?

Review of results of the previous development phase

- Was it correct that disasters contributed in not achieving the overall development goals?
- Did development project increase socio-economic vulnerabilities of one group against the other?
- What were the environmental impacts of the previous development phase?

Formulation of goals and objectives within the budgetary framework

- Is the government ready to mainstream DRR into development framework?
- Is the government ready to institutionalize CBDRR in practical terms?
- Does the government have appropriate financial resources to protect public investments?
- What does the community has to offer to the local government at this stage?

Plan formulation

- Did sufficient consultation with the community take place during the overall planning process?
- Does the development plan ensure the inclusion of CBDRR outcomes in sector development projects?

Adaptation

- Has the local government made DRR an integral part of the development planning process at the national and local levels?
- What is the proposed coordination mechanism between communities and government to ensure that both the stakeholders complement each other in reducing disaster risk?

Project cycle of individual project

- CBDRR outcomes are integrated in sector development projects.

Monitoring and evaluation

- To what extent the monitoring and evaluation framework of the government addresses DRR considerations?

Example: Linking the Development Planning Process with DRR Considerations, including CBDRR

The following example was developed in Nawalparasi District (Nepal) under the Comprehensive Disaster Risk Management Program (CDRMP) in 2012. The CDRMP was implemented by the Government of Nepal and UNDP Nepal.

Planning Stages	DRR Considerations
Preliminary stage involves review of district statistics service condition opportunities and resource maps	Risk Profile of district Impact of disasters in immediate past Demographic profile in context of DRR Services related to disaster management Risks to Opportunities/investments
Review of Directives at district level analysis of Directives by NPC and Sectoral Ministries directives are broad and general	Directives also need to be analyzed from DRR lens Sustainable development includes economic, social and environmental considerations
Pre-planning workshop/Consultation in Monthly meeting at district level dissemination of Policy, Objectives, Programmes activities of the Sectoral Ministries amount that can be budgeted for each VDC	Policy statement discussion and dissemination can include DRR Risk reduction considerations in program/project objectives Impact of Disaster on different sectoral programs
VDC Meeting and Settlement level Workshop analyse programs and projects to be carried by VDCs identify and prioritize projects at Settlement levels	Technology and its hazard resilience to be assessed in order to ensure the long term safety of the projects Prioritization process should include DRR indicators or issues DRR features in project may increase cost but its cost effective in long run
Ward Committee, VDC and Village Council Meeting prioritisation of projects received from the settlement level prioritizes and classifies projects which can be done through VDC resources or need outside resources	Prioritization of projects by Ward, VDC and Village Council should include DRR issue Small measures to reduce the local risks may be included in projects under VDC budget Projects

Ilaka level Workshop Prioritisation of projects received from VDC propose new projects if projects proposed by VDC are insufficient	In case of major risk not considered by VDC, Ilaka may propose DRR activity within the existing projects of VDC or propose new projects Prioritization of projects should include DRR issue
Sectoral Coordination and Integrated Plan Formulation Committee Meeting categorization of projects into four sectors prioritisation of projects in each sector sectoral Plans are integrated to from District Development Plan	Integration of projects from different sectors provides opportunity for linking risk reduction measures among different projects
District Development Committee Meeting Assessing district development plan in relation to government instructions district periodic plan environmental impacts	Environmental impact considerations are closely linked to Disaster Risk Reduction issues Periodic Plan may have reference to DRR

Session 5.3: Local Level DRR Investment Decisions: Opportunity for Community Resilience

"Local level DRR investment decisions: opportunity for community resilience" explores some of the practical applications of integrating local and community level disaster risk reduction into investment decisions. This occurs within the scope of the island development planning processes and is supportive of the key features of the "National Community-Based Disaster Risk Reduction Framework in the Republic of Maldives 2014".

Learning Objectives

- To understand the key challenges that hamper the local level DRR investment decisions;
- To discuss options for overcoming the identified challenges for community's resilience to disasters.

Key Concepts

1. 1CBDRR interventions are largely made sporadically without focusing on the institutionalization of CBDRR efforts through appropriate channels at the government's level;
2. 2Legislations and administrative instruments do not support the integration of CBDRR into local development planning;
3. The lack of technical capacity within the government institutions makes it difficult for the CBDRR investment decisions to take roots;
4. Advocacy, coordination mechanisms, networking and clarity of roles and responsibilities of government as well as non-governmental organizations can help establish an effective DRR mechanism at the local level.

LOCAL LEVEL DRR INVESTMENT DECISIONS: OPPORTUNITY FOR COMMUNITY RESILIENCE

Key Challenges

From a regional Asian-Pacific perspective, practice indicates that there are a number of challenges that have traditionally affected the disaster risk reduction investment decisions at the local level. Some of the key challenges are given below:

- National governments have yet to recognize the effectiveness of the DRR framework as a whole. Policy-makers usually find it an additional burden on already thin financial resources. Because of this, in most of the countries, governments have made DRR a kind of cross-cutting issue in response to international obligations. In countries where they have established elaborate DRR systems and structures, the reluctance on part of government institutions to take up the DRR aspects seems to be evident.

- In view of the above-mentioned challenge, the governments do not find it economical to allocate reasonable amount of financial resources for undertaking DRR activities at the national and local levels.

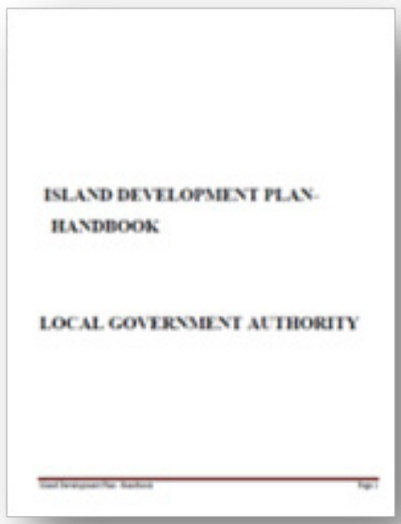
- The national and local development frameworks do not integrate DRR and Climate Change aspects as part of the essential ingredient of the sustainable development.

- Even if the governments are willing to take up the DRR investments at the national or local levels, they usually lack the required amount of technical capacities. Although there are research and development departments and technical institutions in the public sector, the desired level of research and capacity building has yet to take place in most of the cases.

- The national and local level development plans happen to be politically motivated to a certain extent in different countries. This hinders the process of making communities an essential part of the development planning. Exclusively designed development programs and projects cannot addresses communities priorities and aspirations, which in turn does not help achieve the objective of sustainable development. It has now become an established reality that the sustainable development can never be achieved until and unless the DRR and Climate Change Adaptation concerns are taken care of.

Why and How to Link CBDRR and Island Development Planning?

Within the context of the Republic of Maldives, the compulsory island development planning processes, coordinated by the Local Government Authority (LGA), offers one of the most important means to integrate disaster risk reduction into local development. By mainstreaming at the local level in this way, it provides a tangible means to sustain risk reduction.



According to the "Island Development Plan Handbook" by LGA, the island development plan is 'what the islanders want to achieve'. In order to reach this goal, a plan of work is prepared for island and atoll councils; the planned work is a blueprint of activities to be carried out. The blueprint includes the targets from each development sector present in the island; the island communities are informed and consulted about the proposed targets from each sector.

The nine main steps of the island development planning process are:

- Step 1: Preparation
- Step 2: Knowing the present conditions of the island
- Step 3: Forming a vision
- Step 4: Identifying the challenges and opportunities for island development
- Step 5: Deciding the targets
- Step 6: Getting consent from the community after sharing the information
- Step 7: Compiling and finalizing of island development plan
- Step 8: Acting on island development plan
- Step 9: Monitoring and evaluation

Opportunities for Linking CBDRR and Island Development Plans

A simple approach to integrate CBDRR with Island Development Plans is to review the "Island Development Plan Template" by LGA, and identify the key sections which allow the inclusion of CBDRR processes and outcomes:

1. President's Address
2. Introduction
3. Vision
4. Island Chart
5. Main pillars leading to principles of developmental plan
6. Island Development Opportunities
7. Challenges to island development
8. Objectives and Policies of Island Development
9. Management Development by Decentralization Procedures
10. Tourism
11. Education

12. Sports and recreation
13. Social Protection
14. Religion and culture
15. Building infra-structure and managing land
16. Transport
17. Environment
18. Utilities
19. Citizenship services
20. Monitoring standards of Achievement Targets

According the "Island Development Plan Handbook", the **Vision** is 'a short briefing of the main principles, objectives of development plan and policies of the council in achievement of the objectives'. Such visions may incorporate part of the vision identified through the community-based disaster risk reduction planning exercise. Words such as 'safe', 'resilient', 'self-sufficient', 'low risk', etc. can be included.

The **Island Chart**, which maps the key features of the respective island, is an excellent opportunity to include a key CBDRR outcome: the hazard, vulnerability, and capacity map (risk map). For example, the high-risk areas can easily be drawn on the Island Chart.

The **Island Development Opportunities** can draw ideas from the capacity assessments conducted as part of participatory community risk assessment. Similarly, resource maps for risk reduction. The **Challenges to Island Development** can refer to the hazard and vulnerability assessments. For example, the challenges to island development as a result of storm surges. Through the consolidation of island sector development plans, this is an opportunity to ensure that the Island Development Plan integrates/mainstreams disaster risk reduction. When each island sector prepares its development plan, according to the "Island Development Plan Manual", it first details the sector development targets. The targets should:

- Clearly explain what is to be done
- Explain on the scope decided
- The target should be realistic and achievable
- A time frame should be there to do the work

There are now at least two ways in which CBDRR may be integrated into each sector development plans:

1. List and explain the CBDRR outcomes, which will help create a disaster resilient sector project/activity.
2. How the project/activity could help provide resources for new or refresher CBDRR activities or other risk reduction measures.

CBDRR Outcomes

- Community Based Organization (CBO)
- Community Disaster Risk Reduction Fund
- Community Hazard, Vulnerability, Capacity Map (HVCM)
- Community Disaster Management Plan
- CBO Training System
- Community Drills System
- Community Learning System
- Community Early Warning System
- Active Link with Local authorities

Examples of island sector development plans with integrated risk reduction are indicated below:

Education Sector

Building A School

- **Choose a location based on the risk assessment map**
- **Integrating risk reduction in the design stage:**
  - Elevation
  - Material and quantity
  - Foundation
  - Extra strengthening stitches and beams
  - Roofing
  - Sufficient water storage
  - Proper sewerage system
- **Safety features and evacuation routes**
  - Fire safety
  - Flood safety
  - Multiple evacuation routes
  - Communication facilities
  - Elevated surface for assemblies
  - Could be used as a safe shelter
  - Classrooms for CBDRR training (after school)
  - Community center
  - Safe storage facility
  - Lease the school facilities to generate revenues to implement CBDRR training

Tourism Sector

Development of 3 hectares land for Island Resort

- Develop a sustainable, environment-friendly, and energy sufficient area
- Build capacity of the community in DRR
- 80% of jobs to be offered within the atoll
- Help in the health sector by bringing capacities and infrastructure
- Concepts of health tourism
- Island development in safer infrastructure
- In times of disaster, availability of resources

Citizenship Services Sector

Risk: Allocation of I.D. for newborns
Solution: Reservation of +20 numbers for disaster

Risk: Registration of newborns to 'Aaasandha'
Solution: 'Aaasandha; available for these newborns

Risk: Loss of census data
Solution: Keep the database safe. Online backup.

Risk: Loss of I.D.
Solution: Raise awareness among the community (to keep I.D. safe)

Risk: Foreigners citizenship (I.D./passport) loss
Solution: Keep record of foreigners at the island council

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Module 6: Measuring CBDRR Impacts

Session 6.1: Scope of CBDRR for Risk Reduction in the Maldives

"Scope of CBDRR for Risk Reduction in the Maldives" will discuss the broader context of risk reduction policies, strategies, and actions for disaster risk management in the country. Referring to the National Community-Based Disaster Risk Reduction Framework of the Republic of Maldives 2014, the session will explore the expected CBDRR impacts and scope for risk reduction.

Learning Objectives

- Understand the broader context of risk reduction policies, strategies, and actions for disaster risk management in the country.
- Explain the expected scope of CBDRR in order to mitigate and prepare for disaster risks.

Key Concepts

1. The devastating impacts of the 2004 Indian Ocean tsunami served as strong impetus for the country to develop policies, strategies, and actions for disaster risk management.
2. The disaster risk management (and climate change adaptation) institutional arrangements are still evolving in the country.
3. Community-based disaster risk reduction (and local DRR) is identified as a key component of the Maldives' disaster risk management institutional arrangements.

SCOPE OF CBDRR FOR RISK REDUCTION IN THE MALDIVES

Scope and Potential for CBDRR in the Maldives

Community-based Disaster Risk Reduction (CBDRR) forms a key component of the Maldives' comprehensive disaster risk management policies. Large scale, systematic, and sustained CBDRR implementation may help reduce reliance on national agencies, and can reduce the focus on post-disaster relief as 'disaster management'.

Within this context, at a training of trainers programme for CBDRR held in early 2014, participants were requested to identify the scope and opportunities for CBDRR, in order to reduce the country's disaster risk. The participants were divided into two groups: pre-disaster and post-disaster, and noted the various potential applications of CBDRR. The results are below:

CBDRR in the Pre-Disaster Scenario

- Creating awareness (capacity building)
- Training
- Developing safe infrastructure (shelter)
- Laws, policies, regulations and guidelines to address DRR
- Creating of DM Fund
- Planning for better response
- Draw-up contingency plans
- Conducts drills accordingly
- Building relationship/ partnerships (public private partnership)
- Mitigation
- Established a proper early warning system
- Dissemination of messages through telcom providers and media
- Panel discussions to create awareness
- Data collection (historic/ resources/ inventory)
- Develop risk assessment maps
- Address/ implement Building Code
- Planning, monitoring, evaluation and reporting
- Acquire emergency equipment/ items
- Emergency logistics plans
- Skills development training (swimming, rescue, fire fighting, first aid, etc)
- Mobile emergency hospital units
- Centralized warehouse networks
- Mobile RO (desalination plants)
- Online data backup systems
- Emergency Response SOP
- Address fire hazards
- National wide issuing of life saving/ survival kits
- Inculcate DRR into education curricula
- Eradication of communicable diseases
- Reduce carbon footprints in Maldives
- Develop safe island concept
- Address DRR in land use plan
- Mainstream DRM into development plan
- Decentralized community based food depots to cantonments during emergencies
- Livelihoods diversifications
- Proper construction of sewerage and drainage systems
- Collection and management of funds
- Resource mobilization
- Establish emergency communication framework
- Establish a workable disaster management structure

CBDRR in the Post-Disaster Scenario

- Triggers better disaster preparedness:
- Realizing the importance of practicing preparedness
- Paves way for more awareness within the community
- Enhance the individual preparedness
- Opportunities to improve CBDRR plans
- Opportunity for building back better
- Strengthen the coordination mechanisms among the key stakeholders
- Opportunities for fund raising
- Incorporate CBDRR into regular development plan

Sources

- NDMC (2014) National Community-Based Disaster Risk Reduction Framework in the Republic of Maldives 2014.

Session 6.2: Implementation and Monitoring of Maldives CBDRR

"Implementation and Monitoring of Maldives CBDRR" will introduce and explain the specific monitoring and evaluation arrangements and templates for CBDRR, referring to the National Community-Based Disaster Risk Reduction Framework of the Republic of Maldives 2013. Therefore, the session will explore the monitoring, reporting, and endorsement system; explain the report template; and explain the broad template for CBDRR plan endorsement.

Learning Objectives

- Understand the specific monitoring and evaluation arrangements for CBDRR.
- Explain roles and responsibilities for monitoring and evaluation of CBDRR.
- Be able to satisfactorily complete the reporting template

Key Concepts

1. A practical and low-maintenance monitoring and evaluation system will help ensure efficient and effective CBDRR implementation, within the scope of the national framework.
2. The purposes of a monitoring mechanism are to:

    - Improve coordination: identify gaps, avoid duplication, and mobilize resources for CBDRR implementation.
    - Enable effective monitoring of national-wide CBDRR, in line with the Maldives national and international commitments.
    - Enable endorsement of island (community) preparedness and response plans.
    - Track and maintain trained human resources and material resources for CBDRR.

IMPLEMENTATION AND MONITORING OF MALDIVES CBDRR

National Community-Based Disaster Risk Reduction Framework in the Republic of Maldives: Monitoring and Evaluation

This part provides a detailed description of the Framework's "Monitoring and Evaluation" section.

Refer to the National Framework.

Terms of Reference for Disaster Risk Management Focal Points

This part provides a detailed description of the "Terms of Reference" for local disaster risk management focal points.

Refer to the Terms of Reference.

CBDRR Progress Report

This part provides a detailed description of the "CBDRR Progress Report" annex of the National Framework.

Refer to National Framework: Annex.

Island (Community) Disaster Preparedness and Response Plan Template

This part provides a detailed description of the "Island (Community) Disaster Preparedness and Response Plan Template".

Refer to National Framework: Annex.

Sources

- NDMC (2014) National Community-Based Disaster Risk Reduction Framework of the Republic of Maldives

Mainstreaming CBDRR into Local Development Planning in the Maldives

The importance of integrating local level disaster risk reduction (DRR) and climate change adaptation (CCA) into development planning has gained significant attention in recent years. The 5th Asian Ministerial Conference for Disaster Risk Reduction (AMCwDRR) held in Yogyakarta, Indonesia in 2012 focused on the need for 'strengthening local capacity for disaster risk reduction', and emphasised deeper integrationof local and community DRR with development planning, while increasing the involvement of stakeholders in these processes. This emphasis on 'local level' reflects other dialogues, such as the Regional Consultative Committee on Disaster Managemnt's Manila Statement in 2010: 'implementing national programs on community-based disaster risk reduction in high-risk communities'. Furthermore, the emphasis on 'integration' aligns with current discourses for the global post-2015 disaster risk reduction and development agendas.

The Government of Maldives, an active participant in such discussions, recognizes the need for promoting a risk management approach to dealing with disasters rather than only a reactive approach that deals with the aftermath of disasters in an ad hoc manner. The Government and partners have developed institutional, legislative and policy, arrangements; and are implementing various disaster risk reduction activities. There is a strong desire among these stakeholders to deliver a national approach to community-based disaster risk reduction, which is integrated with local development processes.

National Training Handbook

This National Training Handbook was developed to support the delivery of a short training programme for mainstreaming Community-Based Disaster Risk Reduction (CBDRR) into local development planning. The training programme intends: to increase the knowledege and skills for CBDRR concepts, tools, and planning; to orientate about the Maldives national CBDRR Framework; to build capacity in linking CBDRR and development planning (both theoretical and practical). The training programme targets future CBDRR practitioners from atoll and city councils, in addition to key national authorities. The Handbook provides basic principles of adult education to guide the design and conduct of the training programme.

The Handbook, and the accompanying Powerpoint presentations, maybe adapted for future capacity-building and training activities in the Maldives. The Handbook, and the 'National Community-Based Disaster Risk Reduction Framework', also serve as reference documents for mainstreaming CBDRR into local development planning.

This activity is conducted as part of 'Mainstreaming Disaster Risk Reduction into Development (MDRD)', a regional programme of the Regional Consultative Committee on Disaster Risk Management (RCC). The program's Priority Implementation Partnership with the Government of Maldives supports mainstreaming disaster risk reduction into local development planning processes, with technical support from Asian Disaster Preparedness Center (ADPC).

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