Myanmar Community Based Disaster Risk Management Manual

EUROPEAN COMMISSION
Humanitarian Aid

DFID Department for International Development

adpc

UNDP Myanmar

Scope of this Manual

This Manual is primarily intended for community level volunteers trained in Community Based Disaster Risk Management (CBDRM) and CBDRM Practitioners and Professionals.

FOREWORD

The Cyclone Nargis of 2008 has been by far the most natural disaster in the history of Myanmar. It has brought into focus the extremely high vulnerabilities of the communities to natural hazards. This has also highlighted the need of a concerted effort towards disaster risk reduction especially at the community level focusing not only on the preparedness and response but also on prevention and mitigation measures.

Historically Myanmar is prone to multi hazards-cyclone, flood, drought, tsunami and seasonal fire. The cyclone Nargis has given an opportunity to focus on a comprehensive disaster risk reduction programme in the delta and up scaling it to other hazard prone locations of the country.

In any disaster situations the community is the first responder and the first few hours it is the community who responds to any eventualities through their existing coping mechanisms. Thus it is important that the Community Based Disaster Preparedness (CBDP) is the core and key of any Disaster Risk Reduction initiatives taken up at any level by any organizations or individuals. As the community is well informed and acquainted about the local geo-physical locations, safe evacuation routes, existing strengths and weaknesses within itself, thus the entire initiatives of Disaster Risk Reduction revolves around effective community response and preparedness measures. It can only be possible through full participation and contribution of the community in the decision-making process and leading in this initiative to achieve the real objective of the community based preparedness and effective response.

Thus there is a strong need to build the community resilience to various disasters and build their capacities and provide them technical know how in order to effectively respond to any disaster in a more scientific and organized manner. This can only be achieved through community based risk assessments, resource mapping and development of disaster preparedness and response plans through consultative process and identifying the key strengths and resources within the community.

I am pleased to mention that this manual is being developed through a consultative process including field testing and incorporating the inputs from the community members to make it more contextual to the ground. I am thankful to various UN Agencies, INGOs and Local NGOs and whole range of Disaster Risk Reduction working group members for contributing to this manual looking into the criticality of need of strengthening the community preparedness and making the response more organized and building on the coping mechanisms already present in the community. This manual will enable the community to come under one platform and plan to minimize the gaps and weaknesses and build on the strengths and strive for a better and effective community based preparedness measure in order to save the valuable lives and livelihoods of the vulnerable communities. This will also guide the communities for imbibing the skills and techniques of disaster preparedness.

I hope this manual will help and guide various DRR practitioners, communities and various other DRR stakeholders for building a disaster resilient community and strive for a disaster free tomorrow.

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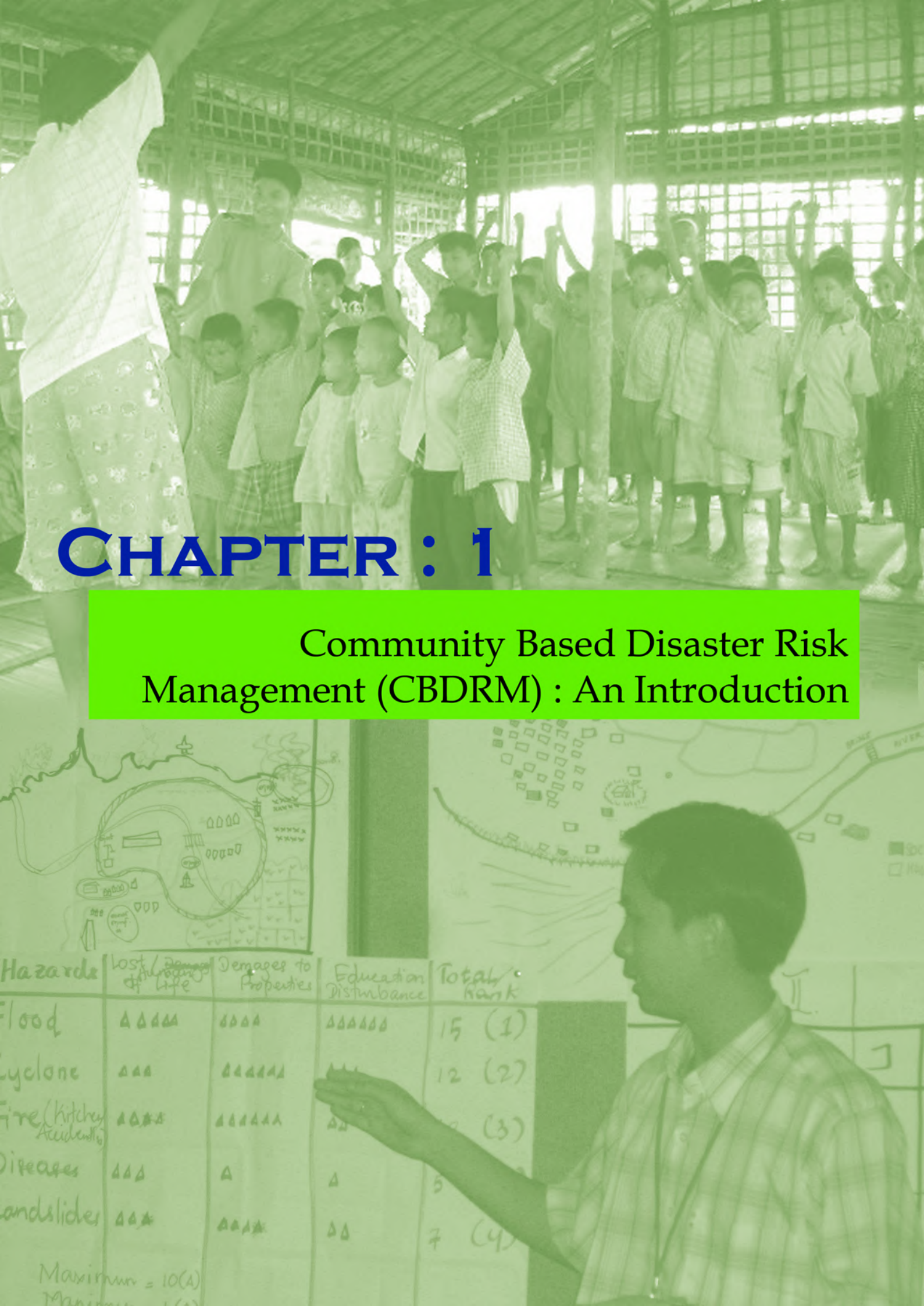
Acronyms and Abbreviations

ADPC	Asian Disaster Preparedness Center
CBDRM	Community Based Disaster Risk Management
CDRMO	Community Disaster Risk Management Organisation
CVA	Capacities and Vulnerabilities Analysis
HVCM	Hazard, Vulnerability, Capacity Map
IFRC	International Federation of Red Cross and Red Crescent Societies
MRCS	Myanmar Red Cross Society
NGO	Non-Government Organisation
PDRA	Participatory Disaster Risk Assessment
PME	Participatory Monitoring and Evaluation
PRA	Participatory Rural Appraisal
UN	United Nations
UNDP	United Nations Development Programme

Chapter : 1

Community Based Disaster Risk Management (CBDRM) : An Introduction



Chapter 1

Community Based Disaster Risk Management (CBDRM): An Introduction

1.1 What is CBDRM

CBDRM can be defined as *'A process of disaster risk management in which communities at risk 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 the people are at the heart of decision making and implementation of disaster risk management activities. The involvement of the most vulnerable is important and the support of the least vulnerable is necessary. In CBDRM, local and national governments are involved and supportive. (ADPC-CBDRM-11, 2003).

Figure 1 CBDRM Training in Progress

1.2 Why CBDRM

Community is the centre of the CBDRM process and CBDRM recognizes that the local people are capable of initiating and sustaining their own development. CBDRM is needed as :

(i) Nobody understands the local situation better than the local communities themselves.

(ii) Community is the first responder in any disaster.

(iii) CBDRM brings together the many local communities and other stakeholders for disaster risk management to expand its resource base.

(iv) Sustainability of the CBDRM interventions as community is the key actor as well as the primary beneficiary of the disaster risk management process.

(v) It focuses to enhance capacities and resources of most vulnerable groups and reduce their vulnerability.

(vi) Different individuals, families and groups in the community have different vulnerabilities and capacities.

1.3 How to implement CBDRM

In the CBDRM Process, the thorough assessment of the community's hazard exposure and analysis of their vulnerabilities as well as capacities is the basis for measures to reduce disaster risks. The community is involved in the process of assessment, planning and implementation. This approach ensures that the community's real needs and resources are considered. There is more likelihood that problems will be addressed with appropriate interventions, through this process.

Figure 2 CBDRM Planning in Progress

The CBDRM process has six sequential stages, which can be implemented before, or after a disaster, to reduce future risks. Each stage builds on the preceding stage and leads to further action. Together, the sequence can build up a planning and implementation system, which can become a powerful disaster risk management tool.

The following are the six steps in the disaster risk management process.

Step 1 : Selecting the community

Step 2 : Socializing with the community and understanding the community.

Step 3 : Participatory Disaster Risk Assessment (PDRA)
Step 4 : Participatory Disaster Risk Management Planning
Step 5 : Building and training a Disaster Management Committee (DMC)
Step 6 : Community-Managed Implementation

1.4 Who are Stakeholders of CBDRM

There are multiple stakeholders in the community based disaster risk management process. It can be divided into two broad categories, the Insiders and the Outsiders. The term Insiders refer to those individuals, organizations and stakeholders who are located within the community. Outsiders refer to those sectors and agencies which are located outside of the community and want to reduce community vulnerability and enhance its capacities for disaster risk management.

Figure 3 Stakeholders (Insiders & Outsiders) identified by community

Amongst the Insiders, the Disaster Management Committee (DMC) is the focal point to ensure the management of disaster risks. The DMC with its members and teams facilitates the implementation of disaster risk reduction measures. Apart from the DMC every individual, family, organization, business and public service within a community has a role to play in reducing disaster risks, as all of them would be affected by disasters. The implementation of multiple actions is essential for effective disaster risk management. The DMC should mobilize men, women, Village Peace and Development Council, Board of Trustee for

monastery, school committee, farmers, fishers, laborers, youths, monks and people with special needs to implement the multitude of actions.

The Outsiders include the Government Ministries, Departments, Myanmar Red Cross Society, NGOs, UN, Private sector and other outside agencies. Their role is to support the community's efforts in reducing their vulnerabilities and enhancing capacities. They can do this through providing technical, material and financial support. The outside agencies may initiate the process as part of their agenda or the community may contact them in order to receive support. Caution: the abundant financial resources, technical expertise and political clout of outside agencies can put them in a dominant position vis a vis the community, so they might be inclined to push forward their agenda at the cost of community priorities, which can harm community capacity. Thus, Outsider agencies must be extremely careful and sensitive to community capacity building.

1.5 Objectives of the Manual

CBDRM is gaining momentum in Myanmar especially in the aftermath of the devastating Cyclone Nargis, in 2008. Many CBDRM practitioners of Myanmar want to update their skill and build capacity for effective implementation of CBDRM programs. Also, there is a need of uniformity and standardization in the CBDRM programme implementation to ensure that all DRR stakeholders of Myanmar are at the same page.

This "Myanmar Community based Disaster Risk Management Manual" has been prepared with the following objectives:

- Equip the CBDRM Practitioners with theories and practical tools that can be applied in community level disaster preparedness and mitigation.
- Assist in ensuring uniformity and standardization of the CBDRM in Myanmar
- Serve as a reference material on CBDRM training

1.6 Outcomes of CBDRM Process

The CBDRM process should lead to progressive improvements in public safety and community disaster resilience. It should contribute to equitable and sustainable community development in the long term. For the purpose of CBDRM, the following definition of sustainable development by the Brutland Commission will be used.

'Development that meets the needs of the present without compromising the ability of future generations to meet their own needs.'

1.7 Introduction to "Myanmar CBDRM Manual"

This "Myanmar CBDRM Manual" has eight chapters and annexure.

Chapter 1: Community based Disaster Risk Reduction (CBDRM): An Introduction gives an overview of What, Why and How of the CBDRM and objective of the Manual.

Chapter 2: Step One: Selecting the Community, CBDRM includes theory as well as application tools of the community selection.

Chapter 3: Step Two: Socializing with the community and Understanding the Community includes need and some practical tools for rapport building. It also includes key aspects in understanding the community.

Chapter 4: Step Three: Participatory Disaster Risk Assessment (PDRA) lists 7 sub-steps involved in this process. It also includes methodology for undertaking these sub-steps with example.

Chapter 5: Step Four: Participatory Disaster Risk Management Planning explains the concept and describes steps involved in Participatory Disaster Risk Management Planning.

Chapter 6: Step Five: Building and Training a Disaster Management Committee (DMC) includes steps involved in forming DMC, its functions and capacity building.

Chapter 7: Step Six: Community-Managed Implementation includes concepts and tools related to tasks and process involved in community-managed implementation.

Chapter 8: Key Elements of CBDRM lists checklist to monitor and review the CBDRM outputs.

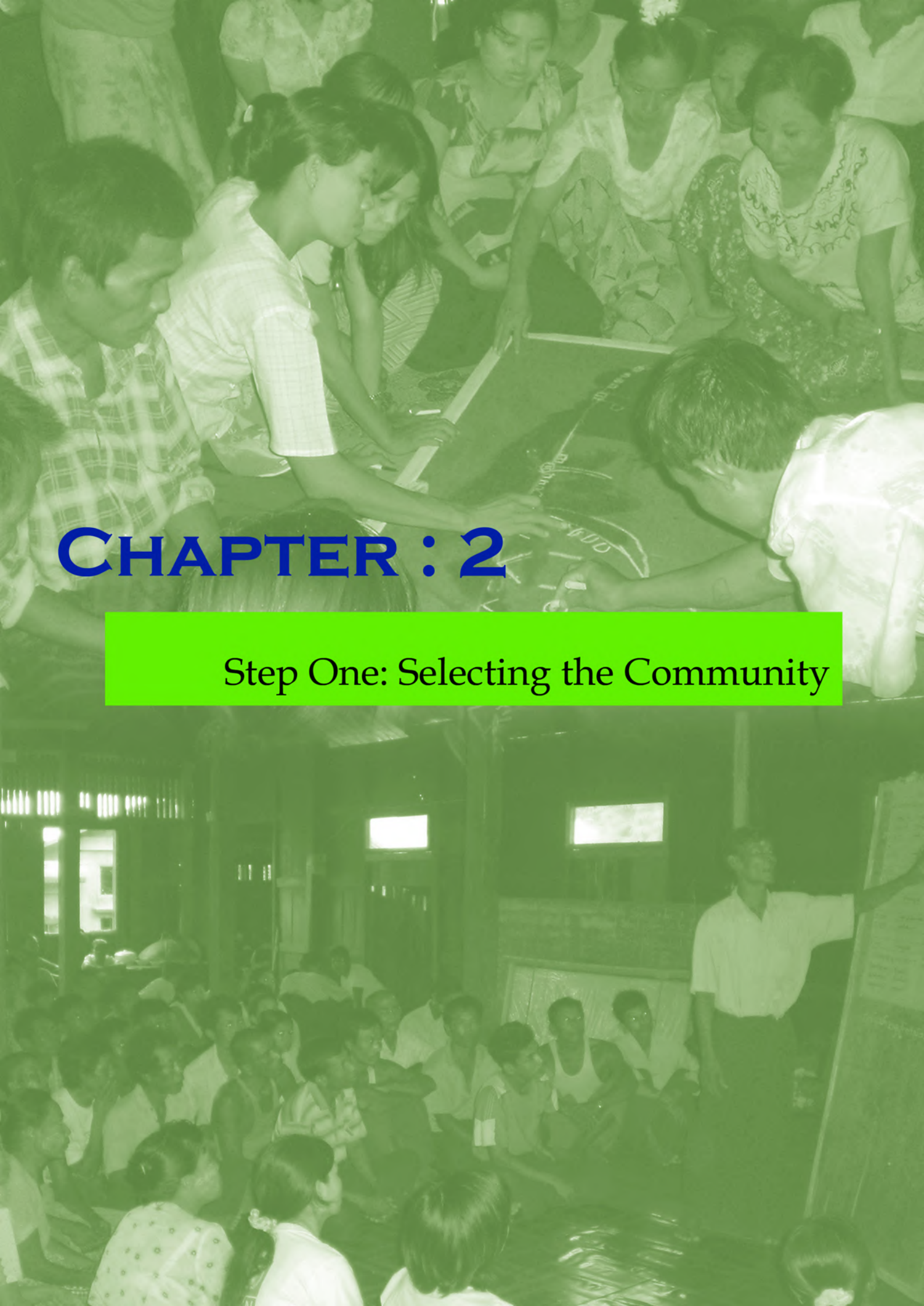
Annexure includes Overview of PRA, Outline of a sample CBDRM plan, Participatory Monitoring and Evaluation, Hazard Profile of Myanmar and CBDRM related terminologies.

Chapter: 1

At a Glance

- **What, Why, Who & How of CBDRM**
- **Outcomes of the CBDRM**
- **Objectives & Introduction of the Manual**

PREPARE BEFORE IT'S TOO LATE!



Chapter : 2

Step One: Selecting the Community

Chapter 2

Step One: Selecting the Community

2.1 Selection of the Community : Why

The whole of Myanmar is prone to one or more than one disasters such as Fire, Cyclone, Earthquake, etc. and CBDRM needs to be implemented across the country. However, due to various constraints such as human resource, finance, time, etc. an organisation may need to select limited numbers of community for CBDRM program. Hence there is a need of criteria for selecting project community.

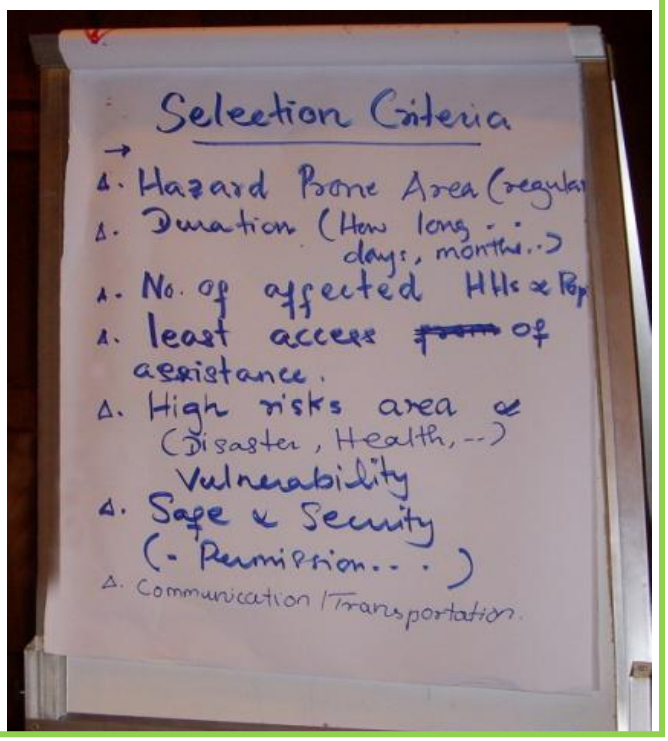
2.2 How to select the Community

In order to make sound decision to select the community, a set of criteria should be developed. Some suggestive criteria are :

- Severity of the community's exposure to risk (most vulnerable community)
- Number of people to benefit from the program
- Readiness of community to engage in the program
- Accessibility of the community
- Safety of the project team
- Lack of safe shelters

Using matrix ranking, decision makers can make better decisions on community selection.

Figure 4 Criteria for selection of Community



Sub-Steps for community selection using Matrix Ranking

(i) List the community and selection criteria

(ii) For all community, each criteria should be ranked may be on the scale of 1 (least) to 4 (highest)

(iii) On the basis of total score, rank the community and highest scoring community should be selective.

(iv) Reflect the evaluation of each community.

(v) The community that receives the highest number is the community that satisfies most of the criteria. As far as possible, only one community should be ranked with highest number.

One example of Community selection is at Table 1.

Table 1 Community Selection Using Matrix Ranking

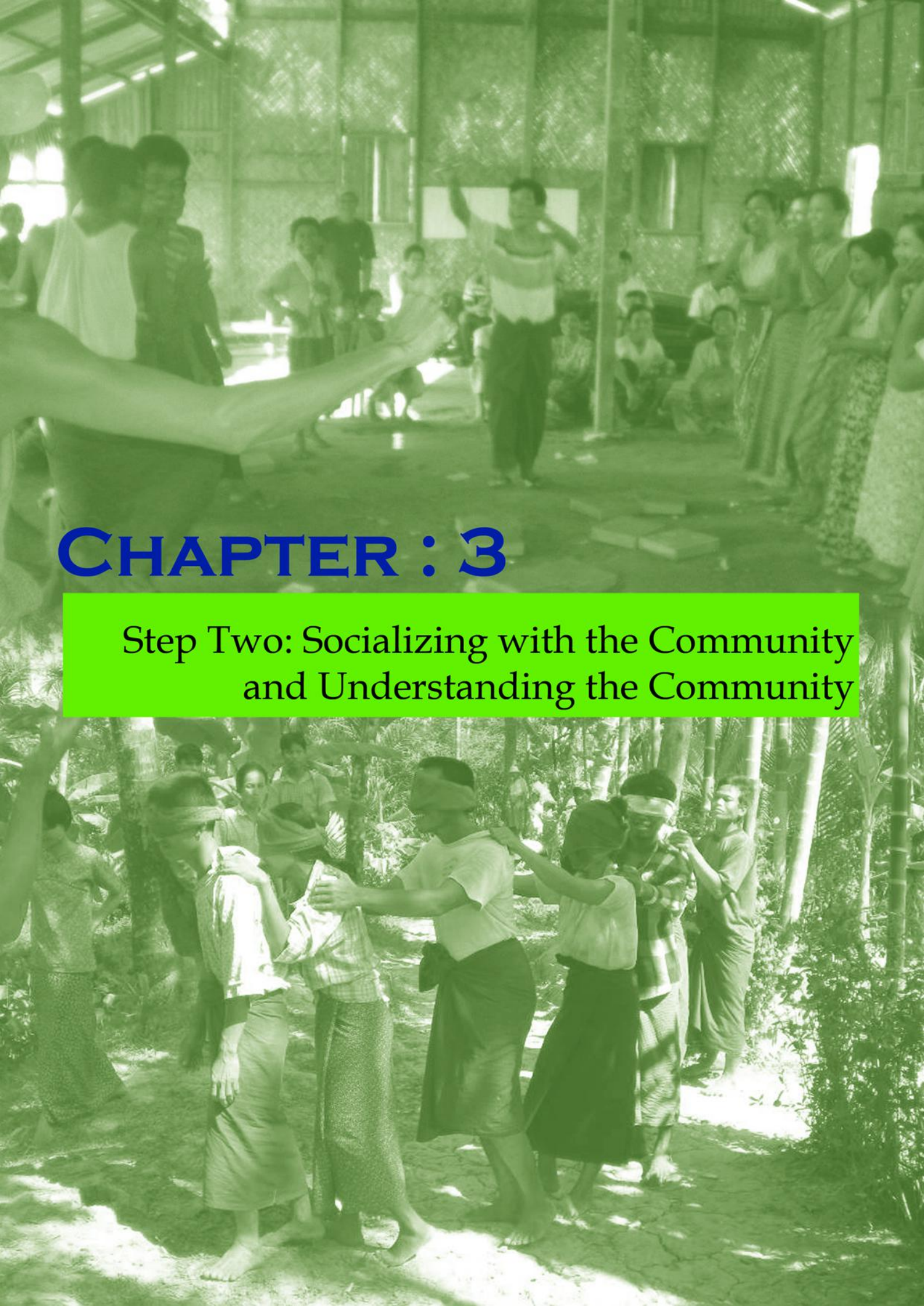
Name of Townships	Hazard Prone	Vulnerable Population	Accessibility	Community Participation	Total (Rank)
Kungyan-gone	✊✊	✊✊	✊✊✊	✊✊✊✊	11 (2)
Bogale	✊✊✊✊	✊✊✊✊	✊✊	✊✊✊✊	14 (1)
Twante	✊	✊	✊✊✊	✊✊✊	8 (3)

Chapter: 2

At a Glance

- **Why Community Selection**
- **How to select Community**

INVEST TODAY FOR SAFER TOMORROW.



Chapter : 3

Step Two: Socializing with the Community and Understanding the Community

Chapter 3

Step Two: Socializing with the Community and Understanding the Community

3.1 Socializing: Why

Socializing with the community and understanding of the community is important as it is the key to facilitate appropriate participation, which is the foundation of the CBDRM. If community members have trust in the outsiders who are working with them, it helps in following.

(i) Open sharing about issues, problems, concerns and solutions.

(ii) Helps in better understanding of the local culture which is the essential component of the CBDRM process.

3.2 How to socialize with the Community

Outsiders can take a number of actions in order to build trust with community people. These can be the following:

Figure 5 An NGO engaged with the community for socializing, Myanmar

- Staying in the community and identifying oneself with it.
- Informal meeting with village Head, Youth Club, Women Association, etc.
- Door-to-door informal meet with community
- Being transparent and open about who they are and what is being done
- Participating in daily life in the community, cultural events and community activities
- Listening to local people about their lives, issues and problems
- Learning new skills from local people

The behavior of outsiders is very important in establishing a proper relationship of trust and openness. Ways in which outsiders should behave include:

- Show humility
- Appreciate local culture, problems and way of life
- Have patience
- Express interest in what people have to say
- Be observant rather than judgmental
- Have confidence that local people can achieve what they set out to do and transmit that confidence

3.3 How to Understand the Community

CBDRM stakeholders especially outsiders should have general understanding of the community which includes the community dynamics such as nature, needs and resources of the community. Following community development issues in context of disaster could be understood:

(i) Social groups

- What are the main ethnic groups, class and religion in the community?
- Who is in the majority, who is in the minority, what is the nature of their relationships?

- Status of women?

(ii) Cultural arrangements

- How are the family and community level structures organized?
- What hierarchies exist?
- What are the common ways of behaving, celebrating, expressing?

Figure 6 Understanding the Community Dynamics

(iii) Economic activities

- What are the major livelihood sources (e.g. fishing, agriculture, livestock, etc) and what are the associated activities that people carry out?
- What is the division of labour?
- What is the relationship between livelihood activities and seasonality?

(iv) Spatial characteristics

- What are the locations of housing areas, public service facilities (e.g. primary/middle schools, pagodas, sub-rural health center, station hospital and evacuation centers), agricultural land etc.?

(v) Vulnerable households and groups

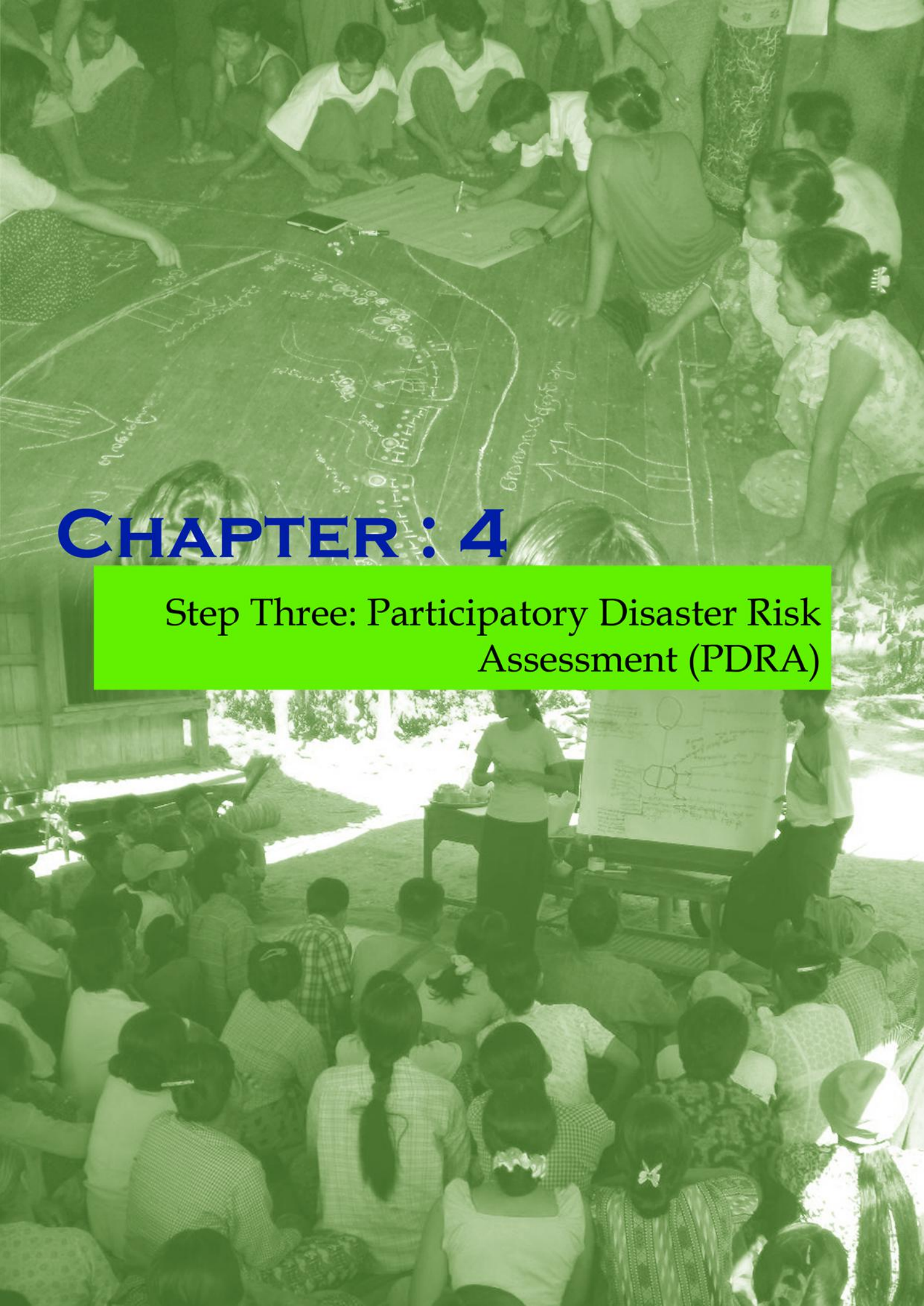
- Who might be the most vulnerable groups or households, given the locations of their houses, sources of livelihoods, ethnic and cultural positions, etc?

Chapter 3:

At a Glance

- **Why Rapport Building with the community**
- **How to build rapport with the community**
- **Key aspects of the community understanding**

GET TOGETHER TO BE SAFE FROM DISASTERS.



Chapter: 4

Step Three: Participatory Disaster Risk Assessment (PDRA)

Chapter 4

Step Three: Participatory Disaster Risk Assessment [PDRA]

4.1 PDRA : An Overview

Participatory Disaster Risk Assessment (PDRA) is a process whereby all parties concerned collect and analyze disaster risks information in order to make appropriate plans and implement concrete actions to reduce and/or eliminate disaster risks that will adversely affect their lives. It involves insiders as well as outsiders.

Community at risk is the nucleus of the disaster risk management activities under PDRA. It determines people's capacities and encourages the use of individual and community resources to reduce disaster risks that affect their lives. PDRA is the basis for Participatory Disaster Risk Management Planning, founded on the belief that local people can and will help themselves to prevent or reduce disaster risks.

The PDRA Sub-Steps, its objectives and outputs are at Table 2.

Table 2 Participatory Disaster Risk Assessment (PDRA) Design

Sub-Steps	Objective	Outputs
Sub-Step 1	Describe hazards in the community	List the nature of hazards
Sub-Step 2	Conduct hazard mapping	Community hazard and resource map 

Sub-Step 3	Describe vulnerabilities and capacities of community (women, men, old people, physically challenge, etc.)	Capacities Vulnerabilities Analysis
Sub-Step 4	Determine disaster risks	Comprehensive list of risk faced by the communities
Sub-Step 5	Rank disaster risks	Prioritized list of risks
Sub-Step 6	Decide on acceptable level of risks	Agreed levels of risk for family and community security
Sub-Step 7	Decide whether to prevent, reduce, transfer, or live with the disaster risk/s	Agreed activities

Once collation is completed, review and assessment team members from the community present the findings to the community for validation. In the presentation, disaster risks and their threat to life, property, livelihoods and community infrastructures are identified and discussed. Based on community feedback, it can be revised, if required.

4.2 PDRA Design

Participatory Rural Appraisal (PRA) tools are used for community disaster risk assessment and planning in PDRA process. An overview of PRA is at Annexure I. During PDRA using PRA tools, it is better to include the community and other stakeholders.

The PDRA Team should be aware of the following :

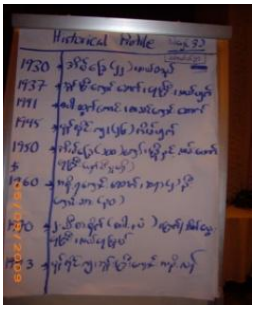
- *Key area of inquiry* is the focus of the research.
- *Key questions* to obtain detailed information.
- *Methodology* refers how the team will obtain the information–e.g.– PRA tools, secondary materials, and interview of key informants.
- *Key respondents* are the village head, teacher, monk, community members especially those who have lived in the community for a long time, etc.

Table 3 Participatory Disaster Risk Assessment (PDRA) Design

Key area of inquiry	Key Questions	Method	Key Respon-dents
A. Perception			
1. Disasters	Describe a disaster that happened in your family and in the community in last ten years. Why do you consider it a disaster?	• Transect Walk • Ranking	• Village Head • Other key persons of the community
2. Disaster Risk	What are the things that threaten your personal, family and community's welfare and security? • To life of men, women, children, disable elderly • To livestock • To property • To infrastructures like sub-rural health center, schools, jetties, library, dhamma hall, etc. What are the risks or danger that considered most serious? What are the common problems encountered by the community to reduce the disaster risk?	• Transect walk • Seasonal calendar • Ranking	• Key persons of the community • Community members
3. Gender	What are the characteristics of a woman/girl, man/ boy? What are their defined roles in the family, in the community and in the wider society?		• Key persons of the community • Community members • Women Group

Key area of inquiry	Key Questions	Method	Key Respon-dents
4. Quality of Life	Describe who are rich in the community. Who are poor? Who cannot protect themselves from disaster threats? Who find it difficult to recover from disasters? Monthly income? Liveli-hood?	• Transect walk	• Key persons of the community • Monks
B. Physical/ Material			
1. Area Profile	What is the size of the community? What are its borders? What are the resources found in the market and factories nearby the community (crops, marine life, metals, gas, etc.) What are the major sources of food and income in the community? Locate following in the map: • Pagodas and other worship places • Primary/ Middle schools • Sub-Rural Health Center/ Station Hospitals • Water pipes • Mangrove Plantation • Jetties • Fishing • Dhamma Hall (Assembly place of community members)	• Transect walk	• Key persons of the community • Village head

Key area of inquiry	Key Questions	Method	Key Respon-dents
	• Critical infrastructures found in the community • Village/ Village Track Library • Soil type and crops (paddy, vegetables, pulse) produced if community is a rural farming community • marine resources if community is a coastal community • graze land if community is pastoralist		
2. Demo-graphic Profile	What is the total population of the community? How many are men? How many are women? How many are boys and girls? How many are pregnant and lactating women? How many are elderly? How many of the elderly are living alone? How many are physically challenged? How many of the physically challenged are elderly living alone? Locate where the special needs groups are in the map.	• Focus group interview	• Key persons of the community • Village head
3. Access and Control of Re-sources	Who use, own, control or manage the resources in family or community (Resources: income, cash)? What are men, women, and	• Ranking • Focus group discussion	• Men • Women • Children

Key area of inquiry	Key Questions	Method	Key Respon-dents
	children's role in the use, ownership, control or management of these resources?		
4. Security from natural disasters /techno-logical disaster	What are the most destructive natural disasters experienced by the community over the last ten years? (Most destructive in terms of losses in life, property, livelihoods, critical facilities in the community) How many people were affected? Where they displaced? For how long? What was the effects/impact of displace-ment on the families/ community? What are the immediate effects and long-term impact of the disasters in people's lives, property and livelihoods and critical facilities of the community? During the past ten years, what did the community do before, during, after a disaster hit the community? What activities were done before that are not being done now – on the family and community level?	• Historical transect  • Mapping seasonal calendar • Ranking • Group discussion	• Key persons of the community

Key area of inquiry	Key Questions	Method	Key Respon-dents
	What other disaster threats and risks (Decreasing coastal land, Short Monsoon duration, etc.) does the community envisage to happen in the next ten years?		
C. Social/Organizational			
1. Access to Basic Services Other services • offered by NGOs • offered by Pagodas • offered by business (Rice Mill)/ private sector	What government basic services are available in the community – health care, education, water and sanitation, relief assistance, livelihood assistance, security and legal assistance? Are there other organizations providing basic services to the community? What services are available to the community before, during and after a disaster occurs? Who have access to basic services of government? Are there existing community-based organizations, people's organizations in the community?	• Interview • Venn diagram	• Village team • Community members • Village head • Monks
2. Cohesion of family/ community	What is the concept/ definition of a family? Who are the members of the community (ethnic composition)? Where do they come from?	Interview Documents Review	• People organization • People

Key area of inquiry	Key Questions	Method	Key Respon-dents
	What community events give a venue for different groups to meet and help each other? In what ways do different groups help each other before, during, after a disaster? How have the disasters positively and negatively affected the relationships of community members among them-selves? How do they help each other during and after disaster? What are the functions/roles of the village head? What other organizations have been established in the community? How do these organizations help reduce disaster risks or help the community prepare for, respond to and mitigate disasters?		
D. Motivational/Attitudinal			
1. Sense of ability to bring about change and plan effectively	Are there existing community-based organizations, people's organizations in the community? How many existing organizations related to	• Group interview and individual interview	• Key persons of the community • Village head • Community members

Key area of inquiry	Key Questions	Method	Key Respon-dents
	Disaster Management in the community? Do they have the volunteer unit in the community? What is the community's plan to reduce disaster risks and impact, and what have been done?		
2. Ability to cope with trauma, uncertainty, in-security	What are the trauma, uncertainties, insecurities people experience before, during, after a disaster? What do the community feel before, during, after disasters? What do community members do to deal with all their feelings?	Questionnaires and discussion	• Key persons of the community • Community members • Mid-wives

Some of the targeted communities are prone to threats (like Tsunami and earthquake) but have not experienced it in their life time, then enquire.

- what hazards threaten the community
- where and how hazards will happen
- why these hazards will happen
- if these hazards happen, what will happen to their lives, property, livelihoods and critical facilities in the community.

4.3 How to do PDRA : Tools for Sub-Step 1 to 3

Sub-Step 1 Describe hazards in community identifies hazards in the community. Its output should identify, list down and describe the nature of hazards in terms of its frequency, seasonality,

location, possibility of early warning and general knowledge of the people about the hazard.

Sub-Step 2 Vulnerabilities and Capacities of the community captures the hazards, vulnerability and natural resources and facilities of the community in community and/or digitized maps.

Sub-Step 3 Disaster Risk identifies and assesses the vulnerabilities and capacities of the community in general but makes sure that there is gender disaggregation of data; special needs groups like the children and disabled are given utmost considerations as well.

In order to collect information, following PRA tools can be used for Sub-Step 1 to 3.

4.3.1 Timeline

Timeline is a simple tool that narrates the disaster history and significant events that happened in the community. One column gives the year and the other column lists down the events that took place.

Objective **:** To learn what are the significant disaster events that occur in the community

Sample Key Questions

- What are the disaster events that happened or are happening in the community? When did they happen?
- What significant events affected the community? When did they happen?

Methodology

This is an effective tool to use while waiting for community members to arrive.

- A PDRA facilitator can begin by asking a few community members about what disasters happened in their community and in which year did they occur.
- The PDRA facilitator can initiate writing the answers on a flip chart.

- As community members are discussing, writing on flip chart can be passed on to a community member who is able to do this.

One example of Historical Timeline of Disaster is at Table 4.

Table 4 Historical Timeline of Disasters of Tha Yet Chaung Village, Myanmar

Year	Event
1974	Flood (the whole township)
1988	Flood in the village, bridge destroyed
2001	Flood, no damage, transportation difficulty (4',5' water level)
2003	Flood, no damage, transportation difficulty (3',4' water level)
2004	Flood, no damage, transportation difficulty (3' water level)
2007	Cyclone, School roof (5 houses), 162 trees got affected, transportation difficulty for 12 days

4.3.2 Hazard and Resource Map

Community members know the hazards that confront their communities. For their sake alone, they do not have to draw the hazard map. Hazard maps are made for the benefit of "outsiders" like NGO workers. But hazard and resource mapping is a tool that allows community members to identify graphically the vulnerable members of the community especially the elderly and physically challenged who are at risk by hazards. This tool also enables community members to look at their resource base and make an inventory of their capacities. Children make very good maps of their community.

Figure 7 Resource Map, Aung Hlaing (1) Village

Objectives

1. To identify areas at risk from specific hazards and the vulnerable members of the community
2. To identify available resources that could be used by community members in disaster risk management.

Sample Key Questions

1. What are the hazards that put the community at risk?
2. What areas in the community are at risk?
3. What community facilities (drinking water sources, mangrove forest, schools, jetties, etc.) are in danger?
4. Who are the people that are most exposed to risk and will likely need assistance?
5. What resources can be found in the community?
6. Who have the least resources in the community (family or community members)?
7. Who have access and control over the available resources?
8. What resources are at risk?
9. Why are they at risk?

Methodology

Mapping is another activity that can be done while waiting for other members of the community to arrive. This activity can always be interrupted any time. If the map is made on a flip chart, this can be hung on a wall where community members can add to the map any time they want. Oftentimes, community members will just draw the map using sticks or their fingers on the ground. Do not interrupt the process. The note taker will then have to copy the map on his/her notes.

1. The PDRA facilitator asks the community members to identify a landmark in the community.
2. Initially, the PDRA facilitator puts a mark or a stone to stand for the landmark.
3. The PDRA facilitator asks the community members to draw the boundaries of the community.

4. This will be followed by drawing the location of houses, critical facilities and resources in the community.
5. The PDRA facilitator asks questions like who have access and control over the resources.
6. Community members will then be asked to mark the areas at risk from hazards like drought or flood.
7. After this, community members will identify who are the members of the community who are most at risk because they are in vulnerable locations and have little resources to prepare for or recover from a disaster.

4.3.3 Seasonal Calendar

The seasonal calendar contains a lot of information about seasonal changes and related hazards, diseases, community events and other information related to specific months.

Objective: To learn about seasonal activities, hazards and disasters

Sample Key Questions

1. What are the different seasons in a year?
2. What are the disasters that occur in the community?
   When do they happen?
3. When is there scarcity in food supply?
4. What are the common illnesses during rainy season or cold season?

Methodology

1. The PDRA facilitator must prepare a calendar on a flip chart before the activity.
2. It is common to start this activity by asking the community members which months are the rainy and summer seasons or when are the planting and harvest seasons.
3. Different community members use different ways to mark the calendar. Some draw straight lines to indicate the months of the rainy and summer seasons. Others use symbols like the sun to indicate summer or rice stalks to indicate harvest season. There are many

creative ways people use to express themselves. One example of Seasonal Calendar from Myanmar is at Table 5.

Table 5 Seasonal Calendar, Myanmar

	J	F	M	A	M	J	J	A	S	O	N	D
Forest Fire												
Flood									a			
Fire												
Fever (Elder People)												
Diarrhea (Elder People + Children)												
Dengue Fever (Children)												

4.3.4 Ranking

Analyzing problems or weighing solutions can be facilitated by the use of ranking exercises. One very useful tool is to use number of leaves or stones to order the problems, needs or solutions. Leaves and stones do not cost anything and are found everywhere in the community. Ranking is usually a long exercise because community members discuss the reasons why problems or needs must be order in such a way. The value of this exercise to the community is that it facilitates discussion and negotiation.

Objective: To know the priorities of community members or the most significant problems faced by the community.

Sample Key Questions

1. Why are key issues in the community?
2. If you are to rank all the reasons, which is the most important issue to be addressed first?

3. Which is the second? The third?

Methodology

1. The PDRA facilitator asks the community members or the young people what are the key problems?
2. These problems are listed down on a flip chart either by the facilitator or a member of the community.
3. After all the problems have been listed down, facilitator asks the community members to rank. Do NOT use markers as ranking can change as community members discuss.
4. Stones or leaves are good to use in ranking (even color papers of different sizes) because they can be moved around when community members change their ranking based on the discussions and negotiations going on.
5. When markers are used to rank, community members sometimes hesitate to erase their ranking.

Table 6 Ranking Example, Pyapon Township, Ayeyarwady, Myanmar

List of Problems in one of the Community (Pyapon Township)	Ranking	
Drinking Water		(6)
Shelter		(8)
Food		(4)
Household article		(9)
Health		(2)
Clothing		(1)
Rehabilitation		(3)
Communication		(7)
Transportation		(5)
Economy		(10)

4.3.5 Transect

Transect is a highly enjoyable activity since this involves walking in the community following a certain path or direction. When someone dominates the group discussion, it is advisable to involve that person in transect walks.

***Objective*:** To get a picture of the vulnerability of the community and the resources that are available or maybe available for disaster risk management.

Sample Key Questions

1. What resources and facilities can be found in upland areas?
2. What resources and facilities can be found in lowland areas?
3. What resources and facilities can be found near the sea shore?
4. What resources and facilities can be found in the sea?

Methodology

1. Discuss with community members the kind of information needed from this activity i.e. areas at risk to flooding or fire, resources available and which may be at risk too, critical facilities and others.
2. Get advice from community members what direction to take and the best path to follow.
3. Walk with community members who can give information while transect walk is being made.
4. PDRA facilitator and note taker write down their observations and input from community members. 7
5. Draw the map after the transect walk and validate with key informants from among community members.

Table 7 Transect Example (Pook Paliparan, Dasmariñas, Cavite, Philippines)

Upland	Lowland	Creek	Lowland	Canal	Village	Upland	Creek	Upland
Water source								
rain	rain irrigation	rain runoff	rain irrigation		rain well	rain	rain	rain
soil								
sandy loam		rocky	clay	rocky	sandy clay loam	sandy clay loam		clay
crops								
rice sugarcane eggplant beans corn	rice sesbania pepper beans tomato	bamboo	rice sesbania pepper beans tomato	bamboo	okra horse-raddish grapes beans	peanuts cassava rice corn beans	bamboo	rice bean sugarcane
forages								
grassland for grazing	gliricidia	grass	azolla	grass		weeds in plots	guines grass	grassland
trees								
gliricidia mango leucaena guava banana tamarind	gliricidia	banana gliricidia leucaena	Gliricidia banana leucaena acacia neem	gliricidia leucaena	acacia mango guava coconut leucaenia jackfruit	mango		mango tamarind starapple
animals								
cow carabao goat		catfish mudfish carp,frog crab	Golden snails, pig, fish, duck frog	catfish frog snail	Dog, cat, pig, goat cattle turkey	goat carabao cattle	snail catfish	cattle carabao goat
problems								
erosion lack of water	pest and disease				lack of cohesiveness among local officials	erosion lack of water		erosion lack of water
opportunities								
					accessibility to road			

4.3.6 Historical Transect

Historical transect is the graphic presentation of the history of disasters and development in the community. Community members can review their history based on a ten-year or a five-year period. They can also decide that the last five years may be the most important period to trace the impact of disasters on their lives.

Objectives:

1. To learn about the history of disasters in the community, the factors that led to the disasters and the impact on the environment and people's lives
2. To describe how much natural resources have been affected by disasters and how much is remaining

Sample Key Questions

1. What is the impact of the hazard (for example: flood, drought, forest fire) in your life, in the environment?
2. Has the impact always been like this?
3. When did you begin to notice that the impact of these disasters have started to become more serious than before?
4. Why are these disasters more serious than before?

Methodology

After hazard mapping, historical transect can be used to explain the causes and effects of disasters in the community.

1. The PDRA facilitator asks the community members about the impact of disaster/s in their lives.
2. Facilitator writes the year the disaster/s took place.
3. A follow up question on the causes of the disaster/s is asked by the facilitator. Answers are written initially by the facilitator.
4. Facilitator then asks the community members if there were those kinds of disasters maybe fifty years ago. Facilitator suggests that community members review their community history fifty years back or 30 years back, dividing the period every 10 or 5 years.
5. Recorded answers are then handed over to a member of the group.

Table 8 Historical Transect, Tha Yet Chaung Village, Myanmar

1951 - 1960	• Primary school was opened • 300 household engaged in agriculture • Village monastery were repaired
1961 – 1970	-
1971 – 1980	• Flood water crossed embankment • Township was flooded
1981 – 1990	• Pest attack in 200 area of agriculture land • New species of paddy (Shwe Wah Tun) was introduced • Tube wells were provided by Government • Flood damaged bridges
1991 – 2000	• New species of paddy (Ziya, Manaw thu kha, etc.) were introduced • Primary school upgraded
2001 – 2009	• NGO donated 50 wells • 150 wells are in village • Village library opened • Storm wind damaged school • Passive flood in community • 3 GSM mobile phones in village • Library upgraded contribution from Government and community members

4.4 How to do PDRA : Tools for Sub-Step 4 to 5

4.4.1 Matrix Ranking

Ranking tools are used to prioritize hazards or disaster risks, needs or options. There are many variations of ranking. The example below uses a set of criteria to determine the impact of the disasters on people's lives. The community members use leaves to rank the hazards. More leaves indicate the most significant indicator and less leaves indicate the least significant indicator.

Objectives: To determine the hazard that has the most serious impact on the community.

Sample Key Questions

1. What are the hazards the community face?
2. What is the impact of each hazard?
3. Which is the most destructive of all hazards?

How to facilitate

Some PDRA facilitators find it hard to use matrix ranking because indicators can be difficult to establish. If community members are asked what indicators they use, they may not be able to understand what PDRA facilitators mean.

1. PDRA facilitator or community members list down the hazards. The list can be extracted from the seasonal calendar and mapping activities.
2. The facilitator then asks the community members for the impact of the hazard. Broad categories are impact on life, property, critical facilities like irrigation, public buildings and the environment.
3. For example, the facilitator can ask: "What happens to your house when there is a flash flood?"
4. Try asking at least one impact per hazard. The lists of impacts can be used as the sets of indicators. See the example below.
5. Ask the community to look at the list of indicators.

One example of Matrix Ranking is at Table 9.

Table 9 Matrix Ranking, Myanmar

Hazard	Lost of Life	Damage to Properties	Disturbance to Education	Total/Rank
Flood				15 / (1)
Cyclone				12 /(2)
Fire				10 / (3)
Diseases				5 / (5)
Landslides				7 / (4)

4.4.2 Proportional Piling

Proportional piling is another tool to rank priorities. Instead of counting the beans, community members use piles of beans to indicate categories such as low, medium or high. As discussed earlier, ranking exercises call for negotiation, so it is not advisable to use markers unless an agreement among community members has been reached. Using piles of beans or corn seeds to rank is more flexible than using markers. Community members can add or reduce the number of beans.

Objective : To determine the most critical facilities at risk

Sample Key Questions

1. What critical facilities are at risk during flooding?
2. Which of these facilities face the most risk?

Methodology

1. PDRA facilitator asks the community members to identify the most important facilities in their community that may be affected by floods.
2. Facilitator or a community member lists down the critical facilities.
3. Facilitator explains to the community that they will use 3 categories – low, medium, high. These categories will be represented by piles of beans or corn seeds – small pile of beans for low category or big pile of beans for high category.
4. Facilitator asks the community to rank the critical facilities.

4.5 How to do PDRA : Tools for Sub-Step 6

This Sub-Step helps the community members and other stakeholders to decide the acceptable level of risk they are prepared to take before disaster management plan. This Sub-Step 6 is usually missed out by PDRA practitioners' in actual assessments.

A sample matrix is at Table 10. The criteria will depend on the most serious disaster risks identified by the community.

Table 10 Criteria Matrix Example

Criteria	Number (how many?)
Loss of agriculture crop (in terms of area or percentage)	
Number of acceptable loss of houses	
Number of acceptable loss of life among farm animals	
Number of acceptable sickness/injuries among farm animals	

4.6 Data Collation Using CVA Framework

At the end of each assessment day, collate and cross check data. Each team member is to put data item on one piece of paper so that the data can be moved around when necessary.

During PDRA, a lot of data is generated, hence it is important to group them and following can be helpful.

(1) Some data will be duplicated. Spot those cards and group them together.
(2) Some data will contradict each other. Note down and verify with concerned individuals or agencies as appropriate.
(3) Some "data" will be recommendations.

Data should be collated and analyzed according to capacities and vulnerabilities framework (CVA). Organization of data requires grouping of related ideas.

Table 11 Sample Data Collation Using CVA Framework

	Vulnerabilities	Capacities
Physical/ Material		
What productive resources, skills, and hazard exist?	*Hazards: Flooding* (annual flood, big flood); floods happen every year for the past 10 years; biggest flood was in 1996 and 2002. Houses are along the river banks; houses expending along the river Garbage thrown in the river, river getting shallow. Durian season creates many garbage. Flood risk reduction not its full potential. Public facilities like latrines destroyed by big flood. Raining causes flood, flood comes from Bogor area. *Fires* happened in 1962 and in 1992. *Illness/Diseases*: Dengue epidemic, diarrhea, skin diseases, leptospirosis, acute respiratory condition *Population* density is high *Low education*, only up to elementary education sometimes junior and high school- lack of competency and capability High cost of education *Low income*; limited work available *Unemployment* *Water system* is bad; lack of clean water	Availability of early warning system in case of flood Availability of communication facilities like phones Many people know how to swim Availability of evacuation centers like schools Presence of village head office in the community Houses have 2nd floor Availability of public latrines Clean water is provided by PAM Availability of equipment like tyres and floods *Market*: source of income Women can find jobs more easily- washing, vending

Social/Organizational		
What are the relations and organizations among people?	Crimes committed in the community Drug addiction among the young	Community self help Availability of public health service, clinics and schools Availability of assistance from NGOs and relief supplies from government Availability of public health care Medicine for emergency available in public health service Religious groups extend assistance During emergencies, there is public kitchen Community members help their neighbors Put ropes so people can hold on to them during flooding
Motivational/Attitudinal		
How does the community view its ability to create change?		Help themselves Burn their garbage Community members secure their property

4.7 Preparation for PDRA

The following activities are to be taken for PDRA execerise after selection of the community. Establish linkage with relevant government agencies and non-government organizations in the Township Ward/Village Tract. This can be done by:

- Sending a letter of introduction to concerned agencies or organizations preferably signed by the head of the organization which will work in the target communities.
- Following-up after sending the letter of introduction by calling the heads of concerned agencies and organizations and formally introducing yourself, your organization, explaining what the activity is and its purpose. Request for the most suitable date and time to visit concerned organizations.
- Visiting concerned organizations on the agreed date and time bearing the letter of introduction. Once again, introduce yourself, your organization and the nature and purpose of the PDRA activities.

As linkages are being established, make sure that the following initial preparatory activities are carried out:

- Get skilled volunteers who can be part of the PDRA team from concerned organizations.
- Collect secondary data - maps, development plans, health and economic reports, disaster reports, profile of communities

After getting approval and endorsement of project from concerned authorities and organizations:

- Meet with key persons of the community to discuss objectives of PDRA activity.
- Get feedback on relevance of proposed activity and leaders expectations of the PDRA team.
- Request key persons of the community to organize a community meeting so that activity can be explained and discussed with the wider members of the community. Before the end of the meeting,

request for volunteers who will be part of the PDRA team as facilitators and logistics preparation.

After activity was approved by key persons of the community:

- Meet with community members and explain the purposes of the PDRA activity. Make sure to get community feedback about relevance of the activity and their expectations of how and when it should be conducted.
- Before the end of the meeting, request for volunteers who will be part of the PDRA team as facilitators and logistics assistants.

Meet with key persons of the community again to:

- Finalize arrangements and process of activity.
- Get commitment of key persons of the community to ensure that activity will be given high priority.

After meeting with key persons of the community and members:

- Give feedback to concerned agencies and non-government organizations on the status of the proposed activity.

Organize a PDRA Team comprising external facilitators and volunteers from the community. PDRA team must be multi-disciplinary having members with knowledge of agriculture, veterinary, weather, health, DRR, Fire, etc. External facilitators are members of the PDRA team who are not community members.

Train members of the PDRA team in using participatory learning and action tools and analyzing data using the capacities and vulnerabilities analysis (CVA) framework.

During training, draft a disaster risk assessment design.

Identify tasks and define roles of each member of the PDRA team. Group PDRA team members into small groups who will work together during the actual fieldwork.

Conduct at least one field work in one of the target communities during the training. Evaluate fieldwork activity and make recommendations.

Improve and finalize disaster risk assessment design based on lessons learned from the fieldwork.

Finalize logistics arrangements and meet with key persons of the community for final arrangements.

Communicate progress of PDRA preparations to concerned agencies and organizations.

4.8 Participatory Disaster Risk Assessment Groups

In order to carry out PDRA following groups are suggested. In care of less human resource, one group can take care of tasks of other group.

Group 1: Facilitate discussion of key respondents

Key persons of the community (Village Head, Monks and Community Elders): baseline information (demography, special needs groups such as the physically challenged and the elderly, sources of income, etc.), hazards, disaster history of the community, which hazards become disasters and why, impact of disasters on lives (of men and women, boys and girls), property, livelihoods, economy of the community and the Ward/Village Tract/Village, what different sectors in the community do to reduce disaster risks that threaten life, property and livelihoods.

Figure 8 Facilitate discussion of key respondents

Teachers: educational attainment of people in the community, current enrollment and dropout rate, disasters that happened in the community in the last ten years, impact of disasters on the community, among teachers' lives, in children's education, what different sectors in the

community do to reduce disaster risks that threaten life, property and livelihoods.

Health workers: common illness and injury at different times of the year and reasons for illness and injury, disasters that happened in the community in the last ten years, impact of disasters in the community, among the lives of the health workers, among the people especially among children from 0-5 years old, the elderly, and the physically challenged, what different sectors in the community do to reduce disaster risks that threaten life, property and livelihoods.

Elders: history of the community, disaster history of the community, most destructive disasters in their living memory and why, impact of disasters on life, property and livelihoods, what different sectors in the community do to reduce disaster risks that threaten life, property and livelihoods.

Ward/Village Head: hazards, disaster history of the community, which hazards become disasters and why, impact of disasters on lives (of men and women, boys and girls), property, livelihoods, economy of the community and the Ward/Village Tract/Village, what government does to reduce disaster risks that threaten life, property and livelihoods.

NGOs implementing projects in the community: hazards, disaster history of the community, which hazards become disasters and why, impact of disasters on lives (of men and women, boys and girls), property, livelihoods, economy of the community and the Ward/Village Tract/Village, what government does to reduce disaster risks that threaten life, property and livelihoods.

Group 2: Facilitate discussion of community members (mix men and women groups, children)

Prepare hazard map of community: identify location of community resources, household and special needs groups, parts of community at risk from different hazards, schools, etc.

Group 3: Facilitate discussion of men's group, women's group (gender perspective)

- Gendered perception of disaster risks
- Disasters that struck the community in the past ten years and why they suffer from those disasters
- Differential impact on men and women
- Impact on vulnerable groups: 0-5 years old, elderly, physically challenged impact on health, education, livelihoods
- What men, what women do to reduce disaster risks
- To get gendered perceptions of disaster risks, the PDRA may be organized into specific groups; men's group and women's group.

Figure 9 Men and Women organized into specific Group

Group 4: Facilitate discussion of children

Disasters that strike the community they can remember

- Impact on children
- Impact on their health, education, livelihoods of the family
- What children do to reduce disaster risks

Figure 10 Children involved in PDRA

Group 5: Review secondary data

- Review documents collected from all sources
- Collate data using CVA framework

Group 6: Collect technical information

- Conduct transect walk
- Contribute to various maps to be produced by community
- Collect information on soil types, water system, etc.

Group 7: Logistics arrangement

- Arrange sleeping quarters for PDRA team external facilitators
- Arrange meals for PDRA team
- Arrange for team's transportation
- Ensure that there are enough supplies for the team
- Arrange for translators where needed

Chapter 4:

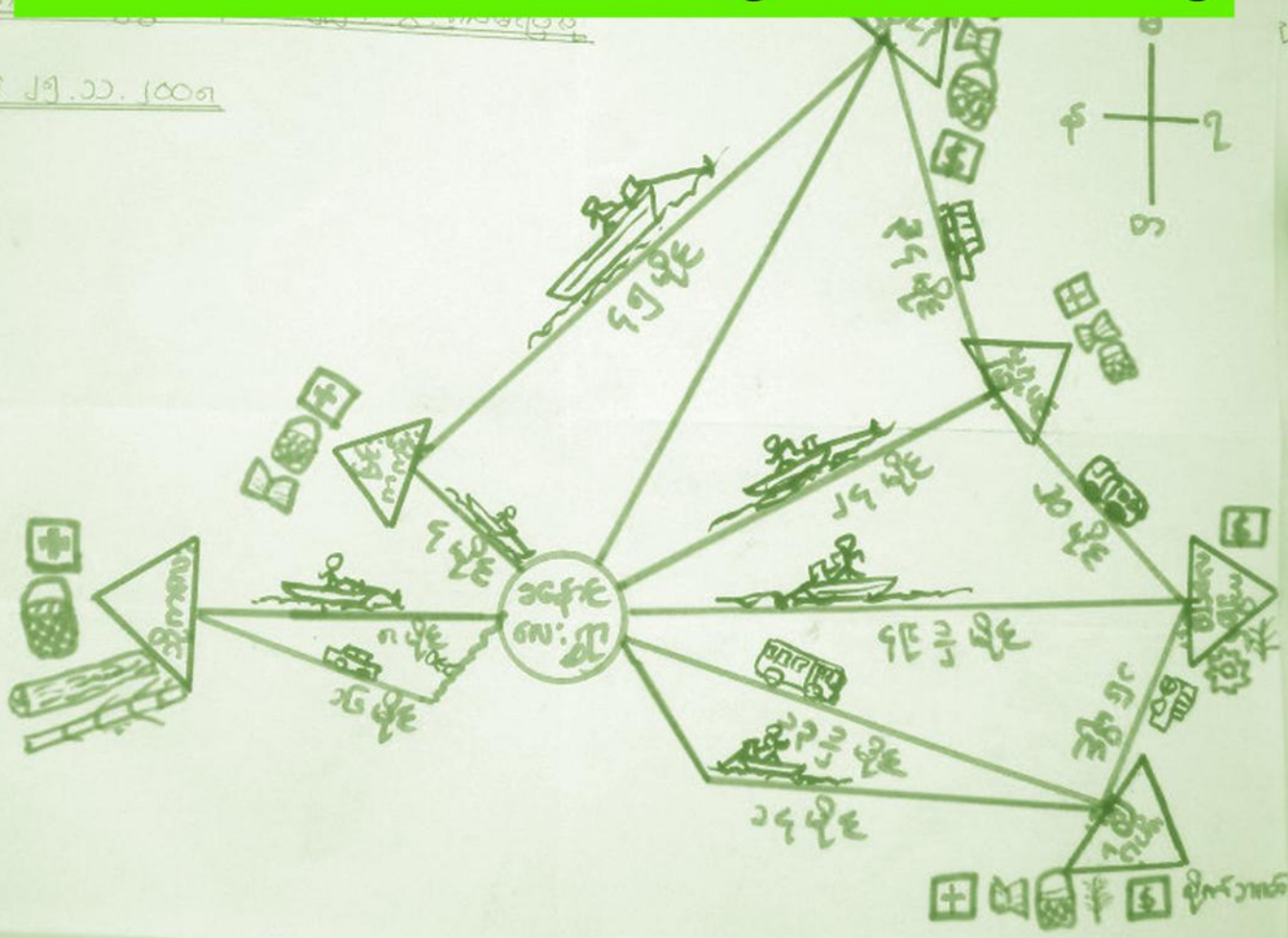
At a Glance

- **Seven sub-steps of PDRA**
- **Tools for undertaking these sub-steps**
- **Preparations for PDRA**

'KNOW' Disasters means 'NO' disasters.

Chapter : 5

Step Four: Participatory Disaster Risk Management Planning



Chapter 5

Step Four: Participatory Disaster Risk Management Planning

5.1 What is Participatory Disaster Risk Management Planning

Based on the results of the PDRA, in which the community ranks the disaster risks according to priority for action, the next step is participatory disaster risk management planning.

Participatory Disaster Risk Management Planning is a process where all parties propose concrete risk reduction measures based on the following:

- Vision of their ideally prepared and resilient community
- Determining the acceptable level of risk
- Decision as to whether identified risk can be prevented, reduced, transferred or lived with
- Their own capacities and other resources that can be generated outside of their community.

5.2 How to do Participatory Disaster Risk Management Planning

The Participatory Disaster Risk Management Planning involves several steps.

Visioning: Team facilitators ask the community members to dream about the kind of "safe community" they want to attain in relation to disaster risks they identified during the risk assessment. Community members can present their dreams in the form of drawing, song, or role-playing. PDRA teams write down in the flip chart the ideas of a "safe community" describing community's dream.

Figure 11 Disaster Management Plan by the Community Members

Discussion: PDRA teams facilitate discussion between authorities and other stakeholders about the dream for a "safe community" from the point of view of community members. This is the stage where community members, authorities and other stakeholders negotiate and agree about what all of them want to achieve in the risk reduction process.

Targets must be concrete and measurable. Setting indicators will help the community and other stakeholders measure whether targets have been achieved or not. Refer to Annexure III on Participatory Monitoring and Evaluation.

***Identify risk reduction measures*:** After the visioning exercise, community members identify measures that will help attain their vision of a safe community. Each activity needs to have its corresponding dates or time frame.

***Identify resource requirements*:** PDRA team members ask the community what resources are needed to implement the identified risk reduction measures.

PDRA teams will ask the community to review the list of capacities and opportunities enumerated during the earlier risk assessment process.

Refer to collated data to identify capacities. Facilitators help community members and leaders to identify and list the capacities that will enable the community to move towards the vision.

The amount of money required to implement each activity is estimated. A budget is prepared to correspond to each of the activities.

After identifying resources needed and the available resources, facilitators help community members and leaders get organized for community action. Leaders and community members are organized into groups to perform defined tasks within the time frame.

Table 12 Extract of Disaster Management Plan by Community Members

Hazard	flood, typhoon, earthquake, landslides, volcanic eruption, drought				
Objective	Conduct orderly evacuation, search and rescue of affected population in the community				
Indicator	Zero loss of life				
Activities	**Time Frame**	**Resources Available**	**Resources Needed**	**Amount of Resources Needed (in Php)**	**Committee/ People Responsible**
Hazard Flood					
Phase 1 Prepared-ness Period	Before rainy season (before June)	Family community, Monastery	5 Handheld radio units 5 Chainsaw units 3 rolls of rope 5 pieces mega-phones		Evacuation Chair: Rey Lawrence Tan
Conduct education campaign	Before rainy season (before June)	Key persons of the community Teachers Church leaders, artists, Papers, Markers for posters Schools	Training on public awareness		Training & Education Chair: Ricardo Lagunay

5.3 Content of the Community Disaster Management Plan

The data collected and analysed under Step 3. i.e. PDRA and also actions identified for preparedness, mitigation and response should be captured in the Community Disaster Management Plan. Though there is no standard format for Community Disaster Management Plan, the following may be included in the plan.

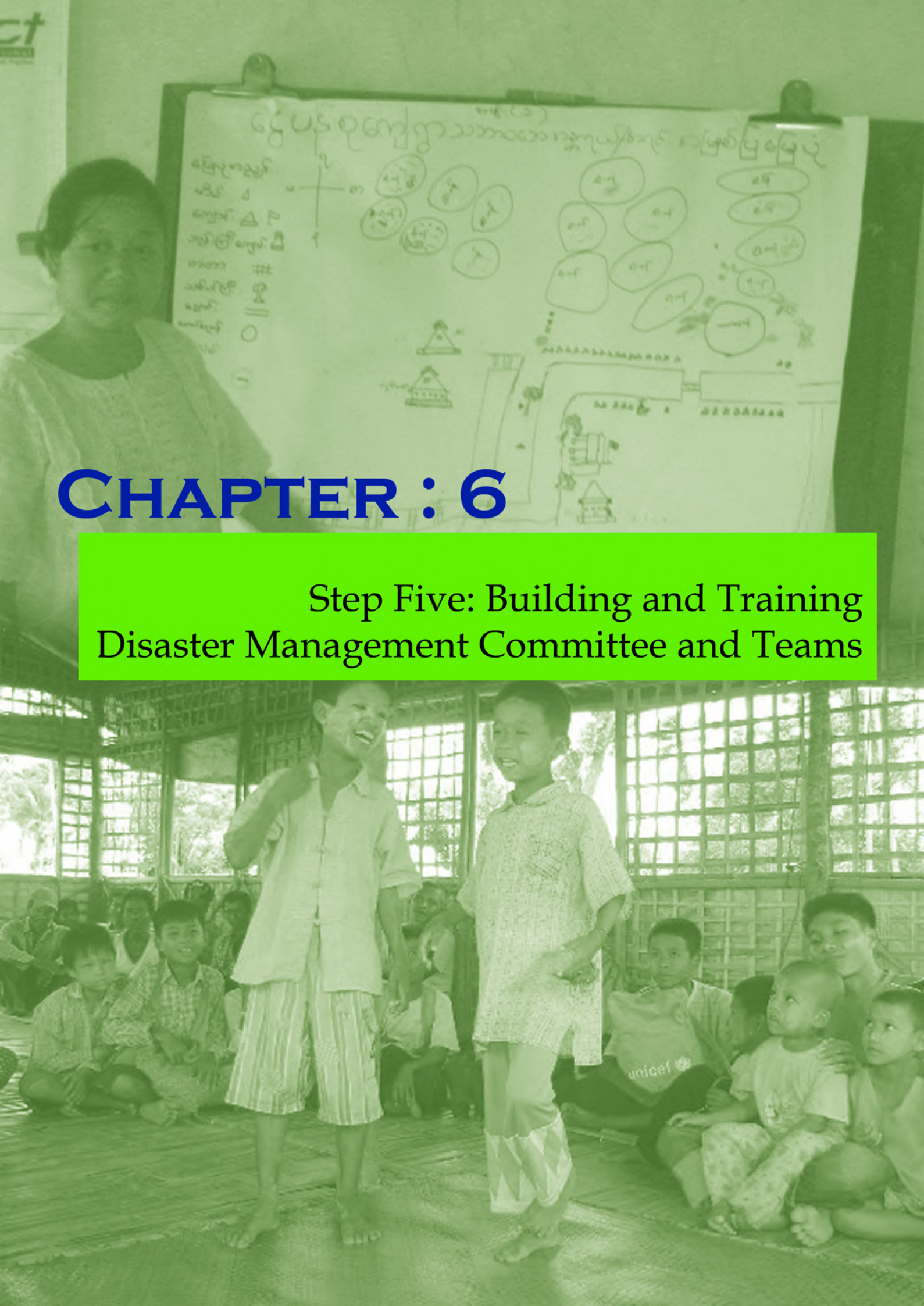
- General Profile of the community
- Hazard, Vulnerability and risks in the community
- Preparedness, Mitigation and Response activities
- Disaster Management Committee (DMC) and the teams/groups.
- Roles and Responsibilities of the DMC and the team/group
- List of Resources available in community and nearby areas and important contact details.

The outline of the Community Based Disaster Management Plan is at Annexure II.

Chapter 5:
At a Glance

- **What is Participatory Disaster Risk Management Planning**
- **How to do Participatory Disaster Risk Management Planning**
- **Content of the Community Disaster Management Plan**

FAILURE TO PLAN IS A PLAN FOR FAILURE.



Chapter : 6

Step Five: Building and Training Disaster Management Committee and Teams

Chapter 6

Step Five: Building and Training Disaster Management Committee (DMC) and Teams

6.1 What is DMC

An organization or group dedicated to disaster risk management is important to effectively undertake risk reduction measures. The form of organization can vary depending upon the situation in a community. A disaster risk management committee can be one constituted or any suitable existing committee or organization can be tasked. However, if there is no organization in the community, a Disaster Management Committee (DMC) can be formed.

The objective of the DMC is to enable communities to become better prepared for impending disasters and to become disaster resilient in the long term. Communities will be able to implement the activities outlined in the Disaster Risk Management Plan, through the DMC.

6.2 Steps in forming DMC

After the PDRA, the issue of community managed implementation is discussed. At this point the need for forming a community committee or organization is discussed, if one does not exist. There might be a need to persuade the community at this stage to form an organization for implementation of the plan. In other contexts, the communities themselves might realize this need and so persuasion won't be required. However, the communities may need technical guidance to form an organization. The DMC should have representation from community, key persons of the community, women, authorities based at community/ village/ village tract level, etc.

6.3 Functions of DMC

The functions of DMC can be divided into three categories in concurrence with the phases in disaster risk management, the pre, during and post.

Pre-disaster Functions of DMC

- Share community Disaster Risk Management Plan with all community members
- Mobilize community members to implement the planned disaster risk reduction measures
- Mobilize resources that the community cannot produce or access on its own
- Conduct disaster preparedness training with community members
- Raise community awareness on what to do before, during, and after a disaster
- Monitor disaster threats, conduct drills, and draw lessons to improve the plan
- Network and coordinate with Township and Village Track Disaster Preparedness Committees, NGOs, other communities, etc.
- Organize mock drill to check effectiveness of plan and identify areas of improvement.
- Update the community Disaster Management Plan periodically.
- Constitute Teams on specific themes such as
    - Search and Rescue Team
    - First Aid Team
    - Warning Dissemination Team
    - Evacuation Team
    - Shelter Management Team
    - Relief Distribution Team

Figure 12 Consultation with DMC, Hteik Chaung Village, Kyun Nyo Village-Tract, Bogale Township

The number of Teams varies as per need and it works under the guidance of the Disaster Management Committee. Women participation should be encouraged.

Functions of DMC during Disaster

- Disseminate Warning received from Department of Meteorology and Hydrology or other authentic source. The warnings can be disseminated with the help of warning dissemination team within village through traditional methods such as loudspeaker, announcements from monasteries or banging of wooden logs in a relay system.
- Evacuation of the community through Evacuation Team.
- Conduct search and rescue with the help of Search and Rescue Team.
- Provide first aid through First Aid team and coordinate with Health Department and other agencies for subsequent medical assistance

Post-disaster Functions of DMC

- Conduct Damage Needs Capacity Assessment and report damages and needs to Township or Village Tract Authorities.

- Coordinate, plan, and implement relief delivery operations with Township/ Village Tract Authorities and aid agencies.
- Facilitate social, economic and physical rehabilitation of community; e.g. livelihoods, psychosocial care, reconstruction of houses and infrastructure
- Coordinate with Township and Village Tract Authorities and aid agencies to assist in rehabilitation
- Ensure that risk reduction measures are integrated during the reconstruction and rehabilitation phase
- Evaluate the performance in terms of DMC and Teams capacity and effectiveness to promote community safety and identify strategies for future improvements.

6.4 Principles of DMC

- All initiatives should recognize the primacy of the people's role. If any initiatives by outsiders will try to bring change, without the consent and full participation of people, may result in negative changes or irrelevant changes.
- The DMC is only a means to achieve the goal of a disaster resilient community. Therefore the DMC must take appropriate actions.
- Keep the structure of the DMC simple and the scale of activities small. The DMC can be further developed.
- People's participation and consensus building and control should be encouraged.

6.5 Capacity Building of DMC and its Teams

The aim of training is to build the DMC and its team capacity to successfully implement its disaster risk management related functions including risk reduction.

The two main areas in which training will be required are:

- Disaster risk management
- Organizational management and development.

The **disaster risk management training** will focus on 'Disaster Prepared and Response' and 'Disaster Risk Reduction'. The outlines of the content of training are at Table 13.

Table 13 Content of DRM Training

Disaster Preparedness and Response	Disaster Risk Reduction
• **Search and rescue** • **Community first aid** • **Relief coordination and distribution** • **Emergency shelter management** • **Evacuation management** • **Warning dissemination**	• Orientation on disaster reduction • Conducting risk assessment • Designing and conducting risk communication • Designing local early warning systems • Structural mitigation • Livelihood sustainability • Advocacy for community vulnerability reduction

The **Disaster Preparedness and Response Training** is targeted to teams constituted under the Disaster Management Committee, while the Disaster Risk Reduction is targeted mainly to Disaster Management Committee.

Figure 13 Search and rescue training

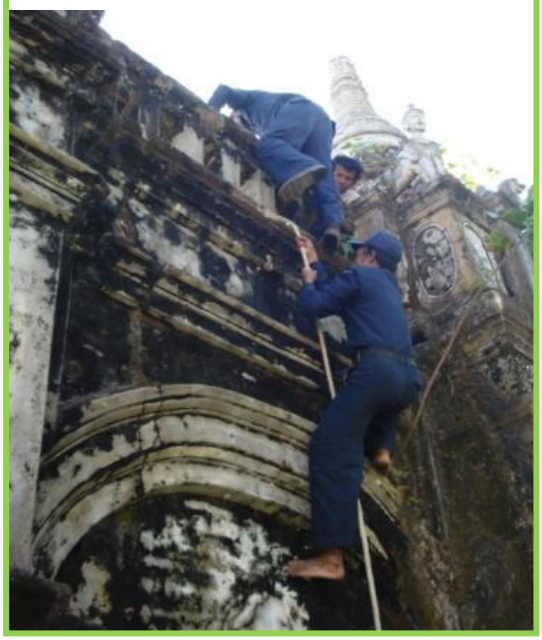


Figure 14 First aid training

Organizational Management and Development Training is for the staff and members of the DMC to equip them to manage the roles and functions of the DMC. Subjects to be covered are:

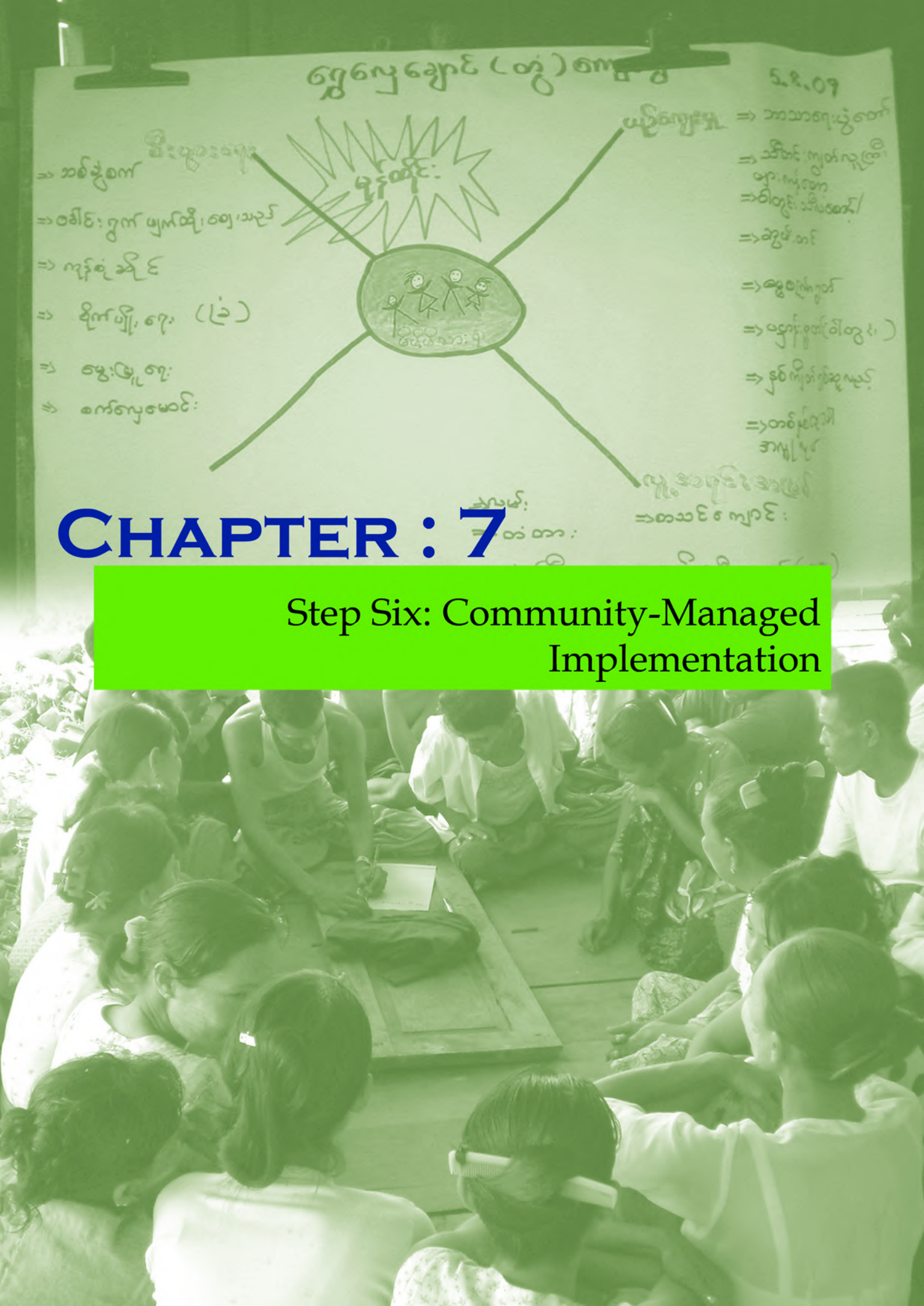
- Leadership
- Planning
- Negotiation, conflict management and conflict resolution
- Community mobilization
- Budgeting and financial management
- Proposal and report writing
- Facilitating a meeting or training
- Documentation

#

Chapter 6:
At a Glance

- **Concept and steps involved in forming DMC**
- **Principle and Functions of DMC**
- **Capacity Building of DMC and its teams**

Hope for the Best, Plan for the Worst.



Chapter : 7

Step Six: Community-Managed Implementation

Chapter 7

Step Six: Community-Managed Implementation

7.1 Tasks and Process under CBDRM Implementation

The result of the participatory planning process will be a Community/ Village/ Ward Disaster Management Plan. In some cases it may include only a few small-scale activities while in others it may be a comprehensive disaster management plan.

A DMC should implement the risk reduction measures as per the plan. The effective operating of such an organization will ensure that planned activities are implemented on time and within the given resources. This includes a number of tasks and processes; e.g. tasking, mobilizing community resources, capacity building, monitoring and review.

7.1.1 Tasking

The DMC should set up appropriate groups/team to implement the various risk reduction measures which have been identified as being necessary, e.g. evacuation team, first aid team, search and rescue team, early warning team, shelter team, etc. It should assign clear responsibilities to these team, and make sure that they have access to individuals and groups with the

The DMC should assign individual tasks to community members to ensure efficient implementation of risk reduction measures

necessary skills to implement the tasks they are given. In addition, the DMC could mobilize the broader community and its resources in order to ensure the various activities can be carried out.

7.1.2 Capacity Building

It is important that responsible individuals and committee/team members have the technical capability to implement their tasks. The DMC can get assistance from partner NGOs and Township or Village Tract Disaster Preparedness Committee to build the skills of its staff. Please refer Step 5 for details.

7.1.3 Mobilizing Resources

The process of resource mobilization starts during the PDRA and planning stages. If the required technical skills are not available within the community, the DMC should mobilize resources from Township/ Village Tract Disaster Preparedness Committee, Departments, NGOs, and business organisations, to meet the needs. This should involve the mobilizing of resources to build the capacities of DMC members and committees, and should include mobilization of an appropriate range of resources.

7.1.4 Monitoring

A participatory monitoring system should be established by the DMC in order to track progress on the implementation of agreed risk reduction measures. The monitoring should cover the progress on activities, time frames, budget, indicators, outputs, objectives and the impact of the risk reduction measures. It should also observe who might be negatively affected and whether anyone has dropped-out and, if so, why. The participatory monitoring system should be established with the involvement of all stakeholders, to ensure their different needs can be met in relation to what they would like to monitor, and how and when they would like the data to be collected. The monitoring process will involve data collection, review meetings and reporting.

Broadly, monitoring report should cover the following.

- Date of report preparation
- Agency preparing the report
- Period covered by the report
- Progress on activities
- Achievements on indicators
- Achievements on objectives
- Problems faced
- Actions taken to address the problems
- Recommendations
- Financial Report

For details of monitoring and evaluation, refer to Annexure III.

7.1.5 Revision in targets and plan

In order to ensure that risk reduction measures achieve their objectives as envisioned during the planning process revision can be made. During the implementation, the DMC and other stakeholders may find that some activities are not as relevant and effective as they were thought to be during the planning process. Or some activities might be having a negative impact upon other groups. The DMC should make necessary adjustments in activities, indicators, time frames and the budget in order to continue to fulfill the objectives. The DMC might need to mobilize additional resources to implement the newly identified activities and targets.

7.2 How to do Resource Mobilization

The DMC should call stakeholders meetings to discuss the inputs and resource needs, and to identify possible sources for them. During these meetings the facilitator should:

- Organize discussion on possible risk reduction measures, the inputs required to implement those measures and the resources required in order to deliver those inputs;
- Encourage discussion on the resources required in terms of human resources (social and technical resources), material/ physical resources, natural resources and financial resources;

- Ensure that internal and external sources are identified, and that it is clear where the required resources can be mobilized from. The internal stakeholders may include individual community members, families, monastery, church, mosques, community groups or village head; the external stakeholders could include Township Disaster Management Committee, departments, NGOs, private businesses and charitable organizations.

The matrix shown below in Figure 14 can be used as both a tool and an end product of the resource mobilization process.

Table 14 Resource Mobilization Matrix

Inputs	Resources Required				Sources		
	Human	Physical	Natural	Financial	Community	Outsiders	
						NGO	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							
Material							
What kind of material inputs are required							
How much is required							
When is it required							
Where is it required							

7.3 How to do Participatory Review

The DMC should establish a participatory review process by inviting stakeholders to periodical review meetings. The following preparatory actions are required:

- The DMC invites all the stakeholders to a Periodical Review Meeting through word of mouth, letter or telephone as necessary. It sends them a reporting format as agreed, and issues as many reminders as needed.
- The DMC arranges the meeting venue and essential facilities for the meeting; e.g. meeting room, flip charts, markers, computer and projector if available and required
- The DMC appoints a note taker, who will prepare the meeting minutes and distribute them to meeting participants.

7.4 How to do revision in Targets or Plan

The stakeholders review the progress on activities, indicators, objectives and impact of the risk reduction measures in their periodical review meetings. They can analyze the progress achieved by asking the following questions.

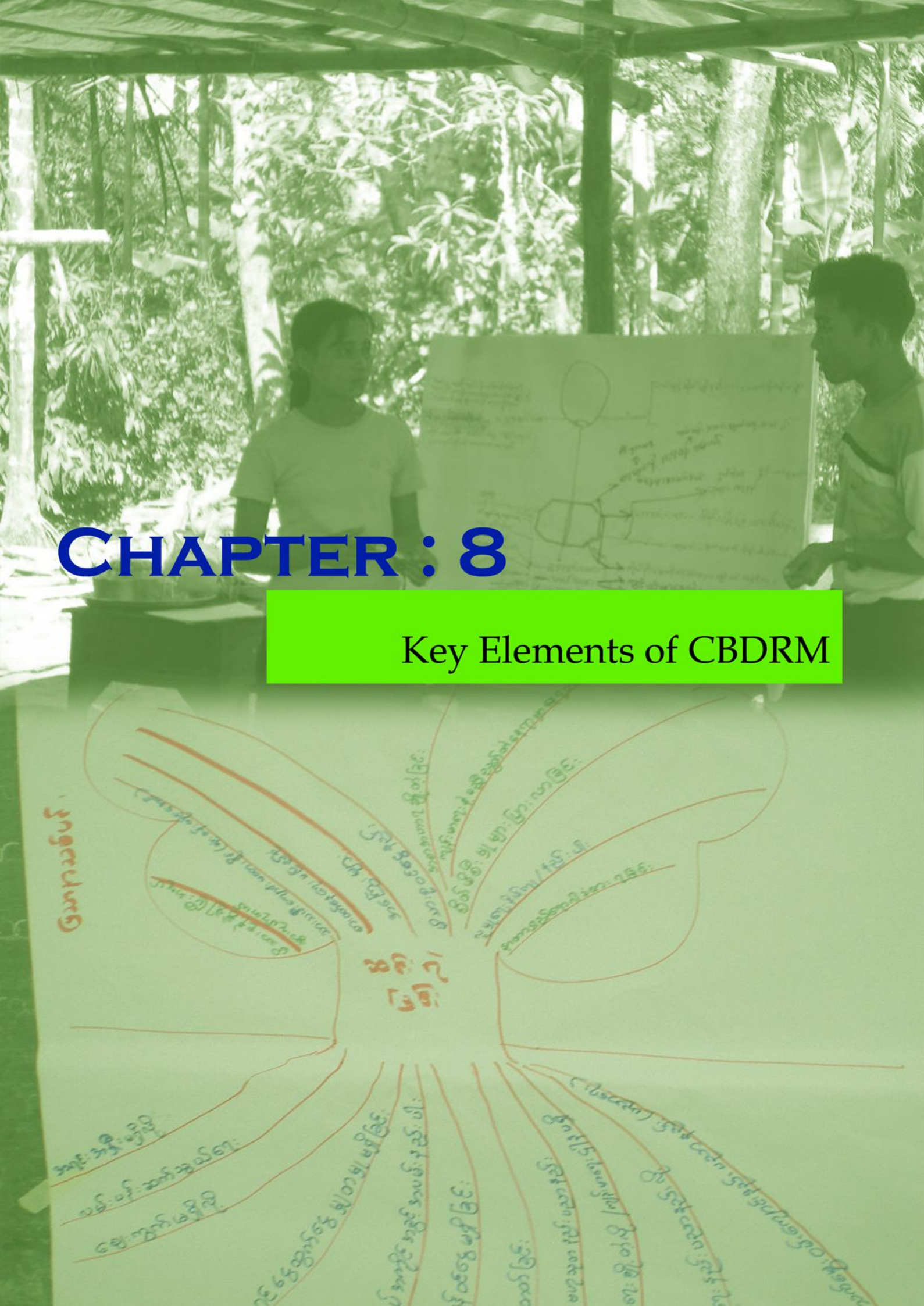
- Have the activities been implemented as planned? Have they met the objectives?
- How the activities have contributed towards achieving the objectives?
- Are the activities achieving the desired impact on (or change in) peoples' perceptions, behaviors, material and social well being and empowerment?
- Why are the objectives not being met? (If applicable) Do we need to change activities or objectives?
- What new activities are required to achieve the objectives? What indicators can be used to assess their impact?
- Are any groups or individuals being negatively affected? Have any groups or individuals dropped-out? Why is this so?
- Are the current objectives still valid or do we need to change? If yes, what new objectives and new activities?

- Are current resources enough to implement the new activities or do we need more resources?
- What and how many new resources are needed?
- Do we have those resources available in the community? If yes, who has these resources?
- Do we need to mobilize resources from external sources? If so, how much and from whom?

Chapter 7:
At a Glance

- **Tasks and Process involved in CBDRM implementation**
- **How to monitor resources for CBDRM**
- **Monitoring of CBDRM implementation**

REMEMBER! Disaster will strike when you are least prepared.



Chapter : 8

Key Elements of CBDRM

Chapter 8

Key Elements of CBDRM

Community Based Disaster Risk Management has eight key elements and it is essential to measure these elements based on identified indicators. These are about institutional arrangements and outputs that a CBDRM program must endeavor to establish in the local community in order to ensure the continuity of community initiatives for disaster risk reduction after the completion of externally sponsored development initiatives. These outcome indicators can also serve as markers to gauge the success of CBDRM process in developing capacity of local community to achieve sustainable development.

The eight key elements and its indicators are at Table 15.

Table 15 CBDRM Key Elements and its Indicators

Sr. No.	Key Elements	Key Indicators (measuring change in individuals and community life)
1.	**DISASTER MANAGEMENT COMMITTEE (DMC)** - Aim : To establish, strengthen and sustain an organizational mechanism at community level to implement CBDRM activities.	- Leaders recognized - Groups identified - Group identified and role expanded - New DMC formed/existing CBO identified as DMC. The indicators of its effective functioning are: - Co-operation amongst target groups is enhanced for collective action on disaster risk reduction through organized mechanisms. - Decisions on disaster risk reduction activities are made by consensus among the DMC members.
2.	**COMMUNITY DISASTER RISK REDUCTION FUND** Aim : To ensure availability	Indicators of effectiveness are as follows: - Funding mechanism in place

	of resources for the implementation of community disaster risk reduction and preparedness measures.	- Funding mobilized by the DMC - CBO operates the account - Criteria for allocation agreed - Staff trained on financial management - Report of the community members contributions - Reports on contributions from other sources - Criteria agreed for disbursement of funds to vulnerable people
3.	**COMMUNITY HAZARD, VULNERABILITY, CAPACITY MAP** Aim : To form the basis for community based disaster risk reduction and community learning	- Local hazard maps completed. - High Risk Vulnerable Groups identified - High poverty levels identified and mapped. Links between vulnerability and poverty correlated. - More individuals and families actively seek information on hazards, vulnerabilities and disaster preparedness and risk reduction from DMC and local authorities/ NGOs. - Risk Assessment data on public display
4.	**COMMUNITY DISASTER RISK MANAGEMENT PLAN** Aim : To ensure collective action by community for disaster risk reduction through mobilization of local resources.	- Income of target groups is increased due to reduction in and control over shocks caused by disasters. - Consumption of target groups on re-productive activities is increased; e.g. purchase of livelihood equipment, machinery, raw materials (cows, buffalos, boats, tractors) - Consumption of target groups on living facilities and needs is increased; e.g. clothes, transport, food, fans, etc. - Consumption of target groups on

		child education and family health is enhanced.
5.	**DMC TRAINING SYSTEM** Aim : To enhance the technical and organizational capability of the DMC and its team/group on CBDRM first aid, search and rescue, evacuation management, relief operations management and emergency shelter management, etc.	- Agencies exist to impart DRR training - Funds allocated in local government budget - Report of the training - Copy of the training manuals - Copy of the community training calendar - Community survey reports - Curriculum of news courses
6.	**COMMUNITY DRILL SYSTEM** Aim : To ensure the readiness of communities for disaster response.	- More cooperation exists at the family and community levels for mutual assistance for disaster response; e.g. assistance to neighbors, evacuation, search & rescue, lending money, sharing labor for re-construction, assistance to family members in food storage, house level raising, evacuation, etc. - People follow agreed procedures and steps in emergency situations; e.g. immediate evacuation after hearing the warning, following agreed route, reaching agreed destination, etc. - Loss of life is reduced due to enhanced emergency response assistance.
7.	**COMMUNITY LEARNING SYSTEM** Aim : To enhance the understanding of individuals, families and communities about hazards,	- Target groups follow hazard resilient construction practices. - Environment friendly practices are adopted by target group members. - Target groups apply hazard resistant cropping practices.

	disaster, vulnerabilities, risk reduction and preparedness	- Target groups have sustained income levels due to avoidance of disaster related shocks. - Target groups enjoy health safety due to better hygienic practices in post-disaster situations - Target groups stress levels are reduced due to better preparedness and effective response practices.
8.	**COMMUNITY EARLY WARNING SYSTEM** Aim : To contribute to the safety of community through facilitating precautionary measures	- Early warning system exist and linked with appropriate warning authority. - Community understands early warning message. - Individuals, families and community members take appropriate precautionary actions to avoid disaster impact. - Target groups commend the positive role of religious and social institution in life saving through early warning ; e.g. pagodas, mosques, churches, schools.

Chapter 8:

At a Glance

Key Elements and Indicators of the CBDRM

DON'T BE SCARED, BE PREPARED.

Annexure I

PRA : Brief Overview

Use of PRA in community risk assessment invites community participation, lively exchange of ideas, and negotiated decisions between the community and other stakeholders.
PRA was developed in India and Kenya during the early 80s and since then has been widely used by development workers and practitioners of CBDRM. PDRA and PRA share the same goal of community empowerment and promote the same principles of participation, reflection and action.

Facilitation
In PDRA, team members facilitate discussions using PRA tools. Each group has a facilitator to moderate group discussions and a note-taker to record the minutes of discussions and observations on community processes.

As a general rule, PDRA facilitators should ensure that every member of the group is given the opportunity to share and that no one dominates the discussion or makes the decision for the group. There should also be no physical barriers like tables separating the facilitators and community members. Forming groups in circles allows everyone to interact with each other.

PRA Materials
Useful materials in PRA are beans, different sizes of stones and leaves, 10 stones, markers, flip charts, crayons, color papers, glue and masking tape. Every PDRA practitioner must have a PDRA bag containing these materials.

Documentation
The name of the community and names of community members involved in group discussions are written at the back of PRA notes or

flip charts used. Note-takers write the responses of community members and their observations using the following format:

Table 16 PRA Flipchart Example

Name of Location:	Date:
Name of Note-taker:	Total No of Participants:
Name of Facilitator/s:	Number of Men:
Method Used:	Number of Women:
Results: Answers given to key questions:	
1. What is the impact of the hazard (for example: flood, drought, forest fire) in your life? In the environment? 2. Has the impact always been like this? 3. When did you begin to notice that the impact of these disasters have started to become more serious than before? 4. Why are these disasters more serious than before? Additional information: Observations:	

Annexure II

Outline of the Community Disaster Management Plan

1. Profile of the Community

[Location (Township, Ward/Village Tract, Geo-coordinates (if possible), geographical area, Demography (literacy rate, economy, main occupation, etc), Distance from township Headquarters, Transportation (Major road, railways, water ways, etc), climate, geography, topography, temperatures, rainfall, cropping pattern, rivers, major drinking water sources, etc]

2. Hazard , Vulnerability and Risk in the Community

[Type of hazards that community is prone to, history of hazards, impact analysis of the worst case, the area, people and infrastructure that is prone to the risk of these hazards and their vulnerability of being damaged by such disasters due to their vulnerability characteristics. socio-economic, housing, etc, Identification of elderly population, physically challenged, women headed household, etc]

3. Disaster Management Committee (DMC)

[List of the members of the DMC or Community/Village Disaster Management Committee, Composition of the Team or Groups (First aid, Search and rescue, shelter, etc) constituted on specific theme, Involvement of the women, Meeting place during disaster, Linkages with Township or Village Tract Disaster Preparedness Committee, NGOs, etc]

4. Community Disaster Response

[Role of DMC/Village Disaster Management Committee and its functional teams which includes Overall coordination, Emergency Warning and Dissemination, Evacuation, Rapid Damage Assessment and Rreporting, Search and Rescue, First Aid, Logistics Arrangements, Communications, Temporary Shelter Management, Food Management, Missing Persons Search, Animal care and Management of deceased]

5. Disaster Preparedness and Mitigation Activities

[List of preparedness and mitigation activities with time frame and measurable indicators, Awareness activities at community level through Monastery, Churches, etc, Awareness among children through school, etc]

6. Monitoring and Evaluation

[Updating of Plan at periodic interval (at least once in year, preferably before monsoon season), Review of preparedness and mitigation activities identified under plan, Mock drill to check preparedness, etc]

Annexure

A. Contact details of Township and Village Tract Disaster Management Committee
B. Contact details of Line Departments at Township level including DMH, Fire Services Department, MRCS, NGOs, etc]
C. List of resources in and around community [Boats, water rescue equipments, Ropes, First aid kit, Equipment for rescue (chain, hammer, spade, etc), Safe shelter, Dhamma Hall, School, Vehicles, Rice Mills, Medical shops, Doctors, etc]

Annexure III

Participatory Monitoring and Evaluation

Participatory monitoring and evaluation (PME) involves the local community, development agencies, donors and other stakeholders deciding together how progress should be measured and what actions need to be taken as a result of this analysis. This approach assumes that all concerned parties need to know how effective the project efforts have been. It may be challenging, because it encourages people to examine their assumptions on what constitutes progress, and to deal with contradictions and conflicts that may emerge.

Principles of PME

There are 4 broad principles at the heart of PME:

Participation. Multiple stakeholders participate in PME. These may include beneficiaries, project or program staff at all levels of the implementing organisation, researchers, government agencies, and donors.

Learning. The emphasis is on practical, or experiential learning. Participants gain skills, which strengthen capacity for planning, problem solving, and decision making. They also gain a greater understanding of the factors or conditions that affect their project, reasons for successes or failures and why alternates may be tried.

Negotiation. PME becomes a social process for negotiation between people's differing needs, expectations, aspirations, and visions.

Flexibility. There is no one way to do PME. It is flexible and adaptive according to project-specific circumstances and needs.

Monitoring

Monitoring is the continuous or periodic review which provides timely, accurate and complete information on project effectiveness with regard to inputs being utilized to produce desired results. It enables field

operations to be modified to realize the most effective combination and sequences of inputs to achieve project objectives.

There are at least three kinds of monitoring that can be distinguished in the context of project management.

Process Monitoring. Process monitoring is collecting information on the use of inputs, the progress of activities, and the way these are carried out. Process monitoring looks at why and how things have happened; it looks at relevance, effectiveness and the efficiency of processes. It involves stakeholders and beneficiaries in planning, in deciding what is to be monitored, and in developing and recording monitoring processes. Process monitoring requires documentation of how the process was carried out.

Effect Monitoring. Effect Monitoring is collecting information on progress towards achieving objectives, and on what the effects are in relation to these objectives. Effect monitoring is a form of continuous self-evaluation. If it is done well, formal evaluations will be needed less often, and if a formal evaluation is carried out, the program staff will already be familiar with their work in relation to their objectives.

Monitoring Significant Change. The first step to take is to identify what areas, or domains, of change one want to monitor using the significant change method. The primary focus should be on two types of change: changes in the lives of individuals, and changes in the organization. The basis of the significant change method is a simple question. “Describe what you think was the most significant change that you contributed to your project”.

Evaluation

Evaluation can be defined as an activity whereby the results and effects of a project are assessed, to see to what extent the project objectives have been achieved. After a project has finished, an evaluation helps to find out whether the project has been successful or not. Evaluation is also an

organizational process for improving activities still in progress and for aiding management in future planning and decision making.

Process for conduct of evaluation

The baseline study (participatory disaster risk assessment) conducted before the start of the project should be the basis of evaluation. At the time of evaluation, information on the same aspects should be gathered by using the indicators formulated during the conceptualization of the project objectives. Then practitioners can analyze changes in the situation, by comparing the 'baseline' situation with the situation after the implementation of the project.

Following are the steps for planning and conduct of an evaluation.

1. Define the purpose of the evaluation
    - Why is there an evaluation?
    - Who wants it?
    - Who are the beneficiaries?
    - For what decisions?

Different people might have different purposes for conducting evaluations, for example:

- To determine the full extent of positive and negative outcomes and impacts, usually at the end of a project or program.
- To identify lessons that can be applied to future program strategies and improve effectiveness of interventions.
- To document experience for advocating policy change and institutionalization.
- To collect data that demonstrates quality and effectiveness that can be used for institutional marketing.
- To ensure and demonstrate accountability.
- To be able to improve monitoring methods.
- To compare the program with others like it.
- To see if work is costing too much and achieving too little.

2. Formulate indicators

   Indicators are central to most monitoring and evaluation processes. When we select indicators, we need to clarify what we want to know and how can we monitor changes. They should help us decide what information we need to collect. All parties involved should agree on the indicators used, although community members might use different indicators than the assisting agency. An appropriate set of indicators can be produced by undertaking the following:

   - Review with the community members, the project objectives: general and specific. Review in the same way the project outputs and effects.
   - Review external factors that might affect the community and influence the project results. This requires updating of indicators when necessary.
   - Review the criteria the community members formulated when they selected the most favorable solution to address their problems. Why do they prefer certain solutions?
   - Formulate questions, which need to be answered in order to monitor the relevant issues and changes.

Indicators can have different focuses: on the process of project implementation (inputs, outputs) or on the effects of the project (outcomes). Process and effect indicators can both be quantitative and qualitative.

3. Define the focus of the evaluation
   - What are the key issues?
   - What are the specific questions to be answered?
   - What information is to be looked for?
   - Who and what will be the sources of information?
   - Which indicators will be used to assess achievements and performance?

4. Define methodology for the conduct of the evaluation
   - What methods will be used to gather the information?

- Who will participate in the evaluation?
- When will information be gathered?

5. Define methods for the analysis of the evaluation results
   - How will gathered information be analyzed?
   - Who needs what information?
   - In what form?
   - Who will validate results and how?
6. Define how the evaluation report will be written
   - What is the outline of the report?
   - What is the expected output of the evaluation: lessons, recommendations about what?
   - Who will write the report?
   - How will evaluation results be used, and by whom?
7. Finalize the overall evaluation plan
   - Determine schedules of evaluation activities
   - Prepare a budget for the evaluation
   - Clarify roles and responsibilities of all people involved in evaluation
   - Inform all people involved and ensure they all agree on the terms of reference

   An example from Oxfam GB's Disaster Management Program (Philippines) is at Table 17.

Table 17 Oxfam GB's Disaster Management Program (Philippines)

Project Goal	Objectives	Indicators		
		Output	Effect/Outcome	Impact
To reduce the vulner-ability of communi-ties to disaster	Increase communities capacities to prevent, prepare for and mitigate disaster risks	Trained a core of 10 committed DM volunteers in each of the 10 villages within 6 months Set up one CBDRM structure in 10 villages within 12 months Counter Disaster Plans have been for-mulated in a partici-patory manner in 10 villages within 12 months	Communities are able to access resources from the municipal calamity fund within two days after a disasters strikes Community members have increased levels of awareness and confidence about their capacities and resources Communities are able to plan, implement, monitor and evaluate disaster risk mitigation measures in a timely manner	Causalities, damages and destruction to lives and properties reduced by 50% Increased status of women as a result of their enhanced participation in CBDRM structures
Fewer people will die, suffer or fall sick as a result of natural disasters and armed conflict	To ensure access to quality humanitarian assistance of communities affected by disasters	Built 20 wells in 5 villages capable of supplying safe potable water by the end of 6 months	1000 households in 5 villages have access to adequate and safe drinking water Women's time spent for fetching potable water is reduced by 50 percent	Incidence of water-borne diseases in the communities is reduced by 50 percent Improved security of productive assets Incidence of kinship transfers reduced by 50%
		Trained 10 women community health volunteers in 5 villages capable of conducting hygiene promotion Conducted hygiene promotion campaign in 10 villages	Community health volunteers have increased in status and recognition in the communities Competent of CHVs actively participate during pre and actual disaster events Women, men and children have increased awareness of good hygiene practices	

What to evaluate?

What should be evaluated depends on the purpose of the evaluation. The objective of the evaluation determines its focus.

If the purpose of evaluation is to assess whether the project has achieved its objectives, all project activities will be measured by using the effect indicators. The 'baseline' situation will be compared with the situation after project implementation, and conclusions drawn.

If the purpose is to know whether the project or program was implemented according to the community based disaster risk management framework, the focus of the evaluation will be different, and another set of questions and indicators is needed.

Who evaluates?

The evaluation can be done by:

- An internal or self-evaluation by DMC
- An external evaluation by independent agencies or experts not directly associated with the program.
- Collaborative team evaluations that include internal (DMC) and external parties.
- Participatory evaluations that are conducted with multiple stakeholders.

Annexure IV

Hazard Profile of Myanmar[1]

The Union of Myanmar is vulnerable to multiple natural hazards including Fire, Forest Fire, Earthquake, Cyclone, Storm surge, Tsunami, Landslide, Floods and Drought.

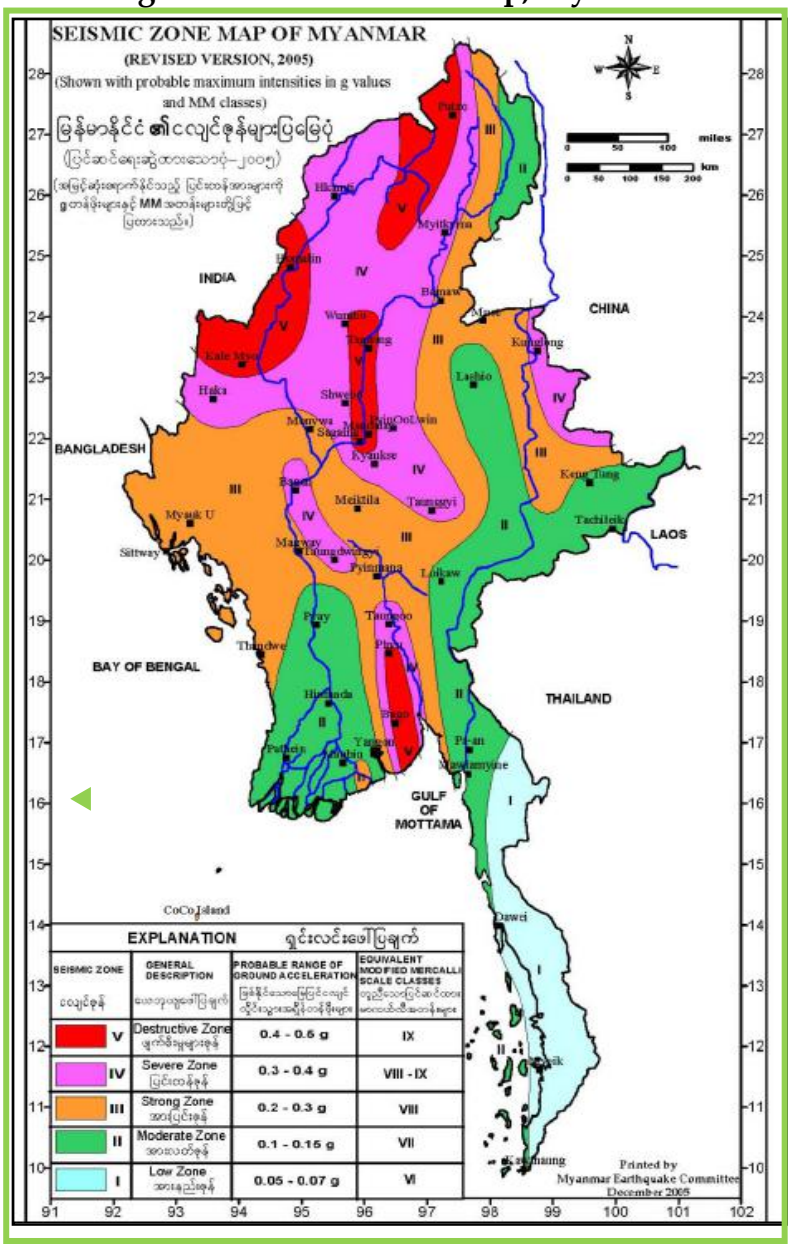
Earthquake

Earthquake in Myanmar originates from two main causes:

- Result of collision between the northward moving Indian Plate underneath the Burma Plate
- The northward movement of the Burma Plate from a spreading center in the Andaman Sea.

Myanmar can be divided into three seismically active regions namely: The Northwestern Region, the Central Lowland, and the Shan Plateau-Yunnan Region. The subduction and collision caused many shallow and intermediate earthquakes with considerable magnitude.

Figure 15 Seismic zone map, Myanmar



[1] For detail, ADPC et al, 'Hazard Profile of Myanmar' can be referred.

During the 20th Century, at least 18 large earthquakes had happened along the Central Lowland where the well-known Sagaing Fault passing through. Another large seismogenic fault called Kyaukkyan Fault is about 500 km long in the western part of the Shan Plateau.

Landslide

The landslides of various scale occurs in mountainous regions especially in the Western Ranges and some localities in the Eastern Highland of Myanmar. The Western ranges has experienced all types of landslide and earth movement such as rock falls, rock slides, soil avalanche and mud flows. Due to the sparsely populated areas, the direct impacts of landslide in this region damage infrastructure rather than human settlement.

Tsunami

Myanmar coastline can be divided into three parts namely Rakine coastal area in the west, Ayeyarwaddy Delta in the middle, and Taninthayi coastal area in the south. The Rakine Coast is built up of shallow sea with a chain of islands and some delta growth. The Ayeyarwaddy Delta is being built up at mouth of Ayeyarwaddy River and the sedimentation and annual delta growth rate increase lead to further shallow water sandbars in the Martaban Sea up to 50 km

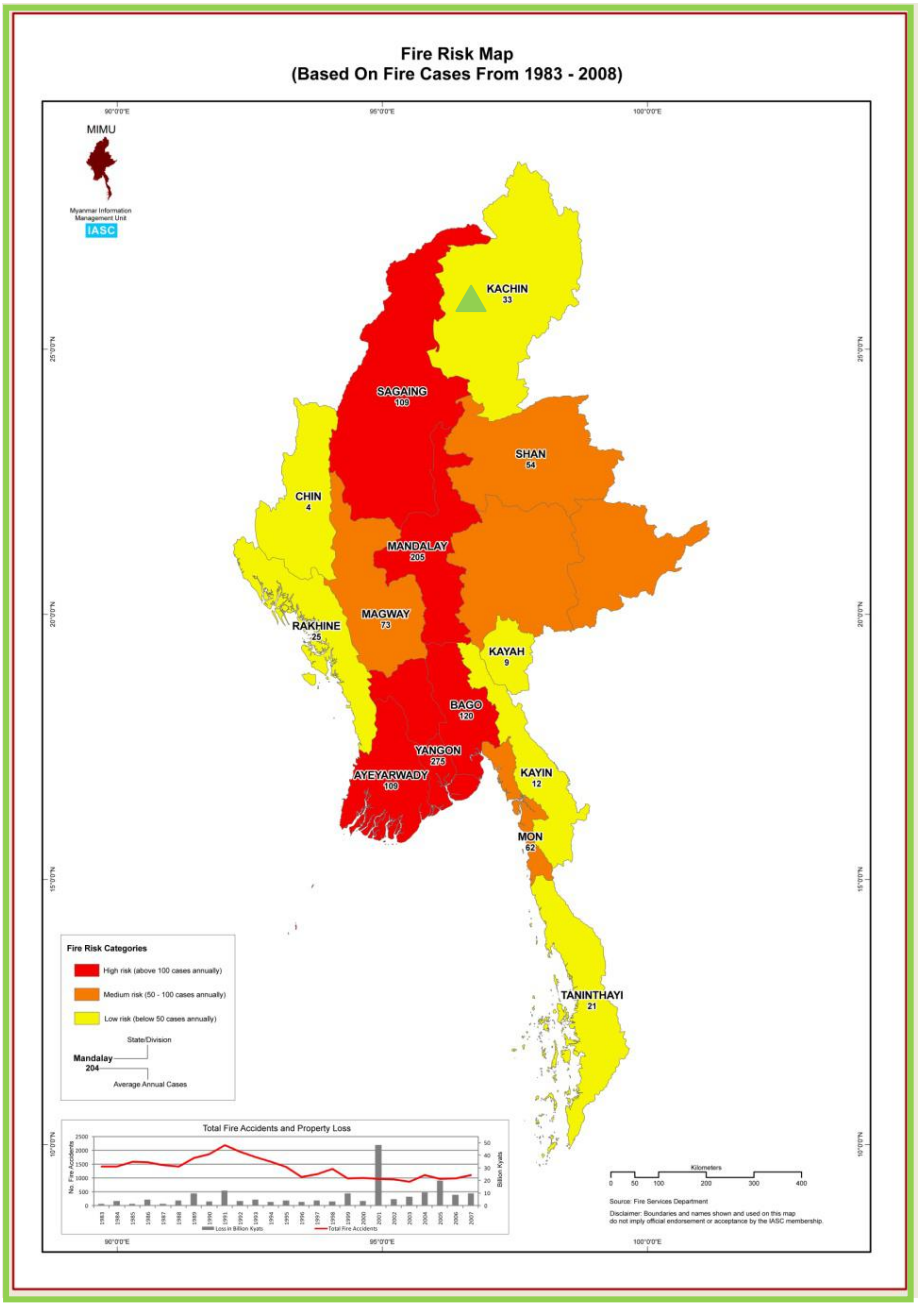
southward. The Taninthayi coastal line is almost straight in north-south direction. The southern part of Taninthayi coastal line is composed of chain of islands called Myeik Archipelagos. The intensity of the tsunami in terms of round-up and the extent of the inundation was comparatively lower than other countries around the Indian Ocean and the casualty and damage was also lesser this is because the computed tsunami amplitudes are relatively smaller along the Myanmar coast. The amplitudes are slightly large off Ayeyarwaddy delta, because the shallow delta extends offshore to cause concentration of tsunami energy. Another reason for the smaller tsunami is due to the fact that the coast of Taninthayi Division is being protected by offshore islands of the Myeik Archipelago trending north-south direction.

Fire

The Fire hazard is the most frequent hazard in terms of frequency, which accounts for 70 percent of the disasters[2]. The number of fire cases is decreasing while the losses due to fire is showing increasing trend. The high incidences of fire cases are concentrated mainly in Yangon, Mandalay, Ayeyarwady, Sagaing and Bago. These Divisions account for 63 percent of the total fire cases of the country, while the financial loss is approx. 38 percent. The main causes of fire are kitchen related fires and negligence which accounts for 83 percent of the fire cases and period from January to May is the high season for fires. The average annual fire cases are about 900.

[2] Post Nargis Joint-Assessment Report

Figure 16 Fire hazard map, Myanmar



Dry zone/Drought

The Dry zone of Myanmar is located in the central part of the country in Magway, Mandalay and Sagaing (lower) Divisions and covers approx. 10 percent of total area of the country. It falls under arid to semi-arid zone as per different zonation criteria. As it being located in rain fed area, hence the average annual precipitation is below 1000mm. Approx. 51 townships spread across 13 districts in 3 Divisions fall under the Dry zone as per the Dry Zone Greening department. The deterioration of

natural resources such as soil erosion and deforestation has made the agricultural production base unstable.

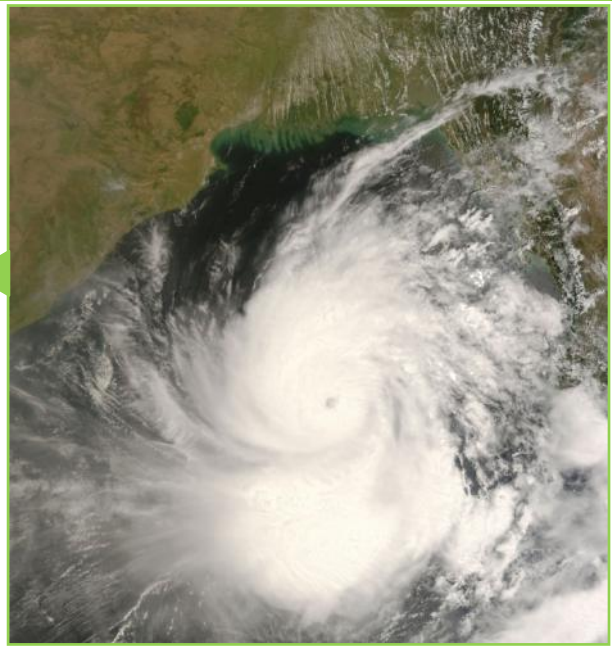
Floods

Flooding has always been one of the major hazards in Myanmar, accounting for 11% of all disasters, second only to fire. Between 1910 and 2000, there were 12 major floods. Flooding leads to loss of lives and properties, damage to critical infrastructure, economic loss and health related problems such as outbreak of water borne diseases when the lakes, ponds and reservoirs get contaminated.

The country receives practically all its rainfall between mid-May and October, the rainy season, during which flooding and landslides are common. In Myanmar, the threat of flooding usually occurred in three waves each year: June, August and late September to October with biggest danger arriving in August as peak monsoon rains occurred around that time. Throughout the period of the rainy season, riverine floods are common in the river delta while the flash floods and landslides frequent the upper reaches of the river systems, which are normally the mountainous areas, whereas the coastal areas experience intermittent flooding from cyclone.

Cyclone

Myanmar having a long coastline along the Bay of Bengal, which is considered to be high cyclone vulnerable area, is prone to cyclones. April, May and October are considered to be cyclone months as per last 100 years record. In last four decades, five major cyclones hit Myanmar in 1968(Sittwe cyclone), 1975(Pathein cyclone), 1982 (Gwa cyclone), 1994 (Maundaw cyclone), 2006(cyclone



Mala), 2007 (Akash) and 2008 (cyclone Nargis). The Sittwe cyclone led to loss of 1037 lives, Pathein cylone claimed 304 lives and Nargis the most devastating in the living memory of Myanmar, led to loss of 138,373 lives, affected 2.4 mn population and properties to the tune of 4.1 billion USD got damaged.

Storm surge

Myanmar has a very long coastline and densely settled low-lying land are particularly vulnerable to rising sea levels. Even diminutive rises in sea level vertically can lead to enormous erosion horizontally. As per the Inter-Government Panel on Climate Change (IPCC) report, a rise in sea level of one centimeter can result in beach erosion of one meter horizontally. The low-lying areas of Myanmar's Irrawaddy Delta, interspersed with many tidal waterways, are naturally exposed to storms and monsoon winds blowing from the southwest. Rising sea levels, stronger cyclones and ecosystem degradation mutually reinforce each other, exacerbating the fallout from seaward disasters. During Cyclone Nargis, 90 percent of deaths were caused as a direct consequence of the storm surge.

Forest Fire

The forest fires in Myanmar are normally surface fire, most frequent during the dry season, starting around December until May. It occurs in almost all States and Divisions though sporadic, however more common in upland regions namely Bago, Chin, Kayah, Kachin, Mandalay, Rakhine and Shan. It causes haze problem which leads to negative impact on the community.

Annexure V

Definitions and Terminology

Disaster. The serious disruption of the functioning of society, causing widespread human, material or environmental losses, which exceed the ability of the affected communities to cope using their own resources. Disasters occur when the negative effects of the hazards are not well managed.

Hazard. Any phenomenon, substance or situation, which has the potential to cause disruption or damage to infrastructure and services, people, their property and their environment.

Capacities. The resources and skills people posses, can develop, mobilize and access, which allow them to have more control over shaping their own future and coping with disaster risks.

Vulnerability. A concept which describes factors or constraints of an economic, social, physical or geographic nature, which reduce the ability of a community to prepare for and cope with the impact of hazards.

Risk. The probability that negative consequences may arise when hazards interact with vulnerable areas, people, property and environment.

Risk Reduction Measures. These are various activities, projects and programs that the communities may identify after assessing and analyzing the risks that they face. These measures are specifically intended to reduce the current and prevent future risks in the community.

Community is a term that has a wide range of usage,

For Community-Based Disaster Risk Management (CBDRM), a community can be taken as a group that may share one or more things

in common such as living in the same environment, similar disaster risk exposure, or having been affected by a disaster.

Common problems, concerns and hopes regarding disaster risks may also be shared. However, people living in a community have different vulnerabilities and capacities, for example men and women. Some may be more vulnerable or more capable than others.

Project. An organized social process involving the provision of inputs (cash, labor, technology, methodology) over a defined period of time to implement activities and generate outputs or results, to achieve a previously defined objective or purpose and desired development goal (impact/effect).

Project Planning. Sequencing of tasks to achieve the project objectives through timely project implementation and ensuring efficient use of resources. It includes determining tasks, benchmarks of achievements, assigning responsibilities, developing a timetable based on activities, and determining resource allocation and timing.

PRA/PLA. Participatory Rural Appraisal (PRA) has been described as a set of approaches, behaviors and methods for enabling people to do their own appraisal, analysis and planning, take their own actions, and do their own visuals, such as diagrams and maps. Other practitioners describe what they do as Participatory Learning and Action (PLA). (Chambers, Whose Reality Counts: Putting the First Last, 2002, p.7).

Participatory Disaster Risk Assessment (PDRA). PDRA is a process whereby all concerned parties collect and analyze disaster risks information, in order to make appropriate plans and implement concrete actions to reduce and/or eliminate disaster risks that will adversely affect their lives. It is both a dialogue and a negotiated process involving those at risk, authorities and other stakeholders.

Monitoring. The continuous or periodic review and overseeing by stakeholders of the implementation of an activity, to ensure that input deliveries, work schedules, target outputs are proceeding according to plan.

Evaluation. The assessment of results and impact of a project in order to see to what extent the project objectives have been achieved. Mid-term evaluation is done to analyze the project halfway and if necessary, make some adjustment or changes. Terminal evaluation is undertaken to determine whether the overall purpose of the project is reached.

Disaster Risk Management. A systematic application of management policies, procedures and practices to identify, analyze, assess, treat, monitor and evaluate risks. This involves decision making based on the examination of those risks, which includes hazard, vulnerability, and capacity of people and institutions (ADPC, DMC-30, 2003).

Community-Based Disaster Risk Management (CBDRM). 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 the people are at the heart of decision making and implementation of disaster risk management activities. The involvement of the most vulnerable is important and the support of the least vulnerable is necessary. In CBDRM, local and national governments are involved and supportive (ADPC-CBDRM-11, 2003)

Community Based Disaster Risk Management Manual