A User's Guide

Community Based Disaster Management and Climate Change Adaptation

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Community Based Disaster Management and Climate Change Adaptation

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PREFACE

Why this Guide?

The UNCRD Hyogo Office launched a project titled "Community Based Disaster Management for Climate Change Adaptation" in 2010. The Office published *Sustainable Community Based Disaster Management (CBDM) Practices in Asia; A User's Guide*, in cooperation with various stakeholders aiming to incorporate CBDM at all levels in 2004. Based on the original Guide, this current publication has been modified to specifically address climate change adaptation (CCA). This Guide should be considered general criteria which might, and highly likely would, vary from country to country. Therefore, a Country-Specific User's Guide for Community Workers has been developed separately in three project countries in order to more effectively and practically address the issues being faced at the community level of the respective project countries.

Within the framework of one of UNCRD's thematic focuses on Human Security, the goal of the current study is to achieve safety and sustainability of livelihoods for effective disaster mitigation, with a focus on three key elements: self-help, cooperation, and education. This goal will be achieved by setting specific objectives:

- To study the effectiveness of initiatives at the grass-roots level in CBDM for CCA, particularly successful practices;
- To make a model for the sustainability of these initiatives in terms of policy options for undertaking future grass-roots-level projects;
- To identify different policies and initiatives for building resilient communities; and
- To disseminate best practices through training and capacity building.

Using this Guide

This Guide is divided into seven chapters: Introduction, Generic Guidelines, and five chapters covering user-specific tools. The Introduction describes the basic concepts of CBDM. The other chapters target different disaster-related personnel: policymakers, national disaster managers, local disaster managers, trainers, and community workers. These generic guidelines seek to provide a comprehensive discussion of the factors, best practices, and examples that will enhance CBDM for CCA. This document should serve as additional reference of other tools targeting different users. A separate document, a country-specific user's guide that will be published at the same time, will serve as a practical user's guide for community workers.

There are user-specific tools for five categories of users:

- **Policymakers:** National-level politicians and senior bureaucrats who prepare policies for their governments. This includes ministers, secretaries of ministries, and heads of national disaster management facilities. At the local government level, policymakers include city mayors and local politicians who prepare city or regional policies.
- **National disaster managers:** Professionals, technocrats, and bureaucrats of national governments (e.g., line ministries, disaster management bureaus, and other central government agencies), who are responsible for the implementation of disaster management initiatives of the country.
- **Local disaster managers:** City-, district- or provincial-level disaster managers responsible for the implementation of local disaster initiatives. This includes city/district/province department officers and practitioners. This guide uses the term of local government units (LGUs)[1] for these agencies.
- **Trainers:** Group or individuals who provide training to the community, its leaders, and their change agents. Trainers are considered outside entities to communities and, therefore, facilitators.
- **Community workers:** They are the ones who will be able to initiate disaster management activities within a community. They can be either from inside or outside the community, but need to be trusted by the local people.

Introduction

INTRODUCTION

Why CBDM?

It is common knowledge that people at the community level have the most to lose when a disaster, whether major or minor, occurs because they are the ones directly affected by them. They are the first ones to become vulnerable to the effects of such hazardous events. The community, therefore, has much to lose if they do not address their own vulnerabilities. On the other hand, they have the most to gain if they can reduce the impact of disasters on their community. The concept of putting communities at the forefront gave rise to the idea of community-based disaster management. At the heart of CBDM is the principle of participation. Through CBDM, the people's capacity to respond to emergencies is increased by providing them with more access and control over resources and basic social services. Using a community-based approach to managing disasters certainly has its advantages.

Although indigenous coping mechanisms have existed for as long as human history, the term CBDM was first popularly used in the mid-1990s in the Asian region based upon the realization that:

- The local population in disaster-prone areas, due to exposure and proximity, are potential victims and assume most of the responsibilities in coping with the effects of disasters.
- The local population has local knowledge of its vulnerabilities and is a repository of any traditional coping mechanism suited to their environment.
- The local population responds first at times of crisis and is the last of the remaining participants as stricken communities strive to rebuild after a disaster.

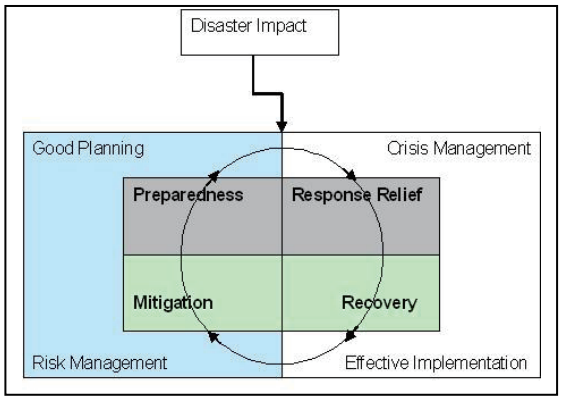
The CBDM approach provides opportunities for the local community to evaluate their own situation based on their own experiences from the very beginning. Under this approach, the local community not only becomes part of plan formulation and decision making, but also becomes a major player in its implementation. Although the community is given a greater role in the decision-making and implementation processes, CBDM does not ignore the importance of scientific and objective risk assessment and planning. The CBDM approach acknowledges that as many stakeholders as needed should be involved in the process, with the end goal of achieving capacities and transferring resources to the community, which would assume the biggest responsibility in disaster reduction.

It should be noted that in an environment where the economy is worsening and resources are growing increasingly scarce, CBDM would be considered highly applicable as it promotes local, affordable, and incremental solutions. It should, however, be emphasized that local solutions should not be the sole means of resolving the problem and resource agencies, including government, should not view CBDM as a substitute for not taking action.

Furthermore, many members of a community might have different perceptions of the nature of disaster risk. Moreover, the community itself does not comprise a single entity. It consists of different sexes, religions, ethnicities, children, the elderly, people with disabilities, and so on. Thus, there are different perspectives on disaster risks as well as networks to receive relevant information.

In some countries, the concept of CBDM means effective community response when a disaster strikes. However, this Guide uses CBDM as a term that includes community management of the disaster cycle, which includes disaster response/relief, rehabilitation/reconstruction, and mitigation/reduction/preparedness.

Figure 1. Disaster Management Cycle



Source: JICA, *Case Analyses Pertaining to Capacity Development: Community Disaster Planning from the Viewpoint of Capacity Development* (Tokyo: JICA, 2008). (in Japanese)

What is Climate Change Adaptation?

Though climate change is a multifaceted and multidimensional natural phenomenon, to which the anthropogenic emissions of greenhouse gases (GHGs) greatly contribute and affect human livelihood drastically by a rise in temperatures and changing rainfall patterns, the Intergovernmental Panel for Climate Change (IPCC) views climate change from a much broader concept of being caused by both natural variability and human activities. The change in climatic stimuli will continue to occur and the phenomenon which is currently unknown to one region may become more familiar in the future; therefore, adaptations in ecological, social or economic systems are required towards actual and potential climatic variability and effects. Available literature pertaining to climate change propose several definitions of adaptation. Some scholars define it as a process by which people minimize negative climatic impacts as well as make the most of opportunities arising from the changing climatic conditions. The United Nations International Strategy on Disaster Reduction (UNISDR) defines it as "the adjustment in natural or human systems in response to actual or expected climatic stimuli or their effects, which moderates harm or exploits beneficial opportunities".[2]

Climate Change and CBDM Linkages?

Community-based approaches to reduce vulnerability have become increasingly popular over the past twenty years. The traditional top-down approaches do not work effectively for affected local communities. The bottom-up approach, on the other hand, has seen successfully results in incorporating local experiences and knowledge into decision making. Adaptation at the community level is essential since the impact of climate change affects them directly. Thus, vulnerable communities have to adjust with the variations in climate as well as develop their own adaptation strategies towards the impacts of climate change. As a result, it is imperative to build a bridge between the local people and policymaking and to ensure information exchange between local experts and the scientific community. Community-based organizations (CBOs) can play an important role in taking the lead in implementing adaptation measures for vulnerable communities. Information pertaining to hazards and/or climate change should be transferred to such local communities in user- friendly form. Indigenous knowledge regarding adaptation that was acquired from the experience of past disasters as well as the local adaptation process should be valued accordingly.

Why Sustainability?

According to the IPCC Fourth Assessment Report, climate change is expected to increase the severity and frequency of weather-related natural hazards such as storms, high rainfalls, floods, droughts, and heat-waves.[3] In fact, weather-related disasters occupied 75 per cent of all disasters that took place around the world over the period 1995-2004. However, such a trend is not only due to effects of natural disasters, but is also affected by governance, institutional, and human development-related factors. The increasing number of people affected by weather- related disasters results from the lack or delay of infrastructure development, rapid urbanization, urban population residing in hazardous locations, unplanned settlements, and environmental degradation. It is clear that climate change and regional development are closely linked for building a sustainable world.

ECOSOC Resolution 1582 (L) explains more precisely why regional development is one of the important elements for this Hyogo Trust Fund (HTF) project. Regional development is a potential instrument for the integration and promotion of social and economic development efforts within a country in order, particularly, to:

(a) Induce rapid structural change and social reform, especially to achieve the broader distribution of returns from development among less privileged groups in society;
(b) Increase popular participation in setting development goals and in development decision-making and organizational processes;
(c) Create more effective institutional and administrative arrangements and operational approaches to carry out development plans;
(d) Achieve the better distribution of population and human activities and settlement through more effective integration of urban and rural development; and
(e) Include, more effectively, environmental considerations in development programmes.

It is obvious that disasters hold back development and progress towards achieving the Millennium Development Goals (MDGs). It is unfortunate, but the reality is that many countries are still not on course to meet Goal 1, the primary goal of halving extreme poverty and hunger by 2015. In spite of strong initiatives for reducing natural disaster risks and achieving the MDGs around the world, disasters that have occurred resulted in further degradation of the environment in general; this includes disruption of infrastructure and essential services to the affected population, losses of environmental diversity, severe damage to cultural and social heritages and infrastructure, as well as serious loss of lives and assets, and injuries. Disasters also lead to financial crises and political and/or social instability.

Climate Change Adaptation and the International Policy Debate

The frequency and intensity of hazards have been increasing due to the impact of climate change. Signatories of UNFCCC and the Kyoto Protocol have accepted that rising sea levels, increasing number of floods and storms, and other hazards are all outcomes of climate change.[4] The lack of capacity to adapt with the changes makes developing countries more vulnerable to climate-related disasters. The risk created by the climate change and natural hazards can be minimized by consolidating the climate change and disaster risk policy agendas. The response towards climate change by the international community has been an issue of debate since there are scientists who believe there is no clear evidence of global warming. The most comprehensive instrument until now in climate change is the Kyoto Protocol which was adopted in 1997 and came into effect in 2005. Thirty-seven industrialized countries and the European Community pledged to reduce GHG emissions of at least 5 per cent of combined emissions levels against 1990 levels in the period between 2008 and 2012. By the end of the first commitment of the Kyoto Protocol in 2012, UNFCCC seeks negotiation for a new international framework to deliver stringent emission reductions.

On the other hand, the policy frameworks of disaster management are a result of the impact of the UN's International Decade for Natural Disaster Reduction (IDNDR) from 1990-1999. A paradigm shift has been observed from post-disaster relief and rescue to pre-disaster mitigation effort. The UN World Conference on Disaster Reduction (WCDR) in 2005 was the result of the review of the Yokohama Strategy and Plan of Action to set up a new framework that is called the Hyogo Framework for Action 2005-15. It clearly stated that integrating policies into disaster risk reduction to be the key issue, in the context of sustainable development and the MDGs.

Targeted Countries

Three countries have been selected for case studies, with consideration given to the diversity of the Asian region and the frequency of weather-related disasters, mainly cyclone and floods. They are Bangladesh, India, and the Philippines. According to the Office of US Foreign Disaster Assistance/The Centre for Research on the Epidemiology of Disasters (OFDA/CRED) International Disaster Database (2008) and the Asian Disaster Reduction Centre (ADRC), the three target countries chosen for this project have experienced a wide variety of major disaster occurrences between 2000 and 2009. During the project period, Bangladesh was affected by two severe cyclones, which were Sidr in 2007 and Aila in 2009. The country is widely recognized as one of the countries most vulnerable to climate change in the future. The Government of India has recently set a target to reduce its emissions intensity by 25 per cent per unit of gross domestic product (GDP) from 2005 to 2020. In fact, India suffered the biggest flood that left millions of people homeless in 2009. Lastly, the Philippines which experienced a devastating flood in 2009 was selected for the project. Torrential rains from Tropical Storm Ketsana flooded Manila, the capital and twenty-five nearby provinces on 28 September 2009. Eighty per cent of the entire city of Manila was submerged and 450,000 people were displaced. More than 115,000 had to take refuge in makeshift shelters. The country is now facing the serious effects of climate change.

In addition to the above three countries, experiences and examples from the former Guide's target countries – Cambodia, Indonesia, Nepal, and Viet Nam – are also included in this Guide.

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Climate Change Adaptation and Disaster Risk Reduction – Similarities and Differences

Climate change adaptation (CCA) and disaster risk reduction (DRR) are two popular words in the development arena these days. A clear understanding of their features is required for us to clearly distinguish one from the other. Understanding them will help us in our programming and in positioning ourselves to our target audience. Below are the comparative analyses of each feature.[5]

TABLE 1. COMPARATIVE ANALYSES OF CLIMATE CHANGE ADAPTATION AND DISASTER RISK REDUCTION

Subject	CCA	DRR	Similarities and Differences
Language Use	***Four Building Blocks*** <u>Mitigation</u> ● Carbon sink ● Carbon emission ● Carbon sequestration <u>Adaptation</u> ● Measures and ways, including DRR, that help people to cope with or become accustomed <u>Transfer of Technology</u> <u>Financial mechanism for carbon trading, adaptation, technology transfer</u>	Vulnerability Hazard Capacity Risk Disaster Risk reduction Resilient Mitigation Prevention Survivability Community readiness	From the DRR perspective, mitigation used in addressing hazards and CCA is equivalent to reduction of vulnerability through survivability and community readiness. From the DRR perspective, climate change is a hazard and this is characterized by either lack of water, too much water, rising of water, frozen or too hot.
End State	● Decrease the emission of carbon ● Increase the carbon sink ● People adapt to the changing environment	● Risk is reduced so that there will be no disaster ● Individuals and the community become resilient	Adaptation is “adjustment in natural or human systems in response to actual or expected climatic stimuli or their effects, which moderates harm or exploits beneficial opportunities”. In simple terms, adaptation consists of planning and implementing the coping mechanism to adjust to the effects of climate change. Resilience is not merely accumulated physical asset or a secured livelihood. Resilience is the will to survive and claim his/her rights to be members of a just and equitable society.

Approach to arrive at the end state	Mitigation ● Global policy agreement on carbon trading ● Clean development mechanism (CDM) like biofuels, windmills, hydro-power, solar energy ● Reducing emission from deforestation and degradation Adaptation ● All development initiatives that improves human adaptation Technology Transfer ● Usually comes in the form of a package from the developed countries Funding Mechanism ● Usually comes in the form of package from the developed countries	● Risk assessment and analysis ● Risk reduction planning towards identifying risk reduction measures ● Individual and community organizations build their capacity to address their vulnerability and hazard ● National policy and implementing framework	Climate change deals with themes such as reduction of carbon emission, while DRR is more of a process of understanding disaster risk through risk assessment and provides DRR measures, and continues building capacities of the most at-risk groups of our society.
Perspective	● More global, but requires action at the local level	● Area-specific and hazard-specific	The CCA process is proceeding through international agreements and translating agreements to national policy and implementation at the ground level while DRR is more area- and hazard-specific which directly deals with the local people. Climate change is a global issue, affecting all, but different effects occur at different locations. CCA is carried out locally.
Concept of Measures	Mitigation through global initiatives such as agreements among countries on percentage of reduction of carbon emission, carbon sequestration, and increase of carbon sink.	Hazard is defined and prioritized locally; it therefore needs to be dealt with locally through mitigation and preventive measures. Vulnerable groups are identified in	UNFCCC is the main process that decides on actions required to reduce the effects of climate change. The decisions of the Convention are binding commitments; therefore the negotiations sometimes take long time.

	Projects must be carefully assessed so that other environmental effects can be avoided.	relationship to the hazard and it is dealt with by increasing individual survivability and community readiness.	Meanwhile DRR remains to be localized actions with clear capacity building towards a more resilient to community hazards.
Level of Action			
Global Mandate	Policy agreements ● UNFCCC ● Kyoto Protocol	Policy Agreements ● UN's International Strategy for Disaster Reduction's Hyogo Framework for Action (2005-2015): Building the Resilience of Nations and Communities	In climate change, agreements are global, but actions required are often local. The key objective of the Climate Change Convention is the stabilization of GHG concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system. Such a level should be achieved within a time frame sufficient to allow ecosystems to adapt naturally to climate change, ensure food security, and enable economic development to proceed in a sustainable manner. While DRR is more of preserving human life, it does not mainly deal with climate variability but also includes human-induced hazards such as conflicts, and industrial and technical hazards.
Country	Policy implementation ● National Adaptation Program for Action (NAPA)	Policy development from disaster management to DRR	NAPA is still in a pilot stage for least developed countries through GEF. The strategy is more of DRR such as conducting risk assessment related to climate change and identify adaptation measures. In this sense, therefore, DRR and climate change's approaches are identical.

Community	Mitigation and adaptation projects	Increasing capacity that address hazard (mitigation and prevention) and vulnerability (survivability and community readiness)	In Climate change, there is a precondition that most of the projects of climate change are directly responding to contribute either to reduce carbon emission, carbon sequestration and increasing carbon sink and increasing individual/community adaptability. Therefore the process of risk assessment may be jeopardized. While DRR starts with risk analysis towards identifying risk reduction measures to increasingly build the capacity to deal with hazards and resilient enough to face the hazard.
Individual	Lifestyle and adjustments	Survivability and resiliency	Carbon emission is associated with consumption and lifestyle. Therefore, adaptation means changing lifestyle and reducing consumption, while DRR is clearly survivability.
Hosted by	UN Convention	UN-International Strategy for Disaster Reduction/UNDP	These are all UN-initiated.

Generic Guidelines

GENERIC GUIDELINES

The Generic Guidelines seek to present lessons learned from previous UNCRD activities with our various counterparts. The factors below are the core of the CBDM for CCA concept.. This section also serves as an additional reference to other tools targeting specific users among policymakers, national disaster managers, local disaster managers, trainers and community workers.

1. The need to strengthen a "culture of coping with crisis" and "culture of disaster reduction"

Due to severe and frequent disasters, local people in many countries have clearly demonstrated their preparedness and readiness through their past experiences with disasters. In order to survive such disasters, a "culture of coping with crisis" naturally evolved in these communities, and "climate change adaptation" was already existent before the term came into use. A process of adaptation that was incorporated into their daily lives was naturally observed in these communities. Even without the intervention of the external agencies, people have their own ways of coping with disasters and climate change effects. However, due to the effect of climate change, people feel that their adaptation measures, which have been accumulated through their life experience, need to be updated to tackle the increasing uncertainty of climate change effects. Therefore, it is critical for disaster management agencies to be able to enhance local knowledge by utilizing the knowledge inherent in the area. They should be able to learn the local coping mechanisms and they should provide the necessary support to strengthen it. In addition, external agencies should be able to facilitate and introduce new technologies with community-friendly ways, including structural mechanisms such as protective dikes, and non-structural measures such as early-warning systems, preparedness for evacuation, and so on.

People representing different groups and different economic levels will have different perceptions and different level of adaptation measures, and will respond differently to extreme events. Women and men also have different coping mechanisms. The gender perspective also needs to be considered as a different coping mechanism. It is important to incorporate climate change adaptation measures into their daily lives, and external agencies need to introduce further adaptation measures which link to improving their lives, especially of vulnerable groups.

In many developing countries, where vulnerability is perceived to be a complex interaction of unsafe conditions, poverty, lack of access to resources, landlessness, societal pressures, inequity, lack of education, and other root causes, these types of vulnerabilities are comprehensively considered in the design of the CBDM programme. CBDM interventions are comprehensive in their approach to strengthen traditional coping mechanisms and in implementing risk reduction that addresses the underlying causes of vulnerability.

Therefore, the CBDM approach needs to seek ways to solve their "root causes".

2. Risk assessment process involving participation of the people and incorporating their perception of vulnerability and capacity

Traditionally, most risk assessments are carried out by experts using science-related criteria to a particular hazard. CBDM approaches advocate the involvement of communities in these processes. There are mechanisms for measuring the vulnerability and capacity formulated by CBDM practitioners, but there are factors that could not be measured and determined by outside experts due to variable characteristics and conditions of the community. Different communities have their own perceptions regarding vulnerability and capacity depending on the conditions of their locality and experiences acquired from each disaster. That is why it is important for the community to be involved in vulnerability and capacity assessment, and to let the people come up with a collective understanding of what they consider vulnerable conditions and critical resources for coping. The result of the assessment should be based on the perception of the community affected and not to be influenced by the viewpoint of experts or assisting agencies. It is not advisable to have a preconceived notion of what the community considers as vulnerable conditions. Based on their perceptions, they could make their own choices from the available alternatives and options.

People making the right choices are a boost to CBDM sustainability. Studies and observations indicate that, in the past, having been on their own, people survived disasters and crises through their own means. These mechanisms are important starting points for any risk assessment.

It should be noted, however, that this ability does not exclude the need for expert support for hazard assessment; i.e., flood risk assessment by using geographic information system (GIS) support to encourage local disaster managers and residents to prepare for disasters. Communities are generally lacking in expertise in monitoring and analysing hazards and traditional belief systems and past experiences often are the basis for their estimation of hazards. It is important to incorporate people's perception of vulnerability and capacity with experts' knowledge of hazard assessment to tackle increasing climate change effects.

Example 1: The Case of the Cyclone Shelter Project in Bangladesh

The Swiss Agency for Development and Cooperation (SDC) supported the construction of cyclone shelters in the coastal area of Bangladesh in 2010. The Bangladesh Disaster Preparedness Centre (BDPC) supported the organization of a cyclone shelter management committee as part of a cyclone shelter project. BDPC and UNCRD supported the development of a cyclone shelter management guideline for the committee. In the workshop, members of the committee raised the point that they do not have appropriate roads to reach the shelter. While they hoped that road repair could be included in the project, the organizer explained how the committee could explain the risk by drawing a risk assessment map. The committee members explained the situation to the local government officers using the risk assessment map, and successfully received the fund from the local government for repairing the road for the 30 metres leading to the cyclone shelter.

3. Genuine people's participation and capacity building with the participation of various groups

Genuine participation and capacity building of the local people could be achieved through the use of participatory approaches for risk assessment and risk reduction planning. Different social groups such as women/men, the elderly, children, people with disabilities, and ethnic minorities have different perspectives. These groups are often referred to as "vulnerable" groups, but society consists of these various groups. It is important to seek ways to incorporate these different groups as "change agents" into CBDM for CCA approaches.

The effective use of a participatory approach for community planning could ensure people's participation by making them involved in the decision-making process, even if not part of the formal decision-making body. In some countries, there are already many organizations in the community, such as women's clubs, youth club, religious groups, health clubs, and so on. External agencies sometimes create disaster risk reduction clubs, which can become another burden for the community, or active members are the same members as the other clubs. In this case, it is advisable to incorporate CBDM elements into those different clubs or groups. Those clubs or groups can incorporate their activities with CCA. Then, one could encourage the creation of a stakeholders' group among the identified organizations. This group can serve an advisory role in providing appropriate disaster management knowledge and/or incorporating CCA measures into these groups' activities, and build a link with the formal authorities, particularly those mandated to manage DRR and/or CCA issues locally.

If there are no existing formal organizations, committees can be organized. The committee should be characterized by good representation among the different sections of the community. One of the roles of the external agencies can be to monitor whether all sections of the community are included in the committee. Although there are laws or rules for including one-third of women representatives in some countries when establishing any committee, those names may only be on paper. It does not mean genuine participation of these people. Boys and girls, women, the elderly, ethnic minorities, and religious minorities tend to have minimal opportunities to be included in those formal organizations due to less access to power and lack of resources. These people need to be prioritized for capacity building with the objective of genuine people's participation for reducing climate change effects. External agencies can play an important role by putting emphasis on these vulnerable groups to be "change agents" for building disaster-resilient communities.

In case of a disaster, these committees are expected to take the lead in dealing with the vulnerable situation and act for sake of the larger community. They are also expected to take responsible decision-making roles on behalf of the community. Those roles need to be discussed before a disaster strikes. It will be too late to discuss the roles of the committee after a disaster. Therefore, it is vital that the CBDM approach, which involves genuine community participation consisting of various groups, to be in place before disasters.

4. Community and supporting agencies sharing common motivation and ownership for the initiation of CBDM for CCA

If the CBDM applications are conducted following major disasters, people's motivation to be involved are high, especially if the project clearly responds to their needs. However, if the project starts in the absence of relative frequency of hazardous events, addressing the disaster issue would not be a top priority of communities. Their daily basic needs such as livelihood, lack of water and sanitation facilities, and education can be considered their urgent needs. It is important to consider conducting an assessment of community awareness so that motivation for building a resilient community can be identified. The people in the community need to first understand the importance of CBDM for CCA through training and participatory learning processes. Better understanding will lead to higher aspirations among the people, which is essential for sustaining the motivation and ownership of CCA-related CBDM projects. Motivation can also be enhanced through legal measures that enforce compliance to risk management or safe practices. Governments can enhance the sustainability of CBDM by legislating actions that promote favourable motivation for community safety, or secure sufficient budgets for CBDM.

The stakeholder or supporting agencies should try to link up their CBDM projects with other efforts dealing with daily problems such as those concerning livelihood and water. Climate change impacts are slowly jeopardizing their sustainable livelihood strategies by declining crop yields due to salinity water intrusion or flooding in low-lying delta areas. It is important to give innovative or alternative measures to adapt to the effects of climate change. Supporting agencies should, therefore, share a similar perception of the need and motivation of the community. With a common agenda, they can work as partners from the planning to implementation of the projects. Although the motivation among different communities varies, the perception of the community and the assisting agency should be the same and this will lead to a harmonious relationship that can best respond to the needs of the situation.

A dilemma exists if vulnerabilities of communities actually arise from poor governance or even from bad choices of a supporting agency in a project. The reality is that many communities will not be able to reach a level of capacity to address the root causes of vulnerability, including those related to inequality and poor governance. In order to enhance CBDM in a particular area, there must be good governance and motivations need to be shared by stakeholders and communities. National governments, which have the power, resources as well as, access to resources, should consider ensuring good governance as being their duty.

A sense of shared ownership of CBDM will lead to addressing the underlying cause of vulnerability as part of the broader development effort; mobilizing volunteers and targeting the most vulnerable segment of the population; increasing the preparedness of the community; protecting and ensuring positive socioeconomic development; and reducing fatalities and massive destruction of property.

It is clear that the community is the primary actor in the planning and implementation of local projects, with an adequate level of participation of other stakeholders, including local and national governments, NGOs, and donors. The success of the projects depends largely on the promotion of shared goals and responsibilities of the community and assisting agencies.

5. Well-delivered training inputs in accordance with the objectives of the project and the needs of the community for training for CCA

The climate change issue is still under discussion at the international and national levels, and does not reach those who have been actually affected by its effects. The people do not know exactly what "climate change" is, but sense that the climate is somehow changing. Many people suffer and try to adapt to the effects without appropriate information and training. Training activities, therefore, should employ and clearly respond to the specific and particular needs of the target communities and the people with scientifically proven technologies. The training programmes are deemed appropriate to the level of knowledge and skills required by the people.

Recipients of training should also be properly selected. Training entails provision of time, effort, and resources so it should be provided to people who are willing to and/or have the potential and interest to assume responsibility for disaster reduction. Training should be well targeted to include those who have current and/or potential responsibilities for implementing the CBDM for CCA project components, or those who can utilize new adaptation measures in their positions.

The training programme must include all the necessary requirements for skill development, information and knowledge acquisition, and the right perspective. There should also be monitoring and feedback mechanisms so that necessary adjustments can be implemented if there are any deflections from the objectives based on the needs of the community.

Moreover, those training programmes sometimes tend to be targeted only to men who have primary responsibility for disaster management and livelihoods. However, women bear the heavy burden of climate change effects due to unequal training opportunities, although they play critical roles in providing food and managing natural resources. It is important to consider gender perspectives in the training programme, including timing of training, venue, themes, and transportation.

Example 2: The Case of the Rain Water Harvesting Tank in Sri Lanka

It is important to link training with tangible actions for building safer communities. People in the community assessed risks and vulnerabilities with stakeholders at UNCRD meetings held in Anuradhapura, Sri Lanka in 2010. They highlighted the problem of seasonal drought, and consequently lack of safe drinking water and health problems. UNCRD believes it is important to conduct a small-scale action project with the local people who have assessed their risks and are eager to solve the problem. UNCRD, together with people in the community, installed model rain water harvesting tanks in schools in the area, so that school children would not need to bring water bottles from their homes. The people volunteered their labour for installing the tanks. With this experience, UNCRD in collaboration with the Lanka Rain Water Harvesting Forum, organized the training workshop on Rain Water Harvesting and Ground Water Recharge for local nongovernmental organization (NGO) members and local government officers for promoting proper rain water harvesting technology.

6. Wider stakeholders' involvement and participation. Effective networking and knowledge capitalization

A stakeholder is any person or organization that may be affected by disaster/s; climate change; and/or has a potentially significant role to play in risk reduction, coping with disaster effects, or adapting to climate change effects in a community. Based on this definition, stakeholders could be numerous, and it is extremely vital to encourage a wide range of stakeholders to get involved in any CBDM and/or CBDM for CCA projects.

Risk reduction is everybody's concern. It should not be limited to traditional thinking that disaster management is the exclusive responsibility of emergency services, civil defence force groups, social welfare agencies, and disaster-related NGOs. For climate change issues, it is necessary to link with various networks not only with a disaster management focus, but also others such as agriculture, fishery, environment, economic, and energy at the local to international levels.

The task of implementers of CBDM for CCA includes facilitating networking and coordination of broad stakeholders' participation, which implies good governance. Good governance provides a favourable environment for broad stakeholders' participation. Specific roles and responsibilities of a particular stakeholder must be identified based on their own understanding of their value and abilities. In some cases, like in the Philippines and India, the relationships among stakeholders are formal and legislated. But informal relationships have also proven to be effective and do not necessarily hinder partnership arrangements at the community level. For networking and promoting knowledge capitalization, it is also important to gather knowledge, update information and technologies that are available outside of the locality, and share local knowledge and skills for building resilient communities and nations.

Example 3: The Case of Water Management in Dhaka, Bangladesh

Heavy rainfall of even a small duration causes water logging in most areas of Dhaka city, Bangladesh, especially in the congested Old Dhaka area. This water logging is primarily due to inadequate infrastructure for storm water drainage or garbage from the streets, which was dumped by the residents. Local people first blamed the local government saying that it was responsible for dealing with this problem, but they soon realized that a part of this problem is due to their irresponsible garbage dumping. It was emphasized that these problems are interlinked with other problems pertaining to sanitation and consequent skin diseases. After the UNCRD workshop on assessing capacities and vulnerabilities assessment, the local disaster management committee organized community workshops with garbage cleaners to request their proper daily collection of garbage. Then, the committee initiated efforts to raise the awareness of the community through proper management of a free water pipe. This water management effort was shared at a national workshop, and the national government realized the importance of CBDM at the ground level, and agreed to promote further upgrading of infrastructure in the area. Such responsible action and capacity building of all stakeholders help build capacities against other unforeseen effects of climate change.

The ranges of possibilities are listed in the table below.

TABLE 2. CBDM FOR CCA: ROLES AND RELATIONSHIP OF STAKEHOLDERS

Community-level organizations	Local-level organizations	National-level organizations	International-level organizations
- Awareness - Planning - Participation - Self-help and mutual aid schemes - Avoidance of hazardous conditions - Accumulation of local adaptation measures - Coping mechanism	- Local planning - Capacity building - Resource and financial support - Training - Networking - Transparency - Accountability - Good governance - Institutionalization - Local legislation	- Good governance - Incorporate risk reduction into development plan - Incorporate climate change issues into development plan - Policy, national plan, and legal instruments promoting CBDM for CCA - Decentralization policy - Infrastructure development - Hazard monitoring - Early warning system - Sustainable development policy - Information communication technology (ICT) - Financial and technical support	- Strategy for risk reduction and climate change issues - Sustainable development policy - Climate change science - Link to environment, development, and poverty reduction - Functional regional cooperation - Sharing of best practices in DRR and CCA measures - Financial and technical support

7. Accumulation of physical, technological, and economic assets to reduce vulnerability

Let us now turn our attention to the tangible accumulation of physical and economic assets to reduce vulnerability. This involves support for acquiring physical and economic assets that include micro-solutions, local environmental protection measures, small- and medium-scale infrastructure projects that reduce the impact of climate change-related hazards; and equipment and materials such as latrines, water supply, communication equipment, and rescue and evacuation assets. These assets safeguard the community from the direct impact of disasters or lessen, if not totally prevent, the impact of disaster on their property and lives. These equipment storages can be installed in community centres or schools for rescue operations and evacuation materials. It is important that people in the community know their whereabouts, who has the key for the storages, and how to use these equipment. Everyone in the community both men and women, even children, need to be consulted for the installation, and need to be trained on how to use the equipment.

Village contingency funds and availability of credit for income-generating activities comprises examples for improving economic assets. They also include vocational training on livelihood generation and introduction of new technologies such as salinity water-resistant crops. Economic assets help lessen the vulnerability of a community brought about by a disaster. As observed, low-income families are the most vulnerable to disasters and are disproportionately affected by disasters. Climate change effects can undermine the economical situation of those vulnerable families. Their low economic status lessens their capability to mitigate the effects of a disaster and prolongs the length of recovery from its aftermath. It is necessary to place emphasis on building their capacities through vocational training on livelihood generation. Some projects focus on providing intangible assets such as technology in disseminating early warning or constructing cyclone shelters. The communities themselves should become capable of managing such technologies themselves; otherwise they will not be sustainable.

Example 4: The Case of Upgrading Construction based on Traditional Local Wisdom in India

In India, unprecedented rainfall struck the arid desert region of Barmer, Rajasthan in August 2006. The floods led to a loss of 139 lives and rendered 50,000 homeless. SEEDS India assessed that following traditional practices were most appropriate, but shortfalls in the water-resistant capacity of the mud structures led to damage during the floods. Traditional design was effective, but needed some technological intervention to address unprecedented disasters. Engineers and architects studied the traditional houses, and found the solution to be upgrading construction based on traditional local wisdom that was in better compliance with the local environment and cultural heritage, rather than any imported housing design or technology. At the same time, a hazard and vulnerability profile of the area was also considered to promote safer conditions in the event of future disasters. This type of upgraded technology intervention found immediate and better acceptance among the local community. It thus became easier for them to also view the inclusion of upgraded features as necessary inputs for reducing their vulnerability.

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8. Legislation and incorporation of CBDM for CCA into the developing planing and budgeting process to ensure sustainability

The results, measured in terms of the benefits CBDM provides to the community, will determine the level of people's acceptance of the project. The greater the number of people recognizing the effectiveness of the project, the greater the probability of its sustainability will be. But, better results require all the necessary resources needed for the continuation of activities; therefore, It would be feasible if it is a part of the regular development plan of the government. Therefore, considering the institutionalization of CBDM for CCA as a government responsibility is a vital factor in ensuring its sustainability. This reason justifies its incorporation into the development planning and regular budgeting process. The CCA issue needs to be incorporated with various sections and their respective budgets.

This will guide the government on what kinds of infrastructure it should construct, types of economic programmes it should undertake, technology to acquire, and the kind of aid and assistance that should be provided to the community.

Example 5: The Case of Integrating CCA and DRR in Policy Making in the Philippines

The Philippines recently passed two major laws on CCA and DRR. Republic Act 9729, or the Climate Change Act of 2009, aims to mainstream climate change into policy formulation, development planning, and poverty reduction programmes. The law provides for the creation of the Climate Change Commission (CCC), an independent and autonomous policy-making body which would coordinate, monitor, and evaluate programmes and action plans to address climate change. The law also mandates local government units (LGUs) to come up its local climate change adaptation plans, or LCCAP.

A year after suffering the devastating impact of Typhoon Ketsana (local name Ondoy) on central Luzon, including its capital city of Manila, the Philippine Government passed Republic Act 10121, or the Disaster Risk Reduction and Management (DRRM) Act. The DRRM Act moves away from its predecessor law, RA 1566, which focused on disaster management. The current law mandates the LGUs to create a Local Disaster Risk Reduction and Management Office (LDRRMO) at the barangay (village), municipal/city, and provincial levels. The DRRMO is also mandated to develop its local DRRM plans and finally, a Local DRRM Fund (LDRRMF) has to be in place to support both DRR and CCA plans.

There is an urgent need to assess vulnerabilities and local capacities to assist in utilizing local resources in a manner that they can be integrated into the local development planning process for the purpose of transforming them into disaster-resilient and sustainable communities.

With this background, the Philippine Rural Reconstruction Movement (PRRM), in partnership with Tabaco (LGU), implemented an action research project to help address the problem by systematically integrating DRR and CCA into the local development planning process.

This integration aims to transform vulnerable communities into becoming disaster-resilient and sustainable ones. The project aims to build the awareness and capacity of key stakeholders to mainstream DRR and CCA into the local development planning process. This project adopted a participatory, community-based, multi- stakeholder approach to DRR and CCA assessment and planning,

with the involvement of key stakeholders. Major activities carried out in this action research project were:

(a) Organized teams and carried out training, as well as made courtesy calls to LGU officials;
(b) Developed modules and conducted participatory, community risk and vulnerability assessment;
(c) Conducted a community DRR and CCA planning workshop;
(d) Validated the community assessments and plans with LGU officials and other local stakeholders for adoption; and
(e) Disseminated the action research output for possible LGU adoption and replication.

Activities were undertaken together with the LGU, relevant government agencies, people's organizations, and target coastal communities in San Miguel Island. The entire project involved a period of twelve months of action research and dissemination.

Signing of MOA between PRRM and partner stakeholders

Tools for Policymakers

TOOLS FOR POLICYMAKERS

"The goal of a leader is to leave a 'legacy' that would improve the lives of the people and see them engaged in a cause that counts."

Background

Sustainable CBDM practice, being locally driven in nature, requires a strategic enabling environment. Formal institutional support, therefore, with an accompanying policy framework can set the ball rolling for wide-scale replication, resource mobilization, and wider participation that results in sustainability.

With increasing threats of climate change already now affecting an increasing number of people and communities, the need to strengthen policy support mechanisms assumes greater importance.

While natural hazards in the past have followed certain historical trends, the impact of climate change has significantly altered the course. The increased fury and frequency of natural hazards have added a certain level of unpredictability. This is further compounded by the fact that climate models have not been able to down-scale information to the local level. The result: communities have to adapt to "uncertainty". The course of CBDM thus stands altered.

What implications would this have for policymakers? This section explores important issues that need to be incorporated into any policy formulation on sustainable CBDM practice.

Formulating a Policy

To ensure a policy is comprehensive, yet effective, three broad elements must be addressed – authority, expertise, and order.

First, the policy must originate from an authority. Often in the context of Asia, climate change and disaster management are wrested with two different ministries or government institutions. In such a scenario, the policy should originate at a level superior to government institutions or with a body that has an overall planning agenda for the country. The policy can then cascade downwards to all institutions dealing with disaster management and climate change.

Second, to give credence to a policy, it must have been designed and developed by domain experts, in consideration of the scientific nature of data required for assessments and the need for scientific knowledge to providing the basis for the problem definition. Likewise, the solution has to be within the existing governance framework backed by necessary expertise. Equally important would be to incorporate community perceptions and ground-level evidence as the basis for defining the objectives of the policy. This would require an active contribution from communities, community-based organization, and civil society.

Finally, the policy should be grounded on order. The policy should be able to capture and bring consistency to CCA and disaster risk management issues. The critical factor in the debate would be to identify points of convergence in CCA and CBDM goals. Developing climate-"smart" disaster risk management strategies that multiply the goals of adaptation to climate change, and thus reduce the risk of loss of life loss due to disasters and lowered socioeconomic vulnerability, would require suitable harmonizing strategies. Overcoming

barriers for incorporating “bottom-up” approaches would be the starting point for policy formulation. In 2009, the Stockholm policy forum on “Climate Smart Disaster Risk Management,” while recognizing that climate change has already brought changes to severely affected countries, urged countries, among others, to “support local actions for sustainable action to reduce climate risks, with an appropriate balance between on the one hand infrastructure and technical solutions and on the other hand strengthening people’s existing adaptive capacity and resilience”.[6]

Translating the Factors into the Policy Agenda

Based on experience collected from various studies, the following factors would be useful in the development and crafting of policies that may ensure sustainable CBDM and CCA.

1. Policy programmes must promote self-reliance and self-help within an overall vulnerability reduction framework

Communities, due to constant exposure to natural and unpreventable hazards, are able to devise ways for dealing with their effects based on the analysis of their own experiences. A "culture of coping with crisis" becomes a part of their lives. With climate change impacts increasingly raising the challenges of vulnerability, there is now even a greater need to increase the capacity to cope and build resilience.

Based on existing conditions (such as differences in economic and political structure of a community, public awareness, and resources that could be used for mobilization), policymakers should consider the indigenous knowledge available, and methods and structure of dealing with disasters in their efforts, and incorporate them when formulating a policy. The policy should be based on, and adjust to, local situations. Although a generic approach to disaster management can be adopted, it should be flexible enough so that it can be applied to deal with a particular characteristic of a given area. Furthermore, it should be geared towards utilizing local resources. It is the community that is expected to ultimately benefit from this kind of policy direction, so the policy should provide the basis for developing specific guidelines for community-led action. Concurrently, policymakers should also conduct scientific studies, particularly peer reviews, of the effectiveness of the existing indigenous system and its ability to be useful in the midst of emerging challenges, particularly of climate change.

Many years ago, communities threatened by floods and cyclones in Bangladesh were able to cope using their indigenous knowledge. The intervention of the State, however, put the responsibility of disaster management on to government. Our experience, indicates that if we ignore the importance of community-coping mechanisms, we will not be able to achieve sustainable disaster reduction. For example, policy making and the focus of disaster management in Bangladesh have been evolving over the years. During the early years of its independence, emergency relief and rehabilitation programmes dominated institutional policies and programmes in the country. It is justifiably so, since the country has been seriously affected by years of conflict and the tragic number of deaths as a result of cyclones in the 1970s. The media had vividly portrayed the suffering and helplessness of the victims.

Since then, however, policies and focus shifted to

engineering measures to protect settlements from nature's wrath, and most recently, it has evolved into what is referred to as integrated water management. These policies, however, continued to put central focus on outside help, rather than mobilization of the community and people's ability. But, with several successful practices facilitated through civil society support in collaboration with local governments, it has become self-evident that indigenous knowledge is critical for people's survival.

2. Policy must support risk assessment that incorporate people's perception of vulnerability and capacity

One lesson learned from the case studies is that the local people's perception of the assessment of vulnerability (and their capacity) must be given due importance. The people in the community, being the ones living in areas that are vulnerable to disasters, will surely be able to give a realistic analysis and description of their vulnerability.

Currently, it is far too evident that there are different views between stakeholders on "acceptable level of risks". While the community has its own definition of vulnerability according to what is available and existing in their context, governments tend to rely on top-down scientific assessments. This has led to there being certain levels of mistrust. Ideally, the starting point for breaking down barriers of mistrust would be policymakers considering designating the first step of vulnerability and capacity assessment to be undertaken by the community itself. The expertise characterized by knowledge of the problem and the solution to it cannot be provided by intellectuals, but by the people who actually have first-hand experience.

It should be noted, however, that this ability does not exclude the need for experts' support for vulnerability assessment. As the climate changes, new vulnerabilities are created and the nature of vulnerability itself changes. Communities may generally be lacking in expertise in monitoring and analysing hazards from a larger regional long-term perspective. Oftentimes, only local traditional belief systems and past experiences are the basis for their estimation of hazards. This holds true even within the emerging challenge of climate change, even though the time scales under consideration need to be for a much longer duration. In addition, the complexities of human interaction with the environment that exacerbate hazardous conditions are not given proper attention by the community. Thus, a policy statement may support a CBDM approach that incorporate people's perception of vulnerability and capacity with experts' knowledge in vulnerability assessment.

The community can develop their own mechanism to measure their vulnerability; hence, they will be able to devise structures or methods of mitigating it or adapting to it. This has to connect upwards into the local and national policy discourse. Overcoming barriers that prevent such a "bottom-up connection" would be required. Ways in which communities can gain an understanding of government systems would be required. Suitable forums (or platforms) that provide a level playing field for mutual understanding can be useful.

Finally, the policy should provide enough opportunity for the community to make choices based on their own perception. This would not only help the community make the right choices, but also give them the confidence to be self-reliant. Incorporation of people's perception on vulnerability assessment in policies could thus lead to sustainable CBDM, which will eventually promote self-reliance.

3. Policy should state the importance and guidelines for genuine people's participation, particularly the most vulnerable

It is proven that the use of participatory approaches in disaster risk management and CCA have been successful. This makes community-based approaches a very effective tool in disaster management and adaptation. People's participation is encouraged in analysing and identifying vulnerabilities, needs, and potential resources crucial for mitigating and adapting to the effects of disasters and climate change. Through CBDM and people's participation, the community's capacity to handle extreme situations by themselves is being strengthened.

Therefore, policymakers must ensure people's participation and continuous community ownership and responsibility for disaster management and preparedness activities. Simply put, the people, being the primary victims of disasters, should be given a greater role in fulfilling capacity-building objectives, starting from the planning process to implementation. They should be given enough opportunities to frame actions with set objectives and principles, and create standards for their implementation because they have established their right in setting the direction of the policy.

It is therefore imperative for policymakers to conduct active discussions with the people. This will provide a way to give the common people a voice, enabling them to express their problems and priorities. This, when used well, can generate important and often surprising insights, which can contribute to policies that are better fitted to their needs. Genuine people's participation could be achieved through democratization of the policy-making process and decentralization of its implementation. Democratization will ensure participation from the grassroots in determining goals and choosing the course of action. It will also provide them responsibility and authority in implementing the course of action. In short, it legitimizes their decision and action.

In addition, they should also be involved in evaluating the results and in modifying policy if necessary. Ultimately, this process empowers the people and provides them with the capacity to shape their own destiny and directly promotes ownership.

In the Philippines, people and private sector participation is entrenched in the current government policy. This has been done through the creation of the Multi-sectoral Development Council (currently called Local Development Council upon passage of the Local Government Code of 1991). Through this council, the community is well represented in local policy making related to disaster management.

The case of Orissa, India, also points to (albeit only after the cyclone of 1999) the promotion of people's participation in disaster management. An effort was made to institutionalize the whole process of managing disasters, leading to the formation of an autonomous organization called the Orissa State Disaster Mitigation Authority (OSDMA). OSDMA is engaged in the preparation of district, block, Gram Panchayat (village-level government), and village-level multi-hazard disaster management plans. It is also involved in the formation and training of various community-level task forces (e.g., medical first aid, search and rescue, sanitation and shelter management) to respond to emergency situations. This is in marked contrast from a state-level disaster management approach that was dominant prior to 1999.

4. Establish a policy that will promote wider stakeholders' involvement and participation

Policymakers should take into consideration and identify all possible stakeholders. Risk reduction and CCA often "falls in the gap" between various responsibilities of the line departments that are primarily tasked with development or emergency response. As a

result, most of the solutions tend to be “quick-fix” ones.

While drafting policies on a local level, mobilizing as many stakeholders would also be important. They should be able to utilize inputs from all stakeholders by creating appropriate forums for exchange. These should be backed by tools, guidelines, checklists, and resources. The policy devised should provide the identified stakeholders the necessary authority and structure for their commitment, involvement, and participation, and create a system where the stakeholders could share their expertise towards the success of the project.

Because the aim is to promote wider stakeholders' participation, policymakers should also take into consideration the culture of the stakeholders, including their relationship with each other and the role that they are going to play. There should be a proper organizational structure, which would set the type of relationship necessary for promoting accountability and transparency that are important for building trust and confidence. They are important for creating an environment favourable for sustaining CBDM.

The devised policy should provide stakeholders the necessary authority and structure for their commitment, involvement, and participation.

5. Policy must promote accumulation of physical, technological, and economic assets to reduce vulnerability at the community level, and integration of these projects into the regular development planning and budgeting process to ensure sustainability

A policy that would ensure the institutionalization of structure and mechanism, that would lead to integrating projects into the regular development planning and budgeting process should be devised.

As in the Philippines, an institutionalized framework for the participation of the local community in development planning through the Local Government Code was provided. In addition, the local government was able to formulate policy, which led to the drafting and passage of local laws or ordinances mandating financial contributions from all citizenry of the municipality. This assured them regular allotment as part of the development plan, thereby ensuring sustainability of the project.

In Nepal and Indonesia, the importance of human skills and technical competence are highlighted and proponents believe that these capacities will be used by the people long after the project has been phased out. In Nepal, proponents are now working in many other districts to promote a similar approach in partnership with district-level officials. In Bangladesh and Cambodia, proponents are actively demonstrating the cost-benefits and effectiveness of community-level solutions by funding micro-projects that will reduce vulnerability. These results are documented and discussed with donors and governments with the intention of possible replication in other communities.

In the Philippines and India, the practice is well advanced since the governments themselves (Orissa State in India and Guagua Municipality in the Philippines) have integrated disaster management into their regular development planning and budgeting

process, thereby ensuring sustainability.

Five-policy agendas are deemed specifically to promote sustainable CBDM. It should not be ignored that beyond this five-policy agenda, a government must ensure that fundamental policies for vulnerability reduction are in place.

They include:

- Identifying and mandating accountability for vulnerability reduction: Who is the focal organization ("champion") that is tasked to promote sustainable CBDM?
- Good governance and transparency: Participation in any society is institutionalized when government practices good governance and the decision-making process is democratic and transparent.
- Enforcement of policy: While there are abundant means for positive motivation, a policy shall consider "penalties" or disincentives that promote a culture of resilience and adaptability.
- Mandating technical agencies and national and sub-national agencies to work with CBOs and to collate evidence from the grass-roots level.
- Roles and responsibilities of these agencies shall also be written into the policy document. CBDM, clearly is not just a bottom-up approach, but in fact promotes better balance with a top-down approach. The policy, therefore, should be clear in terms of institutional relationships, accountability, and monitoring mechanisms.
- Linkages to development goals: The most emphatic argument for disaster reduction and CCA would be the economic losses that maybe prevented if these actions are undertaken. A policy statement must encourage promoting the co-benefits of disaster reduction, adaptation, and development programmes. The other side of the coin is that a policy must promote vulnerability reduction as an objective for development and/or poverty reduction. Part of this is enshrined on emerging approaches for “climate smart disaster risk management”.

Tools for National Disaster Managers

TOOLS FOR NATIONAL DISASTER MANAGERS

Depending on the government system, the national disaster management organization (NDMO) in the Asian region may vary from one country to another. In many countries, this role is performed by a ministry which serves as a focal point for coordinating other different ministries and national stakeholders. In several countries, a special department is created under the highest political body, i.e., Prime Minister or President, who exercises the leadership role.

This Guide has been prepared as a reference for experts and senior administrators of these NDMOs who may consider supporting efforts to sustain the community-based disaster management (CBDM) and climate change adaptation (CCA) approach. It is recognized that the unique political culture of each country will have an influence on the processes that an NDMO may undertake to support sustainable CBDM. In addition, in the absence of a national policy to support sustainable CBDM and CCA, an NDMO may be constrained to limit its acts in accordance with the established mandate. Thus, this Guide does not elaborate on the specific steps that an NDMO must take. Instead, it should be used as a reference, and adapted to the specific conditions of each country.

Several practices introduced may also be useful references for sector-specific national ministries or departments, for example, the Health, Social Welfare Ministry/Department and others who may be classified as being "national disaster managers" in a broad sense. It should be noted however, that this Guide has been written rather for mandated NDMOs and national coordinating councils/committee, as described earlier.

Disaster Impacts on the Community

While the disasters and consequences of climate change can affect an entire nation, the impacts are felt at the community level although it may hit one or several communities at the same time. It is these communities that constitute what is referred to as "disaster fronts".

Despite being directly affected, communities have the inherent capacity to respond to threats by themselves. They are not passive recipients of aid or help; they have, in fact, the coping capacity to support themselves. It is for this reason that communities should be involved in managing the risks that may threaten their well-being.

Depending on the field of study, there are differing definitions for community, but for purposes of discussion and in the context of disaster management and CCA, a community, simply put, is considered a group of people living in proximity to each other and sharing the same hazards. For instance, the state of Orissa in India and the coastal region of Bangladesh, which face the Bay of Bengal, are constantly visited by strong tropical cyclones, in the same manner that the Batanes group of islands located at the northernmost tip of the Philippines is constantly threatened by typhoons as it lies along the typhoon path. According to an IPCC observation, the communities of the Asian region are threatened by the increased intensity and frequency of cyclones due to impact of climate change.

The realization, therefore, that virtually all disasters and climate change impacts are essentially local in nature confirms that disaster reduction and CCA require community action.

It should, however, be noted that there are disasters of exceptional magnitude and

multidimensional climate change impacts which would overwhelm the coping capacity of local communities. In these cases, outside agencies, including national and international organizations, would be required to provide additional assistance to complement and support local capacities.

Practical Tools

The following are practical tools to guide national disaster managers who play important roles in enhancing the sustainability of CBDM and CCA. It is assumed in this Guide that an NDMO may play two interrelated roles: first, to develop and implement strategies that it can perform to promote sustainable CBDM and CCA; and, second, to act as an advocate and a catalyst for other stakeholders' actions that may promote sustainable CBDM and CCA.

These tools are derived from the nine most common factors identified through the case studies and may serve as reference points that can be adapted in developing national strategies to sustain CBDM and CCA efforts.

Tool 1:
Develop and implement a public awareness strategy that highlights specific local vulnerabilities and capacities these communities may use for disaster reduction and climate change adaptation

Need creates want. Generally, people are more likely to get involved if they feel that there is a pressing need. In the same manner, a community becomes involved if it feels that there is a need to address a specific problem. Hence, the perception that a particular community is vulnerable to a specific kind of hazard, such as tropical cyclones in India and the Philippines or flooding in Bangladesh and Cambodia, can increase support from the population. It is, therefore, a good strategy to develop a public information campaign that will inform the people that they are indeed vulnerable. They can then develop the perception that their local area is disaster-prone to recognize the need for effective and sustained disaster reduction and CCA strategies.

If a community can be made aware of possible threats as well as the possibility that disasters might occur and climate change will have an effect on them in the future, they are likely to move and take action. Thus, a good public awareness strategy that underscores a particular community's vulnerability can become a convincing tool for mobilization and action.

A community's access to early warning hazard information and having an awareness of climate change will strengthen its perception and interests to sustain CBDM and CCA.

Perceptions that a particular area will receive the impacts of climate change and is disaster prone are heightening awareness of the need for effective and sustained disaster reduction and climate change adaptation strategies.

What Improvements are Necessary for Existing Public Awareness Programmes?

In many countries, public awareness materials are developed by public, private, and scientific organizations. The basic formula of these materials follows a general presentation of the nature and causes of hazards and climate change, including scientific explanations of acceptable and universal theories. In similar cases, the information is complemented by advice on "What to do?" that is promoted by national authorities and dominated by messages of information on actions to be taken at the time of crisis impact.

The International Institute for Disaster Risk Management (IDRM International), which has been involved in numerous sociological surveys on people's disaster risk perception, however, concludes that while the people have a better understanding of hazards, disaster reduction as a theme is still not being given primary importance. These materials, while promoting the scientific explanation of hazards, are short of messages that recommend what proactive and sustainable measures households and communities can undertake to reduce future disaster risks.

The reality is that most disaster awareness messages compete with many other ongoing and immediate community problems such as poverty, drug addiction, crime, water and sanitation, health deterioration, and others. Indeed, for national authorities the campaign is perceived to be critical, but perhaps not at a level that can keep the public's attention on a daily basis.

It is believed that in developed and developing countries, information on the nature and causes of hazards are generally understood by communities.
- People would know when the flooding season arrives and the science of cyclone prediction has improved greatly.
- The media has also heightened the public's attention towards hazards and the causes of climate change.
- Many countries, including Bangladesh, Viet Nam, and the Philippines, have incorporated disaster management subjects into regular school curricula.

Yet, this is not sufficient. Public awareness must target messages to reach specific audiences. One message or approach does not fit all. Improved success is likely if messages are linked by communicating human relationship (vulnerability and capacity) in terms of the natural environment. The goal is to motivate people to take action. This should mean a focus on vulnerabilities as a contributory factor to their exposure to disaster risk and climate change. This also means that people can control their fate if they are able to reduce their vulnerability.

The popular word for this is "empowerment". The meaning of this word may be too broad, but in the context of CBDM and CCA it means that climate change and disaster awareness strategies must promote favourable behavioural changes that will allow people to believe that they have control over their fate, despite the seemingly overwhelming effects of disasters and climate change. Strategies must also promote favourable behaviuoral changes in terms of people making the right choice of action that will reduce their vulnerability to future hazards and climate change impacts.

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National authorities have a unique role in promoting public awareness on the importance of disaster reduction and CCA by linking them with vulnerabilities. While "public" implies grass-roots communities, national authorities have in fact various "publics". These include the political leadership, technical and professional agencies, business and commercial groups, planning and development ministries, and local governments. All of them have a stake in reducing vulnerability, and thus are assumed to contribute to vulnerability reduction and adaptive capability to deal with issues related to climate variation.

Checklist for National Authorities: W's and H's of Public Awareness

Who?
Who are you trying to benefit from the programme? Sociological survey on risk perception of communities provides important information.

What?
What do you want them to know and do as a consequence of your programme? Clarity in stating behavioural change is important.

Why?
Why do they need to know? The perceived benefits to specific audiences must be properly communicated.

When?
When is the best timing to put the message out? There is the proverbial window of opportunity when the interest and attention of target audience(s) are in good timing.

Where?
Where do we present our messages? The types of materials and distribution scheme must be planned in accordance with the needs of target audience(s).

How?
How do we present our messages more effectively? The nature of media that will best appeal to target audience(s) must be properly selected.
How can public awareness be improved? Authorities must establish a monitoring and evaluation mechanism, to identify effectiveness and/or deficiencies of public awareness strategies.

Tool 2:
Integrate local perceptions of vulnerability and capacity into broader risk assessment

The involvement of the local population in DRR and CCA spell either the success or the failure of any initiative because people living in disaster-prone areas have their own idea of the extent of their vulnerabilities. Based on local perceptions comprising informed awareness of hazards, vulnerabilities, and capacities, communities can make choices on the options available to them rather than be dictated upon by outsiders, donors or "experts". Their choice with adequate external help has proven to be most successful. Thus, in Bangladesh, for example, the involvement of vulnerable communities in flood-proofing measures through CBDM that incorporate local perceptions have achieved significant results in reducing disaster losses. The case study showed that protecting their household assets had reduced losses to as much as 75 per cent. "Savings" were then reinvested in home improvements, improved nutrition, and health care.

Local perceptions on risk assessment and impact of climate change, however, have not been given enough importance by policymakers and authorities. Authorities and policymakers are almost invariably remote and far removed from the realities facing people who are vulnerable to disasters and climate change. They often rely on scientific agencies on risk estimation and historical trends in defining priorities and budgets for climate change-induced disaster risk reduction. Their decisions based on such information have a strong impact at the very local and individual level. Without due understanding of vulnerabilities, decisions and actions are not likely to be highly successful.

Recognizing these inadequacies, NDMOs may consider supporting the following practices to improve current disaster and climate change impact risk assessment processes.

1. Determine the historical and strategic context of risk: The growth of vulnerability and changing patterns of risk

Success in early warning and public awareness in Asia, including the Philippines and Bangladesh, resulted in reducing deaths due to cyclones. On the other hand, flooding and drought are destroying more livelihoods than they did twenty years ago. Due to economic difficulties and poverty, people's vulnerability to disasters is clearly increasing. Increasing numbers of poor farmers have no option but to live and work on land they know to be unstable, despite the obvious risks. A similar cycle of poverty leading to a disaster risk is evident in urban slums, which are frequently located on steep hillsides, where landslides have become an increasingly common hazard.

National and local trends of vulnerability can be analysed through CBDM and CCA processes since the information needed is often unique to specific localities. The availability of geographic information systems (GISs) and other information technologies can be used to store and analyse information gathered from CBDM and CCA-supported vulnerability and capacity assessment as part of an overall risk assessment.

2. Research and analyse local perceptions and adaptation to disaster risks and climate change as a basis for a disaster management strategy

Clearly, in many cases people adapt to localized hazards within their own capacity and in extreme events, national and local authorities, including NGOs, are expected to provide relief and rehabilitation assistance and to build the capacity for adaptation. If this is so, why then should national authorities bother to incorporate this information into assessments and disaster reduction programming?

IDRM's experiences in many countries indicate that in spite of the variety of indigenous ways to adapt to hazards and climate change, local communities seemed to attach minimal importance to severe or exceptional hazards that they may face in the future.

Due to this, national authorities must not assume that vulnerable communities that have not adopted a strategy such as CBDM would be able to take appropriate disaster risk reduction measures. Authorities, therefore, will find it beneficial to incorporate local perception into risk assessment, with the understanding that an empowering knowledge transfer is also necessary to be carried out through a CBDM and CCA process.

This can be achieved through various means. One of the most popular CBDM methods is participatory risk mapping that incorporates local knowledge in the analysis. In the Asian region, an increasing number of NGOs and academic institutions are using "a box of tools for participation" under CBDM. These tools, when used appropriately, have produced information that communities have found useful for identifying local solutions and risk reduction projects. Recently in Bangladesh, the Ministry of Food and Disaster Management has taken this concept further and a strategy has been agreed on where the government would shift its relief assistance focus to supporting these local risk reduction projects.

Tool 3:
Set specific implementing guidelines for genuine people participation in disaster reduction strategies and climate change adaptation policies and programmes

Central to CBDM and CCA is the concept of participation. Hence, participation of the local population in CBDM and CCA cannot be overemphasized. The community must be actively involved in all the aspects and processes of disaster risk management and climate change adaptation. By doing so, a sense of ownership is developed among community members. Ownership in CBDM and CCA activities is essential because it increases the likelihood that the community will sustain, and be responsible for, implementation of the project.

In the case of Bangladesh, the project uses the community risk assessment (CRA) methodology as an initial process of community mobilization. Application of CRA encourages the community's participation in analysing and identifying the vulnerabilities, needs, and potential resources crucial for mitigating the adverse effects of disasters. Moreover, CRA strengthens the communities' capacity for managing the entire project on their own.

Genuine people's participation must then be harnessed through a set of standards or guidelines. However, participation should not be an end in itself. Rather, it should be viewed as a process that is geared towards the ultimate objective of building and strengthening community capacities.

Essentials of Leadership to Strengthen Others[7]

- Ensure self help;
- Provide choice;
- Develop competence and confidence; and
- Foster accountability.

One of the most popular participatory methods is vulnerability and capacity assessment, or VCA. It was originally developed by Mary Anderson and Peter Woodrow based on case studies from Asian countries. The IFRC has adopted these guidelines for institutional and widespread use among national societies. Similarly, donors such as the United Nations Development Programme (UNDP), and notably the European Commission Humanitarian Office (ECHO) use VCA for programming activities in climate change adaptation and disaster reduction as well as post-disaster response. These organizations recognize that effective risk reduction and CCA strategies will be developed with the participation of people at risk and they have incorporated their perception of risk, coping capacities and critical needs.

Given the appropriateness and universal application of VCA, the national authorities are also encouraged to use this to ensure that its programmes both strengthen and empower people at the community level, and are effectively linked to national and local disaster reduction and adaptation strategies. Disaster reduction and CCA strategies must also be based upon relevant and reliable information. Since coping strategies of vulnerable people are as ever changing as risk itself, they must be regularly monitored, assessed, and amended through the VCA tool. The success or lessons learned clearly depend on the effectiveness of methods for genuine community participation.

Tool 4:
Ensure wider stakeholders' involvement through regular consultations and providing opportunities for networking and collaboration

As important as participation is the idea of partnership and networking; that is, ensuring partnership between and among all the stakeholders. Almost all the projects in the case studies have very broad and meaningful stakeholder participation. The stakeholders include national government representatives, local officials, Red Cross/Red Crescent societies, NGOs, volunteers, private sector, research groups, technical resource groups, international organizations, and vulnerable groups such as women and children, informal settlers, and indigenous people. This long list suggests that for CBDM and CCA projects to be successful, support must be given to organizers who should be in charge of mobilizing as many stakeholders as necessary.

In India, participation is institutionalized through the establishment of Gram Panchayat Disaster Management Committees. These committees comprises local leaders, ward members and other people's representatives, villager leaders, a teacher, and two volunteers. This committee is expected to play the lead role during any emergency situation. These partnerships may be formal or informal. Informal partnerships may be as effective as formal ones. However, experience shows that formal institutional arrangements among stakeholders improve accountability and transparency, which is important for sustaining CBDM and CCA.

Many national government organizations, however, are uncomfortable with stakeholders' mobilization. This could be traced from the history of evolution of disaster management. In the beginning, national response evolved from armed forces' readiness to protect citizens and ensure safety resulting in the establishment of national and local civil defence organizations. On the other hand, the Red Cross movement took "independence and neutrality" as core values. While unintentional, the genesis of these pioneering organizations prohibits a culture of open cooperation with other stakeholders.

Inevitably, a community-based approach would require that agencies take on a stakeholders' approach to ensure sustainability. National authorities cannot fulfill all the needs for capacity building, vulnerability reduction, and climate change adaptation options. Noting, too, that disaster reduction should be tied up with sustainable development and poverty alleviation projects, different stakeholders thus would be required to enhance success and sustainability.

An important challenge is that stakeholders may consider disaster reduction and CCA a remote concept that they should not be involved with. However, national authorities may emphasize that in addressing life and safety issues during calamities and in reducing impacts of future disasters, the wider ramifications contribute to common goals of sustainable development.

Tool 5:
Integration of disaster reduction activities into normal practice of good governance and into the regular planning and budgeting processes

A national government has the duty to protect its citizens' lives and property and promote sustainable communities. Few would disagree with this statement, but how effective are the governments in performing this important duty?

CBDM was started due to inadequacies in the disaster management system and in

development planning. In Bangladesh, the choice of communities in the "char" areas by CARE was due to the fact that they are marginalized from regular development programmes. In Orissa, India, the tragic cyclone of 1999 and generally perceived failure of disaster preparedness and response resulted in a more massive CBDM application in the heavily affected areas.

It is necessary to advocate for sustainable communities by integrating disaster reduction activities into the regular planning and budgeting processes. It is believed that national governments have the power, resources or access to resources to take on this important duty. Resources are essential to sustain CBDM and climate change efforts. A lot of CBDM projects have not survived the challenge of sustainability because it failed to address the issue of resources. These experiences, however, warn disaster managers that CBDM and CCA must not fall into the trap of being dependent on any outside organization such as the national government and international humanitarian organizations, among others. CBDM and CCA must be able to stand up on its own after aid givers have left the disaster-stricken area.

Tool 6:
NDMOs are "champions" who should play catalyst and advocacy roles for reforms and improvement that are necessary to promote sustainable CBDM and CCA

National disaster management authorities are encouraged to act as catalysts to promote sustainable communities by supporting CBDM and CCA approaches. This can be achieved through the following initiatives:

1. Advocate for a clear national statement of political commitment to CBDM and CCA. It is naturally a statement from the political leadership, but this may not be achieved without efforts for consultation managed by national disaster management authorities. The statement must cite responsibility and accountability. It should contain the basis for legislation and regulations and should outline the organizational structures and systems.

2. Facilitate discussion and approval of legislation that promotes CBDM and CCA. The need for this is determined by the degree of risks and the importance placed on community involvement and sustainability. Most countries currently have existing disaster legislation or in the form of a Disaster Management Act or Climate Change Strategy and Action Plan.

However, most of the Disaster Management Acts were developed many years back and would not necessarily reflect the greater emphasis on community involvement in disaster management.

3. Support and monitor enforcement of legislations, including building codes and compliance with disaster management planning and procedures.

4. Strengthen capacity of national disaster management organizations (NDMO) to promote and support CBDM and CCA locally. Many existing NDMOs are response-oriented or have highly technical capacity and lack the skills needed for CBDM and CCA. A retooling of skills and programmes may be necessary to adapt to the changing demands of achieving sustainable communities.

5. Strengthen and support local disaster reduction planning (incorporating climate change issues) of local or sub-national authorities. This process must be incorporated in accordance with a policy statement, with the involvement of community residents and

sectoral stakeholders. Whenever necessary, disaster reduction planning may encompass a number of districts or towns that face similar hazards.

6. Provide encouragement, and financial and technical support to local training centres and NGOs who would act as local change agents for CBDM and CCA activities.

7. Promote the development of integrated plans incorporating disaster reduction and climate change adaptation into development planning. NDMOs could promote an understanding of disaster risks, CCA, and vulnerabilities as they relate to development planning. For instance, earthquake risks are clearly important issues to be considered in normal urban development planning in seismically active regions. The impacts of climate change is also to be considered in climate-sensitive development sectors such as public health, food, and agriculture and water resource management. The manifestation of this integration could be observed in the allocation of regular budgets that promote sustainable communities through CBDM and CCA in these sectors.

8. Wherever it is mandated and practiced, implementation of a decentralization policy should be extended to CBDM and CCA practices. Promote practices that include participation of the most vulnerable, including women, children, people with disabilities, ethnic minorities, and other sectoral groups at risk to disasters and the impact of climate change.

9. Participate actively in networking activities and knowledge capitalization within a country, especially in larger territories or within the region that share trans-boundary problems.

10, Improve information communication technology (ICT) competency, and thus improve the efficiency and speed of exchange of information for disaster reduction and climate change adaptation.

Tools for Local Disaster Managers

TOOLS FOR LOCAL DISASTER MANAGERS

The paradox of power: we become most powerful when we give our own power away.[8]

LGUs have a focal role in community-based disaster management (CBDM) and climate change adaptation (CCA). As subsidiaries to national authorities, LGUs facilitate and manage the delivery of vital services that benefit communities. Second, as representatives of local residents, they act as advocates, resource mobilizers, connectors, and networkers between local constituents and "outsiders". Finally, they provide the local leadership that influences community agenda, decision making, problem solving, consensus building, allocation of resources, and conflict resolution.

In support of these roles, this Guide has been prepared for organizations working at the local level, generally referred to as provinces, districts, cities or municipalities. It is recognized that the government system is unique from one country to another and this results in diversity among local disaster management systems. In some countries, local organizations are extensions of national disaster management committees with membership that mirrors the structure at the national level. In many of these cases, particularly in developing countries with competition over scarce resources, no permanent staff is involved in disaster risk reduction and management and there is routine mobilization of membership at times of crises. As climate change exacerbates natural hazard events, LGUs recognize the need to integrate CCA into the whole disaster agenda framework.

However, most LGUs are still trying to understand the link between CBDM and CCA. In rare cases, however, where community-based disaster management is given priority attention, a permanent local disaster risk reduction and management office (LDRRMO) is established. In the Philippines, for example, due to the periodic eruption of Mt. Mayon Volcano and the frequent occurrences of tropical cyclones, the province of Albay in the Bicol Region has a permanent Provincial Disaster Risk Reduction and Management Office and the Centre for Initiatives and Research on Climate Adaptation (CIRCA).

Several practices covered here may also be useful references for specific local departments, for example, the Health, Social Welfare Department and others who may be classified as "local disaster managers" in a broad sense. It should be noted, however, that this has been prepared rather for mandated local disaster management offices (LDMOs) or local coordinating councils/committees, as described earlier.

Community in Local Disaster Management

Since the first edition of this Guide in 2004, it has been clearly stated that the role of the community in development efforts and promotion of both CBDM and CCA is indispensable. There are many definitions for "community". For instance, community, according to Hess and Adams,[9] is a "group of people, who create relations based on trust and mutuality, within the idea of shared responsibility for well-being". The key phrase in this definition is the idea of shared responsibility for well-being. Shared responsibility connotes collective action towards achieving a certain goal or solving a particular problem. The definition is useful and due to its broad coverage indicates that a community at the local level includes everybody who has a stake in sharing responsibility for disaster reduction.

This is not, therefore, limited to "poor and vulnerable households" that are "adversely affected" by disaster and climate risks. They are also not only those referred to as "grass-roots communities," generally to mean those who should be primary "beneficiaries" of regular development processes.

"Shared responsibility connotes collective action towards achieving a certain goal or solving a particular problem."

"Communities must be given the capacity to address the risks that may threaten their well-being."

Although most CBDM and CCA projects have a preferential bias for the poor and most vulnerable, experiences from the case studies state that a community of people is more extensive and inclusive than these groups. Community includes the local political leadership, extension workers, teachers, local religious and other informal leaders, mass organizations, NGOs, local academicians, local police, uniformed services and health workers, sectoral groups including men/women, children, youth, and ethnic groupings; thus, social status varies. The extent of membership also varies in accordance with the CBDM and CCA goals and in times of crises, they are the primary actors who must cope with the responsibilities. In the case of Makati City in the Philippines, a comprehensive listing of professionals is included in their data base to identify who can be utilized in the whole CBDM and CCA agenda. For the municipality of Dumangas, the local chief executive sets criteria on who can take part in CBDM-related work and who will be trained and mobilized once a disaster strikes.

Recognition of this situation gave rise to the practice of a community-based disaster risk reduction and management approach (CBDRRM). Lessons from the experience with the Great Hanshin-Awaji Earthquake in Kobe, Japan and other disaster-affected countries bring to fore the realization of the role of the people and the need to strengthen the community so that they can further support themselves once disasters strike. Veering away from the traditional perspectives and recognizing that disasters are local and communities are the first responders, communities should be seen as an important resource for addressing disaster and climate risks; hence, they must not be viewed as passive recipients of humanitarian aid. They must be given the needed capacity to address both natural and human-induced risks that may threaten their day-to-day life.

Tool 1:
Identify, support, and enhance indigenous coping mechanisms. People's perception must be incorporated into community disaster and climate risk assessments

What is perceived to be a necessity may not be a priority of the community. A common mistake committed by many experts, donors, and aid givers, including the government, is what is referred to in academic circles as the "ivory tower complex". In other words, it is like looking at a problem from a lofty perch and developing solutions without really experiencing and understanding what is happening at the community level. The result is often a solution that is not acceptable to the recipient or one that is not cost-effective.

The ivory tower complex often puts on the sidelines the most important aspect: the people and their needs. The experts and authorities make all the decisions on what kind of aid to give, how to give it, and to whom to give it to. They manage everything to the point of tending to underestimate the capacity of the people to whom the assistance is being given. In focusing too much on what these experts think is best, the vulnerabilities and coping capacities are ignored in the process.

The City of Makati in the Philippines is considered the financial capital of the country. The city avoided the ivory tower complex by engaging the community in all stages of

the planning project. Throughout the project, starting from the situational analysis, site selection, community preparation, to visioning workshop, strategic communication planning, and site planning, a prerequisite is for the community to provide direct inputs and significant insights prior to reaching any conclusion. Its Earthquakes and Megacities Initiative (EMI), with its technical expertise on DRRM, acts as a facilitator, and not as a dictatorial leader in the series of workshops, meetings, and fieldwork conducted for the planning project. EMI's actions and decisions are strictly bounded and guided by the community's perception, understanding, and inputs.

In the Province of Cavite in the Philippines, Indigenous Knowledge Skills and Practices (IKSP) is currently being used by local disaster managers for conducting risk assessments to specifically identify hazard events. Particularly in the City of Tagaytay, the position of trees is considered one indicator as to whether landslides are likely to occur or not. In the town of Bacoor, this urban village is adapting to the impacts of increased flooding by constructing a second floor to their houses, which LDM refers to as "urban indigenous knowledge".

It is important to recognize the fact that the local people are knowledgeable about their locality and history, thus it is not a situation of "zero knowledge" in terms of coping and surviving the impacts of hazard events. Interaction with a particular community could reveal a wealth of ideas routinely ignored by "outsiders". Their involvement and active participation in identifying the problems, and subsequently the solutions, promote ownership. It is widely believed that when people feel some kind of ownership, they tend to involve themselves so long as the project is beneficial to them. Thus, with the right choices made, the effectiveness of CBDM and CCA is likely to improve and succeed.

Indigenous coping mechanisms include actions by communities and people's ability to prepare for, withstand, and/or respond to a hazard. Often, tragic scenes of helplessness are sought and vividly portrayed by the media which cover disasters, thereby ignoring the resilience of survivors. Thus, they are inevitably "buried" and unrecognized. In the Philippines, once a climate-related hazard event such as cyclones and floods hits, a "state of calamity" is declared in affected localities; thus, a calamity fund is released and used mostly for relief and aid, and not on disaster management and CCA. This government mechanism is still practiced even though a law on Disaster Risk Reduction and Management was passed in 2010.

The case studies showed that many indigenous coping mechanisms exist and the role of an external and local organization is to recognize and support them. This way, the likelihood that people will implement actions is very high, as they would normally believe in the success of these indigenous actions.

The case of Cambodia cites the ability of people to tap forest resources for food and subsistence livelihood during flood seasons when their main staple crop, i.e., paddy rice is threatened or destroyed. Sadly, the commercialization of forest industry prohibits easy access of families who would normally rely on these resources during periods of food insecurity.

In the City of Sorsogon in the Philippines, the people identified and listed environmental signs of impending hazards during the Workshop on

Community Managed Forecasting and Early Warning Preparedness for Natural Hazards. With the lists, local communities are now being made aware of such environmental signs as a first line of defence to an impending hazard event.

TABLE 3. ENVIRONMENTAL SIGNS OF AN IMPENDING HAZARD EVENT*

Hazard Type	Signs
Typhoon	■ Ducks and chickens fly ■ Ants crawl up the wall ■ Domestic animals are restless ■ Horizon is colored orange ■ Surrounding is very calm and quiet ■ Leaves are swaying ■ Unusual movements of animals ■ Coconut trunks collapse ■ Clothes line makes whistling sound
Volcanic Eruption	■ Drying up of wells and decrease in water levels ■ Animals go down the mountain ■ Increase in steam emission ■ Colour of steam changes ■ Volcanic tremors ■ Rumbling sounds ■ Crater glow ■ Variation in temperature of hot springs
Earthquake	■ Unusual weather condition (dark and gloomy; fog is grayish) ■ Unusual/restless behaviour of animals (such as cockroaches, dogs, and fowls) – based on indigenous knowledge handed down by ancestors ■ Discoloration in artesian well's water ■ Dogs start barking ■ Chickens make uneasy movements
Flashflood	■ Gloomy weather ■ Heavy rainfall, big raindrops ■ Unusual animal behaviour ■ Water condition – colour of water changes ■ Rise in water level of river channels ■ Thunderstorm affects river flow
Landslide	■ Depends on whether the soil is saturated or not ■ Land saturation is determined by squeezing the soil and assessing its moisture content. This is a combination of scientific and indigenous methods.

Note: *Participants' output during the Workshop on Community-Managed Forecasting and Early Warning Preparedness for Natural Hazards, organized by the City of Sorsogon, the Philippines, in cooperation with Jean Chu of the United Nations Development Programme (UNDP) and IIRR, 15-16 November 2006.

To integrate CCA-related strategies and programmes, LGUs are now including climate variables when conducting disaster risk assessments to improve both development and contingency plans for better response and preparedness to natural hazard events. The Emergency Response Unit of the City Government of Tagaytay in the Philippines is already considering including climate variables in their own risk assessments and incorporates the

same in their contingency and emergency response plans.

An interesting flipside to the community's use of coping mechanisms is the way they see disaster risks as a consequence of hazards and vulnerabilities. While hazards such as those caused by a natural phenomenon could not be controlled, people expressed the likelihood of controlling their fate if they do something about reducing their vulnerabilities. The case studies cite the importance of people's assessment of their vulnerabilities and capacities in relation to hazards both natural (climate-related or otherwise) and human- induced as contributory to their involvement and ownership of CBDM and CCA programmes. People's involvement in the disaster risks assessment and analysis, therefore, is a very effective and useful practice to promote resilient communities.

Good Practices:

1. People's ownership and self-motivation is essential to ensure sustainability. People must be involved in all phases of CBDM and CCA project management to encourage accountability and responsibility over the project. This enhances their confidence and feeling of self-control over their fate.

2. Highlight any kind of coping culture that the community has used from generation to generation. Support these indigenous and self-help mechanisms. Facilitate adoption of new knowledge or technology that complements traditional practice.

3. The role of an outsider is more "to facilitate" and less "to manage" and/or "to teach". Local knowledge and enhancing this is the entry and goal of CBDM and CCA.

4. Identify and discontinue local authority practices in disaster management that create people's dependency.

5. Conduct disaster risk assessment incorporating people's perception of local vulnerabilities and capacities with experts' assessment and climate variables.

6. Popularize environmental signs of an impending natural hazard event as a first line of strategy in early warning system.

7. Include climate change variables in emergency response and contingency plans.

Tool 2:
Implement practices for people's participation to enhance community's competence and capacity

CBDM emphasizes and promotes community-learning processes. This, according to some critics, is one disadvantage of CBDM. Critics believe that the whole process involved in CBDM takes time and is, therefore, tedious and cumbersome. However, in other Asian countries, community-managed DRR and CCA are being pushed as a strategy to ensure the efficacy of disaster management and CCA programmes. LGUs and civil society organizations recognized that these processes (community-based and community-managed) are important because they ensure sustainability. Among the more important aspects, if not the most, is the process of consultation and participation while, at the same time, local management of DM and CCA initiatives.

The local community should be encouraged to involve themselves in all aspects of disaster management and CCA. The community must be involved beginning from disaster risk

assessment and analysis, to development of DRR and CCA plans and its implementation, monitoring evaluation, and learning and advocacy platforms. DRR and CCA plans include development projects, programmes and activities (PPA), and disaster preparedness and contingency plans, which include actual relief operations through local volunteer rescue teams.

Partners of the Center for Disaster Preparedness during one of their risk assessment activities
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Participation should not be viewed, however, as a means to an end. Rather, it should be a tool to achieve the ultimate goal of empowerment. Ultimately, the goal of CBDM is to build upon the community's capabilities and capacities to reduce disaster risks, and thus manage hazards themselves.

Essentials of Leadership to Strengthen Others[10]

- Ensure self-help;
- Provide choice;
- Develop competence and confidence; and
- Foster accountability

It is, therefore, necessary to implement practices that ensure genuine people's participation. CBDM and CCA implementers should be able to develop strategies that would ensure that the voices of those who are most vulnerable are heard and given importance. In the case of Bangladesh, the aspect of sustainability was evident in its Local Project Society (LPS) members, which was formed to execute the community's decisions and plans for flood-proof projects. As seen in the results of the study, LPS members felt a change in their status in the community as they were given more respect and often invited to provide technical support or advice on various issues.

To ensure participation of the community in DM and CCA, participatory methods or participatory rural appraisal tools and applications are used by local disaster managers. Participatory tools combine various approaches and methods that enable local people to share, enhance and analyse their knowledge of life and conditions to plan and to act. It is a "handing over the stick to the insider" in method and action. The outsider's role is that of a catalyst – a facilitator of processes within the community that is prepared to change its situation.

PDRA Triangulation and PRA

Hazard selection, vulnerability, and capacity vary in terms of age, gender, economic status, and socio-cultural identity of groups in the community. A CBDM facilitator must keep in mind while facilitating the community that a PRA tool/session needs to be conducted with different groups in the village. Ideas generated then need to be shared with other groups/ people participating in different PRA sessions. The number of participants should be adequate in a given unit of analysis; meaning, if a village has 300 households, more than 150 of the households altogether should be represented in the PRA sessions.

Attributes of a Good PRA facilitator

- Creates an atmosphere of friendliness and equality
- Stimulates community members to reflect on their problems and needs
- Gives opportunities to all participants, encourages those who are not used to speaking in group meetings
- Listens, is patient, and non-dominating
- Is modest
- Helps people to analyse their situation and plan activities together
- Values participants' opinions; does not criticize others
- Is not biased or judgmental
- Deepens the analysis by raising relevant questions
- Facilitates decision making by mediating between different interest groups

Steps to Facilitate a PRA Session

Step 1: Select participants for the session
Step 2: Build rapport with the participants
Step 3: Explain the objectives of the PRA session
Step 4: Conduct the session in a natural and relaxed manner
Step 5: Collate and analyse the learning outcomes
Step 6: Summarize the findings and learning outcomes
Step 7: Draw suggested actions
Step 8: Share the participants' feelings about the exercise
Step 9: Make notes on the session

Following is a list of participatory methods and their application to encourage community participation in disaster reduction. There are, however, numerous methods that can be used depending on the necessity for its application.

TABLE 4. PARTICIPATORY METHODS AND THEIR APPLICATION

Participatory Method	CBDM and CCA Application
Transect Walk/ Community Watching Risk and Resources Mapping	Identify hazards and vulnerability locations.
History and Seasonal Calendar	Likely natural hazards, frequency and occurrences: when to prepare.
Focus Group Discussion and Brain Storming	Learning and fosters ownership of planning and community.
Wealth Ranking Ten Seeds	Identify poorest and most vulnerable people. Ranking and decision making.
Venn Diagram	Identify important stakeholders for planning coordination and responsibilities.
Venn Diagramming of DRR Actors	Enable the community to identify different agencies or individuals that provide DRR services and assistance to the community as well as their influence, effectiveness, and relationship.
Simulation Exercise	Test validity of plan and readiness of people to perform their responsibilities

Hazard Source Force Tree	Enable the community identify the hazards and its effects on community life as well as the environment.
Scoring Matrix	Rank hazards according to severity, frequency, duration, etc.
Hazard Behaviour Story Telling	Enable community participants to identify the behaviour (characteristics) of a hazard in terms of: (a) warning signs and signals; (b) forewarning; (c) speed of onset; (d) frequency; (e) period of occurrence; and (f) duration. By discussing the behaviour of the hazard, participants determine how the hazard will affect the community and what can be done to enhance the community's coping capacities.
Vulnerable Groups Ranking	This tool helps the community identify vulnerable groups in the community, causes of their vulnerability, and possible capacity building interventions. In short, this tool facilitates the analysis of causes of vulnerability.
Experiential stories on indigenous technologies and knowledge	Seeks to help people identify local coping mechanisms, including indigenous technologies and knowledge that are useful for coping with hazard events.
People's aspirations about happiness	Aims to enable community participants to identify and analyse attitudinal strengths of the community that would make it resilient against hazards.
Individual and community capacity matrix	Enable community participants to identify the physical, social/ organizational, and attitudinal/motivational capacities, as well as individual survivability and community readiness.

Good Practices:

1. Participatory processes from disaster risk assessment analysis, planning, implementation, and monitoring, to evaluation and learning are essentials of CBDM and CCA that use relevant and innovative participatory rapid/relax appraisal tools.

2. Using a guideline, clearly identify key institutions and organizations that should participate from formulation to implementation.

3. Outline the roles and responsibilities of all stakeholders to ensure genuine participation.

4. The ultimate goal is to enhance the capacities of communities to become self-help groups. This can be achieved through participation.

Tool 3:
Ensure wider stakeholder involvement and participation

A stakeholder is any person or organization that might be affected by hazard events; and/ or has a potentially significant role to play in disaster risk reduction and management and climate change adaptation. Based on this definition, stakeholders could be numerous, and it is vital to encourage a wide range of stakeholders to get involved in any CBDM/CCA project.

Stakeholders may play two roles: first, whether intentionally or not, they may be contributing to the configuration of disaster risk in a community; and second, recognizing

that they contribute to disaster risk they are actively involved in risk reduction.

Examples from the first category include people who throw garbage into drainage and river systems; NGOs that implement primary health care projects to reduce morbidity and mortality, but ignore the importance of educating women and children on the basics of flood and/or cyclone warning systems in disaster-prone areas; local authorities who ignore the existence of, and movement of, informal settlements in dangerous hillsides and river erosion-prone areas; and engineers and artisans who ignore building codes related to earthquake and other physical risks, among others.

Naturally, a second category is desirable. For example, a safer community achieved with school administrators and teachers actively involved in disaster education and school safety programmes; religious groups promoting awareness of risk and practical measures to reduce them; local authorities enforcing land-use planning and building codes; and local private business groups contributing funds and resources for local risk reduction solutions.

There are many examples that can be highlighted, which essentially suggest that DRR and CCA are everybody's concern. This is contrary to traditional thinking that DM and CCA is the exclusive responsibility of national/local governments, scientists, experts and professionals, civil defence groups, social welfare agencies, and others.

The tasks of implementers of CBDM/CCA include facilitating networking and coordination of local stakeholders' participation. This implies that good governance that encourages constituents' involvement is the basic foundation that contributes to sustainable CBDM. Good governance provides a favourable environment for broad stakeholder participation. Specific roles and responsibilities of a particular stakeholder must be identified based on their understanding of their own value and abilities.

In the Philippines, engagements between the LGUs, community organizations, and civil society organizations is formalized by entering a Memorandum of Understanding or Agreement, which is later supported through legislation to make it legal. But informal relationships have also proven to be effective and do not necessarily hinder partnership arrangements at the community level. The choice depends on the political structure in a particular locality and the perceived level of governance in the area, although experience shows that formal institutional arrangements among stakeholders improve accountability and transparency, which is important for the sustainability of CBDM.

Public awareness on DM and CCA is one good practice that may promote easier mobilization of local initiatives and other stakeholders. In this age of speed of media coverage, internet, and advancement of technologies, mobilization of "public" support greatly enhances effective local actions. The Office of the Civil Defense in the Philippines regularly sends information related to DM/CCA to the Public Information Agency, and it is then shared with local media stations. The Municipality of Dumangas in Iloilo, for example, is utilizing hand-held radios through Radio Netting from all villages in relation to DM and CCA to get updates and report on measures taken once a hazard event hits them. There is a massive information, education, and communication (IEC) campaign such as leafleting, blogs, and billboards that promote awareness on DM and CCA. In the town of Bacoor, Province of Cavite in the Philippines, the local disaster management office is tapping the homeowners' association to help in public awareness campaigns related to disaster preparedness and climate change. The town has seventy-three *barangays*, or villages.

Networking and promoting knowledge capitalization could also contribute to sustainable CBDM and CCA. They are already being practiced in country networks and learning

circles involving LGUs, CSOs, and the private sector that focus on DRRM and CCA work. The National Disaster Risk Reduction and Management Council and Climate Change Commission in the Philippines are conducting a series of consultative workshops among various stakeholders in every region in the Philippines as input to its national strategies on DRRM and CCA. There are also parallel engagements between the government structure in charge of disaster risk reduction and climate change adaptation with CSO networks.

Clearly, as mentioned earlier, this is crucial at the local level. In addition, supporting agencies should consider resources, including knowledge, information, and technologies, that are available outside of the locality.

As cited earlier, there are many stakeholders who may be engaged by local governments in CBDM and CCA. Within the locality itself, they may be identified in relation to their sectors and professional groupings. These may include local government officials, local NGOs, local businessmen, farmers, fisher folk, women's groups, school administrators and teachers, doctors, health workers, volunteer groups, youth, masons, carpenters, and other technical professionals.

In order to effectively mobilize the stakeholders, there is a need to clearly differentiate DRRM and CCA, but highlight the point of convergence. In Makati City in the Philippines, they define the importance of climate change adaptation and mitigation measures in addressing disaster risks institutionally by including the Environmental Protection Council (which is in-charge of planning and implementing CCA and mitigation practices of the city) as one of the skeletal arms of its Disaster Risk Reduction and Management Council. A Makati Climate Action Plan was also crafted wherein it involved thirty-three of its barangays through a barangay climate action planning workshop.

A local DM/CCA plan is likely to be followed by these groups if they have been actively involved in the process and in practice. The experiences in the case studies show that since they are residents of the target communities and are also at risk, their interest in involvement is very high. Their involvement, therefore, should not be ignored.

For instance, in Nepal and Indonesia, the active involvement of artisans and local school officials are cited as playing an important role in sustaining CBDM and CCA efforts in targeted areas. In the Philippines, local business groups were in fact the initiators of local solutions to recurring disasters by advocating more effective and sustainable actions by the local government, veering away from traditional relief actions. Tax incentives are also given to business groups that make a strong effort towards contributing to DRR and CCA.

The roles and responsibilities of each stakeholder may be determined through participatory disaster risk assessment, analysis, and planning (development and contingency plans), DRR, and climate-related strategies. Naturally though, their roles are determined by the nature of their sector and potential contribution.

Additionally, as cited in the case studies, the local government is the convergence point for other stakeholders' actions. These relationships may be based on the framework below. While the coordination of these relationships lies with the national governments that have the authority and power, the real work of cooperation must be effectively demonstrated at the local level. The effectiveness of their efforts must be assessed in relation to sustainability of communities, rather than the number of meetings that occurred in conference rooms.

Good Practices:

1. Identify key organizations and institutions that would be involved in CBDM project management.

2. The more people involved in planning and implementation of the project, the more supporters there are.

3. Smooth implementation is achievable if all the stakeholders understand and know their respective roles and responsibilities.

4. Partnership between the vulnerable and less vulnerable of a particular community creates a balance.

5. A coherent local disaster reduction plan, incorporating roles and responsibilities of stakeholders, will enhance clarity of execution of activities and sustainable CBDM.

6. Involve homeowners' associations, social clubs, etc, in public awareness campaigns related to CBDM.

7. Community-based training on CBDM/CCA.

Tool 4:
Create and sustain the "spark" of CBDM and CCA: Identify and sustain people's motivation for local action in building resilient communities

Some ninety farmers in Dumangas town, in the Province of Iloilo, the Philippines were trained at the climate field school (CFS) which has been established in the municipality. This climate field school is the country's first, and only the second in Asia, after Indonesia. At CFS, farmers learn a lot about scientific farming, through the use of facilities of the agro-meteorological station that guide them on how to adapt to the impacts of climate change to their crops.

The agro-met is a climate change and forecasting centre established five years ago by the LGU in cooperation with the Asian Disaster Preparedness Center, Philippine Atmospheric Geophysical and Astronomical Services Administration (PAGASA), and International Research Institute for Climate Prediction (IRICP). Aside from learning integrated farming practice, farmers also get their daily weather advisories from the forecasting station to guide them in their farming activities. Fisher folks and the community in general are also being capacitated in weather forecasting.

Mayor Ronaldo Golez of Dumangas, who was the Hall of Fame awardee in the annual search for Excellence in Disaster Risk Management and Humanitarian Assistance: The Gawad KALASAG Award in the Philippines, believes that innovation is the key or a "spark" for a successful DRRM/CCA. The CFS and weather forecast application was intended to bring climate change adaptation strategies to common farmers, fisher folks, and the community in general.

From this experience, one can conclude that motivation plays an essential role in enhancing the sustainability of CBDM and CCA. As a local disaster risk reduction manager, one must be aware of the objectives and motivations of the community as a whole and/or the sectors within it. Learn their motivations and make them understand how CBDM/CCA projects could address their specific concerns and how they can be involved in the whole

process, which is the key to ownership and sustainability.

The case of Dumangas in Iloilo also highlights how a third class municipality[11] became a Hall of Fame awardee of the prestigious Gawad Kalasag Award. This proves that scarcity of resources within the coffers of the local government is not a barrier in building the resilience of communities. With political will, coupled with vision and innovation, CBDM/CCA is possible. With such political will, the municipality leaped from third class to first class in just two years during the first term of its local chief executive, Hon. Ronaldo Golez.

There are also local governments which are gearing towards DM in a proactive way. Such is the case in the Nepal case study in which CBDM and other efforts are conducted even if there has been no major earthquake disaster occurrence in the valley. It should be noted, however, that they were successful in heightening public awareness despite this.

Yet, local governments should take a proactive role in identifying possible motivations for CBDM/CCA. From the case studies, some motivations are not very obvious, but sufficient to "spark" a CBDM and CCA initiative. These may include:

- As a way to introduce hazard prevention, mitigation, and preparedness actions following disastrous events (cases of Cambodia, India, and Indonesia). People are more interested in participating while the memory of the event and lessons learned are still fresh in their minds.

- As an empowerment and development intervention to address underlying issues of poverty, marginalization, and lack of education, CARE Bangladesh and CARE Nederland in the Philippines saw CBDM as an approach to address both disasters and development problems. People recognize the relevance of CBDM in relation to their priority needs for livelihood and access to basic services as the foundation of safety.

- Engaging people to develop a sense of control over a potential disastrous event, thus reducing their anxiety as in the case of Nepal. People who were aware of the devastating Gujarat, India earthquake and have participated in CBDM, experienced less denial regarding the possible occurrence of a major earthquake in the valley. This motivates them to participate.

  Participation provides a political constituency, promoting local politicians' sensitivity over the need for disaster risk reduction and climate change adaptation as advocated by their local constituents (case of the Philippines). People's participation in CBDM/CCA is seen as a natural extension of citizens' involvement in the management affairs of the local government.

- Offer a structured manner for dealing with volunteers, as in the case of Cambodia. By participating in CBDM, people are recognized as informal leaders and thus their social status in the community is elevated. Better self-esteem is observed in general among IFRC volunteers elsewhere.

Good Practices:

1. Know exactly what the motivation of the community is and use it as an entry and "rallying point" for sustainable CBDM/CCA.

2. Make the community understand how CBDM/CCA is addressing their concerns, e.g., livelihood losses due to flooding and other hazards.

3. Identify natural leaders (local champions) in the community who will act as change agents at the community level and not create new social structures.

4. CBDM/CCA must be able to address concerns without relying too much on outside intervention.

Tool 5:
Implement capacity-building processes that promote self-help, unity within the framework of local disaster management and climate change adaptation

Training is an essential component in enhancing sustainability of CBDM. In all of the case studies, it was found that training approaches vary in accordance with the objectives of the project and the needs of the community for training. There was no general approach because the training reflected the need of a specific community.

Although a different set of capacities are needed for climate change adaptation, most of the strategies cut across with DM.

In the Province of Albay, the Centre for Initiatives and Research on Climate Adaptation (CIRCA) was established as a living research and training institution of its "Albay in Action on Climate Change (A2C2)" Program in order to strengthen the capacity for research and project and programme implementation in progressive sustainable agriculture, forestry, fisheries, energy, and eco-cultural tourism. This was in partnership with one of the most prestigious state universities in the Bicol region, Bicol University (BU), Environmental Management Bureau of the Department of Environment and Natural Resources-Region V (EMB-DENR), and Albay in Action on Climate Change of the Provincial Government of Albay (PGA), in collaboration with the World Agroforestry Centre. Both CIRCA and the Albay Public Safety and Emergency Management Office (APSEMO), which is directly in charge of DRRM affairs, are working closely.

In Bangladesh, the project arranges extensive training for capacity building of local project society (LPS) members and links the LPS with other development agencies and local governments for sustainability of interventions. Meanwhile, in Cambodia, the agency made an extra effort to acquire external expertise to develop, test, and finalize a formal CBDM training curriculum.

These cases proved the point that those capacity-building measures, although training approaches varied, are indeed essential. A common element in the cases is that the delivery of training is conducted through established organizations and institutions. The approaches included engagement of the local university, local committee, formal teachers, and established emergency institution. The underlying reason for this perhaps is to get these individuals and organizations, which currently have the responsibility of implementing project components, to be committed to the overall objectives of the project. With the right people and organizations committed to the project, the likelihood of a sustained CBDM is high.

It is important to emphasize that according to established training principles, training must be well targeted as per the training needs of participants. The case studies further confirm this principle as the level and nature of training varies from one case to another. On one extreme, the cases of Nepal and Indonesia indicate a focus on a more specific technical knowledge transfer, i.e., earthquake-resistant construction techniques. On the other hand, in the case of Bangladesh, training is quite varied as to include project management, organizational development, and so on.

The Philippines is currently strengthening CCA-related training and frameworks within the government system such as integrating CCA into local development plans and annual investment plans. Training interventions, therefore, are carried out based on appropriate objectives and the local needs assessment.

LGUs in the Philippines are mandated to prioritize programmes, projects, and activities (PPA) that integrate both CBDM and CCA. Some of the legal mandates include the *Climate Change Act of 2009 and the Disaster Risk Reduction and Management Act of 2010.*

Good Practices:

1. Capability-building measures should be geared to developing full potential and contributing to the success of CBDM and CCA.

2. Training should encourage people to put knowledge gained into practice.

3. Training should enhance capacity to respond to and reduce disaster and climate risks.

4. Identify and support local institutes where training programmes can be continued and institutionalized.

5. Innovate approaches related to training and capacity building to enhance sectoral capacities that are impacted by disaster and climate risks.

Tool 6:
Integration of disaster management/climate change adaptation programme, projects and activities in the regular local planning and budgeting processes

Building a culture and foundation of safety and resilience is the main role of local government units. Under the principle of subsidiary to the central government, the LGU has a duty to protect its citizens' lives and property and promoting a sustainable and resilient community. With the recent severity and frequency of disaster events that is being exacerbated by climate change, communities and civil society organizations recognized that it's the moral responsibility and obligation of the LGU to make its constituents safe from the impacts of disaster and climate risks. Since DRRM and CCA as a development framework and tool is already being used by LGUs, the question now is how effective are local governments in performing this important duty?

There are a number of experiences cited in the case studies that indicate that CBDM started due to inadequacies in the disaster management system and in development planning, and thus was only reacting to the impacts of hazard events. In Bangladesh, the choice of communities in the "char" areas by CARE was due to the fact that they are marginalized from regular development programmes. In Orissa, India, the tragic cyclone of 1999 and the generally perceived failure of disaster preparedness and response resulted in a more extensive CBDM application in those heavily affected areas.

The rationale for the case studies is to advocate integration of disaster reduction activities in the regular planning and budgeting processes, which will lead to creating sustainable and resilient communities. It is believed that governments have the power, resources, and access to resources to take on this important duty. Resources are essential for sustaining CBDM and CCA efforts, wherein a lot of such projects would not survive the challenge of sustainability because they fail to address the issue of resources. The case studies, however, warn disaster managers that CBDM and CCA must not fall into the trap

of being continuously dependent on any outside organization such as the government or international humanitarian organizations, among others.

Local authorities are encouraged to act as catalysts for promoting sustainable communities through its support of CBDM and CCA approaches. The case of the Philippines clearly indicates the success of these actions. By virtue of *Republic Act 10121 or the Disaster Risk Reduction and Management Act of 2010*, all LGUs in the Philippines are mandated to push for the implementation of DRRM.

Orientation on mainstreaming DRR in local governance conducted by EcoWeb Inc. with LGUs in Lanao del Norte, Mindanao © EcoWeb Inc.

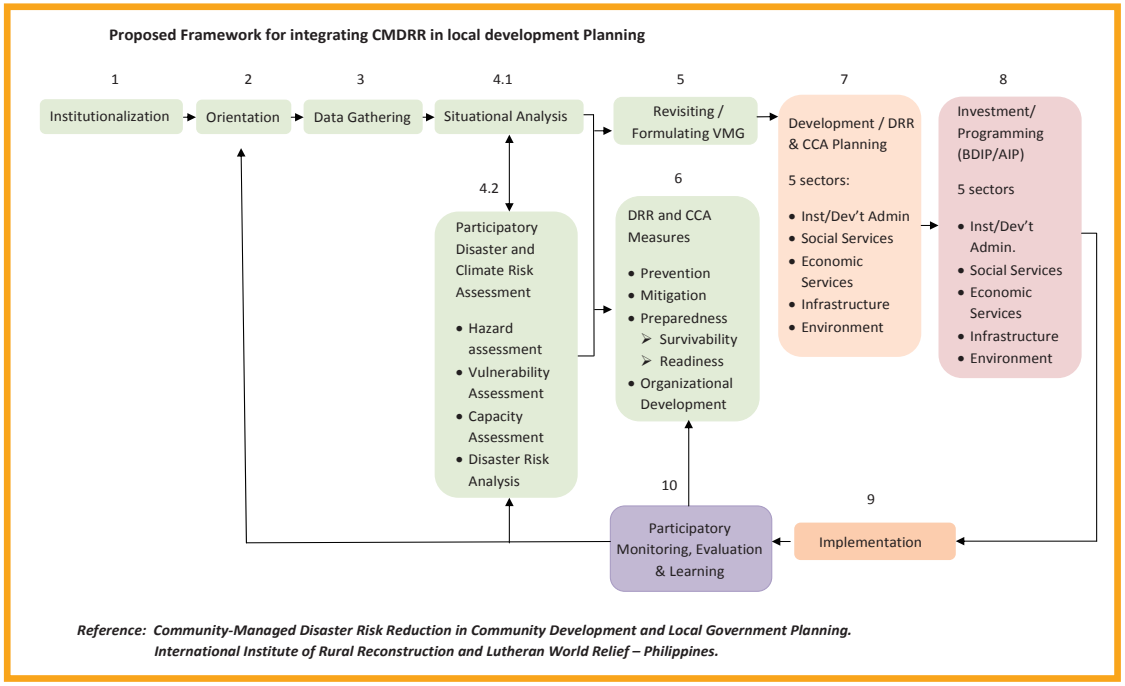
Specifically for climate change adaptation, RA 9729 or the Climate Change Act of 2009 was passed into law after Typhoon Ketsana and Parma hit the Philippines in 2009, which caused Php 38 billion (equivalent to US$863 million) worth of damage. Other related frameworks that are lodged within the government structure includes the National Framework Strategy on Climate Change (NFSCC), National Climate Change Action Plan (NCCAP), and Local Climate Change Action Plan (LCCAP).

Prior to the enactment of both laws, the National Economic and Development Agency of the Philippine Government issued guidelines among provincial-level LGUs to integrate DRR in sub-national development land use/physical planning.

To ensure that DM and CCA initiatives and agenda will be realized and sustained, funding mechanisms were built in the act. In the current DRRM Act of 2010, a 5 per cent calamity fund is allocated in the internal revenue allotment of the LGU, wherein 30 per cent of the calamity fund is used for emergency response and 70 per cent for disaster risk reduction and even climate change adaptation. Some local government units are already integrating DRRM and CCA strategies in the local government plans such as barangay/village and municipal/city development plans as well as the annual investment plan (AIP). However, local disaster managers have to identify programmes, projects, and activities (PPA) so that they will be included in the AIP.

Figure 2 is the schematic presentation of the proposed conceptual framework on integrating CBDRRM/CCA to local government planning based on the existing local planning process in the Philippines.

Figure 2. Proposed Framework for Integrating CMDRR in Local Development Planning



Source: Developed by the International Institute of Rural Reconstruction and Mahintana Foundation (2010).

Another funding mechanism that is currently being proposed in the Senate and Congress of the Philippines that supports climate change adaptation is Senate Bill 2558 and House Bill. 3528, both referred as People's Survival Fund (PSF) Bill that are twin bills filed by Senate President Juan Ponce Enrile and Deputy Speaker Rep. Lorenzo Tañada III (4th District, Quezon), in the Senate and House of Representatives, respectively. The PSF Bill aims "to finance adaptation programs and projects that are directly supportive of the objectives enumerated in the Climate Change Action Plans of local government units and communities". Hence, the PSF Bill will strengthen the Climate Change Act of 2009 by providing predictable, adequate, continuous, and untied financing for local climate adaptation.

This type of approach to CBDM and CCA strengthens the likelihood and sustainability of such projects. The idea is to encourage independence and ultimate sustainability. This case revealed that it was possible through legislation and by incorporating disaster and climate risk assessment and plans into regular development projects.

Good Practices:

1. Advocate a clear statement of political commitment to CBDM and CCA. It is naturally a statement from the political leadership, but this may not be achieved without efforts for consultation that can be managed by local disaster risk reduction and management authorities and climate change committees. The statement must cite responsibility and accountability. It should contain the basis for legislation and regulations and it should outline the organizational structures and systems.

2. Facilitate discussion and approval of local legislation that promotes CBDM/CCA. The need for this is determined by the degree of risk and the importance put on community involvement and sustainability.

3. Strengthen capacity of the local disaster risk reduction and management organization to promote and support CBDM/CCA locally. Many existing LDMOs are response-oriented or have highly technical capacity, but lack the skills needed for CBDM and the ability to translate concepts into local priority actions. Most are still having difficulties in integrating climate change adaptation in the whole DM framework. A comprehensive orientation, capacity building, and understanding of climate change adaptation and its link to DM is necessary.

4. Promote the development of integrated plans incorporating disaster risk reduction and climate change adaptation into local development planning and budgeting. LDMOs could promote understanding of disaster and climate risks as they relate with local development planning and budgeting. For instance, earthquake risks are clearly important to be considered in normal urban development and land-use planning. The impacts of climate change are also to be considered in climate-sensitive development sectors such as public health, food, and agriculture and water resource management.

5. Legislations, plans, and programmes that promote sustainable and resilient communities through CBDM/CCA must have regular allocation of budgets. Funds allocation could be sector-specific or allocated through the LDMO and climate change committees.

6. Conduct training programmes that promote sustainable and resilient communities through CBDM and CCA.

7. Establish and conduct a participatory monitoring, evaluation, and learning process that ensures compliance and follow-up actions to enhance and strengthen implementation of plans, management, and sustainability.

Tools for Trainers

TOOLS FOR TRAINERS

What Is Training?

Training is enhancing individuals' or groups' ability to develop their full potential and contribute to the success of a specific intervention. Development of full potential means:

(1) Clear knowledge of the proposed intervention
(2) Interest in putting that knowledge into practice
(3) Enhanced capacity to play an active role in the intervention
(4) Willingness to learn through trial and error and make improvements

In this case, the particular interventions are: community-based disaster management (CBDM) and climate change adaptation (CCA).

Who Should be Trained?

Appropriate individuals or groups should be selected from the community to participate in training programmes. Such individuals are termed change agents, as through their training they can bring about change within their community.

People committed to bringing about a positive change at the family and community levels are the best choices for change agents. They should be trusted, respected, and have the ability to motivate the people in the community; for example, teachers, religious leaders, local government officials, NGO field workers, village health professionals, social and community-based organization (CBO) leaders, volunteers, and folk singers. They can play a very important role in promoting and disseminating disaster preparedness and climate change adaptation measures to their respective constituencies at the family and community levels.

Objectives of the Tools for Trainers

The tools do not contain any theory. Rather they are based on the practical experiences of hundreds and thousands of families who have been living in disaster-prone areas for generations. They were identified not only by the case studies, but also by a number of agencies that have been engaged in the field of disaster management for years. This is not a training module; rather, your own training module can be developed based on these tools. Therefore, the tools are presented in such a way that one can easily adapt them to suit the local context, culture, and need.

Planning CBDM and CCA training

Enhancement of survival techniques and coping capacities through community-based action leads to vulnerability reduction of people at risk of disaster and the impacts of climate change. CBDM and CCA training should have clear goals and objectives. Trainers should be aware that communities that have recently experienced a severe disaster are usually more open to CBDM and CCA interventions.

Smooth implementation is possible only when all the identified stakeholders and change agents understand their roles and responsibilities in CBDM and CCA interventions. Ideally, CBDM and CCA will be integrated into local-level developmental planning and budgeting. Through joining forces and pooling their limited resources, the community and the local government administrators can reduce dependence on external assistance.

For optimum results, CBDM and CCA should be incorporated with structural mitigation measures and follow-up activities at the community level.

A holistic secure-livelihood approach enhances sustainability of CBDM and CCA.

Principles of Sustainability

The six principles of sustainability are:
- Maintain and enhance quality of life;
- Enhance economic vitality;
- Ensure social and intergenerational equity;
- Maintain and enhance environmental quality;
- Incorporate disaster resilience and mitigation into actions and decisions; and
- Use a consensus-building participatory process when making decisions.

Steps of CBDM and CCA Training Cycles

The six steps for conducting successful training cycles are:

Step 1
Know the Situation

Before a trainer plans, designs, organizes, and conducts the training course for the change agents, it is very important to understand the situation of that particular vulnerable area. Situational analysis should consider the following factors:

- Geographical location and physical condition.
- Type of major hazards faced and their frequencies (e.g., cyclone, drought, earthquake, flood, forest fire, landslide, tornado, or volcanic eruptions).
- Extent of damage caused by past disasters (e.g., loss of life, assets, and property).
- Current and potential impacts of climate change (e.g., loss of agricultural productivity due to increased salinity, homes and land threatened by rising sea levels, and increasing frequency of disasters).
- The role of the respective governmental and nongovernmental agencies with regard to early warning dissemination, pre-disaster preparedness, and post-disaster emergency response operations and, in the long term, providing services which will enhance climate resilience.
- Survival techniques and coping mechanisms practiced by the people.
- Any kind of structural mitigation initiatives.

The trainer can gather all information by holding a discussion with the people in the community and making an assessment of the situation. With respect to current knowledge, attitudes, and practices, the trainer will now be able to identify the measures to be taken by the change agents in order to improve the situation.

Step 2
Identify Local Resources

Before designing and organizing any training programme, it is necessary to identify existing local resources that will help the trainer to implement the training courses effectively and smoothly, according to schedule and in a cost-effective manner. The following local resources need to be taken into consideration:

- Participation and support from the people in the community
- Identification of the right persons as the change agents
- Use of experienced local people as resource persons
- Support from local government authorities
- Selection of venue which is easily accessible for all participants
- Availability of training material that is relevant to the local context
- Strengths, weaknesses, opportunities, and threats (SWOT) of local resources.

Step 3

Design the Training Course

Once the situation is known and the resources available within the locality have been identified, the trainer can start designing the training course. During the design programme, it is necessary to study the SWOT analysis performed in Step 2. This will guide the trainer in making use of the existing local resources. It is necessary to make sure that the use of methodologies and materials are acceptable and adaptable to the community. It is best to design the sessions in such a way that there is always scope for participants to make comments and give their views based on experience.

While designing the training programme, the trainer should keep in mind the following:

- The right number (between twenty and thirty) and appropriate level of participants to be trained in a specific course.
- Duration of the training (number of days/hours) and its schedule should be acceptable to the participants and not interfere with their normal livelihood programmes.
- Methodologies and materials should be user-friendly (e.g., group exercises, sharing practical experience, alternatives where electronic media is not available, etc).
- Before preparing session plans, discuss the tools with the community and find out which they would like to emphasize in their CBDM or CCA approach, relevant to their context. (The trainer may include all eight tools or may decide that prioritizing just a few of them would more effectively reduce vulnerability).

According to the SWOT analysis of Step 2, it is necessary to ensure that the CBDM or CCA approach is acceptable and sustainable in that particular area.

During planning, the trainer should consult with the concerned project staff and maintain coordination with the local government authorities and other local resources related to the training.

Step 4

Conduct Training Course

The objective of the training is to empower the change agents to disseminate the CBDM and CCA messages effectively to ensure behavioural change of the people in the community. Since all six steps of the CBDM and CCA circle require full participation of the community, the trainer MUST ensure application of a participatory or action-related approach in accordance with Step 3.

- The course should begin with a kind of ice-breaking session so that the participants can

feel at ease and be comfortable.

- Create and always maintain an open, free, and enjoyable environment for sharing and learning.
- Conduct simulation games and organize field visits, if needed.
- Explain the strengths, weaknesses, and opportunities of the local resources identified through SWOT analysis in Step 2. Ask the participants to make their own decisions in enhancing the existing strengths to overcome the weaknesses by utilizing the opportunities and minimizing the threats. If required, guide the participants in this exercise.
- The trainer should always remember that the people in a community feel more comfortable practicing disaster coping mechanisms and climate change adaptation techniques which they have chosen themselves, rather than attempting to adapt to choices which have been given to them by others.
- The change agents should be trained on techniques of motivation so that it will be easier for them to promote disaster preparedness and climate change adaptation at the family and community levels.
- The change agents should make their own action plans for performing their specific duties and responsibilities.
- The change agents MUST practice the mechanisms and the techniques themselves in their families and community.

Step 5

Assess Impacts of the Training

After the training course is conducted, it is necessary to assess the impact of the training, in both qualitative and quantitative terms, which can be done in several ways, e.g., community observation or discussion with the change agents and family and community members. The following aspects need to be assessed:

- Have the change agents practiced the disaster preparedness and climate change adaptation measures themselves?
- Are the change agents disseminating the information according to the needs of the people?
- Have the people been motivated to take the initiatives at the family and community levels and made the effort to keep the CBDM and CCA approach going, even after the project/programme has been phased out?
- Are the community people facing any problem in adapting the techniques and applying them at their respective family and community levels?
- Are the communities changing their attitude in becoming less dependent on external support and taking the initiative in their efforts towards disaster management and climate change adaptation?
- Are the change agents working according to their respective action plans?
- Are the change agents facing any problem in maintaining coordination with the concerned government and non-government agencies?

Step 6

Learn the Lessons

The trainers should document the process at each of the five steps mentioned above. They should identify the successes and failures, and their causes. They should continuously review the lessons learned and feed them back into the CCA cycle in planning, designing, and conducting the next courses on CCA.

CBDM and CCA Training Tools

The following framework consists of eight tools covering eight different factors for sustainability. Details are provided regarding how the tools should be used within each of the six steps outlined above. The level of importance and emphasis that should be given to different tools will depend on the need of the locality and participants, as identified by the trainer.

What to do?

Prioritize subject areas while following the six steps.

Important Issues to Consider

- Focus on communities' requirements, acceptance, and adaptation, according to their respective cultures.
- Identify important issues relating to each factor that needs to be addressed.
- Ensure that the objectives of the eight tools have been achieved through your training course.

Tool 1:
How to promote and strengthen the "culture of coping with crisis"

Concept

Communities living in disaster-prone areas for hundreds of years have developed their indigenous survival and adaptation techniques and coping mechanisms to live with disaster and climate change. Some of this knowledge is scientifically proven to be effective.

Through experience, they have identified ways of reducing the extent of damages in the case of disaster and adapting to the ongoing impacts of a changing climate. This knowledge has been passed on from generation to generation. When families and members of certain communities have been practicing these procedures for years, they naturally accept these ways as a part of their respective cultures.

Objectives

- Assessment of the coping culture in terms of reduction of vulnerabilities, disaster preparedness, and response management, and climate change adaptation methods.
- Promotion and practice of respective coping cultures by the people to reduce the extent of damage caused by disasters and adapt to climate change.

Step 1

Geographical location and physical condition of the area that is disaster- prone

Situational analysis should consider:

- Existence of survival and adaptation techniques and coping mechanisms in that area;
- Disaster history and the extent of damage as a result of recent disasters;
- People's indigenous knowledge for predicting disasters;
- Community's perception of their vulnerabilities and capacities;
- Existence of any kind of coping culture in that particular area that is being practiced by the community and has been passed on from generation to generation;
- Examples of success and failure of indigenous coping mechanisms; and

- Possibility of promoting positive examples within the community.

Step 2

Practice of "culture of coping with crisis"

When identifying the local resources:

- The existing coping culture should be integrated into the CBDM and CCA SWOT analysis.

The trainer should also consider.

- Application of these practices at the family and community levels.
- Existing coping culture based on scientific approaches.
- Scope for strengthening and promoting coping culture through local resources in CBDM and CCA activities.

Step 3

Design the training course ensuring full participation

- Consider availability of local resources that will be relevant to the training course.
- Study the SWOT analysis of coping culture, and plan the sessions accordingly.
- Maintain involvement of participants through group exercises or discussions on how to strengthen and promote the existing coping culture.
- Keep in mind the problems that may arise, and plan the session so that participants can find ways to solve them.
- Provide scope for the participants to come up with ideas on how to improve the situation.

Step 4

Assess their level of knowledge

When conducting the training course:

- Use their knowledge and experience for promoting coping culture in CBDM and CCA projects.
- SWOT analysis with the participants on the example (if any) is required to assess its effectiveness.
- What innovative measures can be taken for strengthening their coping culture?
- What approach can the participants take in disseminating the information and motivating people to ensure the practice of coping culture by the community?
- Ensure that the change agents disseminate accurate information to the people at the family and community levels.

Step 5

Assess training impact on quarterly or mid-term basis during project implementation

- Are the people in the community well informed about the benefits of coping culture?
- Have they accepted the coping techniques and put them into practice?
- Do they value it as being useful in reducing their vulnerability?

Step 6

It is necessary to reflect on the lessons learned during the promotion of coping culture

- Ensure evaluation at the end of project period or after the project is phased out.

- The findings from the evaluation can be more useful if a disaster strikes during this period.
- Did the technique minimize the damages caused by disasters and assist in climate resilience?
- Did they face any problems with this procedure in terms of their culture?
- Were the change agents successful in motivating the community people with regard to behavioural change?
- What is the scope for reviewing the technique and making it more effective?

Tool 2:
How to enable local people to make the right choices for reducing their vulnerabilities

Concept

People living in disaster-prone areas have their own perceptions about the nature and extent of vulnerabilities. This assessment of vulnerabilities is complex and varies according to disasters and climate change impacts experienced by the respective communities. People have identified many underdevelopment causes responsible for their vulnerabilities. These include poverty, lack of access to resources, landlessness, lack of education, societal pressures, inequity, and lack of proper health facilities.

Some countries put emphasis on livestock as their main sources of livelihood while others cite inadequate food production and negligence in improving socioeconomic conditions by the respective governments. Vulnerability is focused on for physical structures by a few countries. Through CBDM and CCA, it is necessary to involve the people in at-risk areas in assessing their own vulnerabilities and empower them to make the right choices for damage reduction by adopting adaptation techniques.

Objectives

- Identifying local people's perception and assessments of their vulnerabilities related to disasters and climate change.
- Considering the cause of their perceptions and assessment.
- Enabling them to make the right choices according to their needs to reduce vulnerabilities.

Step 1
Situation analysis of the main causes of vulnerabilities

- How do the people perceive that they are vulnerable to disasters and climate change?
- What are the causes they have identified and given priority to for their vulnerabilities?
- How do they assess their vulnerabilities (extent of damages due to their vulnerabilities)? What expectations do the people have of the organization promoting CBDM and CCA?
- Are there any examples of extreme vulnerability that have been responsible for severe damage (loss of life and property) during recent disasters?

Step 2
Identification of resources, which provide structural support and promotion of CBDM and CCA through non-structural initiatives

- What structural measures are the people giving priority to (buildings, hospitals, bridges, dams, etc.)?

- Availability of local resources that can reduce vulnerabilities through structural measures (local government, municipality, private sector, development organizations, etc.).
- What are their preferences in making choices?
- Application of non-structural measures at the family and community levels.
- Are any development organizations already operating in promotion of non-structural measures? Are they meeting the needs of the people in vulnerability reduction?
- Scope for strengthening and promoting non-structural measures through CBDM and CCA activities.

Step 3

Design the training courses according to people's perceptions of vulnerability and their preference of choices

- Make a SWOT analysis of the existing structural and non-structural measures taken to reduce vulnerabilities and plan the sessions.
- Ensure that participants make the right choices according to their local contexts and needs.
- Keep in mind the available resources and guide the participants in giving priority to their choices for vulnerability reduction.

Step 4

While conducting the sessions, assess their level of perception of vulnerability choices they make according to their priorities

- Look at the SWOT analysis of the structural and non-structural measures. What do the participants prefer? Is there a possibility of the existing resources being strengthened to be accepted by the people for vulnerability reduction?
- Give priority to ensuring sustainability of the CBDM and CCA approach by following the six principles.
- Spell out clearly the negative long- term impact of dependence on aid from the outside.
- Arrange field visits, and let the participants see for themselves and assess the situation to make the right choices.
- What approach can the participants take in spreading awareness and motivating people in making the right choices according to their priorities?

Step 5

Assess the training impact on a quarterly or mid-term basis during project implementation

- Are the people of the community well informed of available resources that are provided for their prioritized vulnerability reduction measures?
- Are they satisfied with the services provided to address their needs in terms of structural and non-structural measures?
- Which measures do they value as being useful in reducing their vulnerabilities?
- Are the structural measures making them more dependent on external resources?
- Is the CBDM and CCA approach changing their attitude in enabling them to build up their capacity to take the initiative to reduce their vulnerabilities?

Step 6

It is necessary to reflect on the lessons learned regarding whether or not the community has made the right choices. Ensure evaluation at the end of the project period or after the project has been phased out

- Did the choices the community make minimize their vulnerability to disasters and climate change?
- Did they face any problems with the choices they made in terms of their culture?
- Were the change agents successful in motivating the community with regard to behavioural change?
- What is the scope for reviewing the choices and enhancing the community for sustainable development through vulnerability reduction?

Tool 3:
How to ensure effective motivation and choice

Concept

Motivation is required to encourage the people to understand their situation and change their attitude towards accepting that situation, and adjusting and responding to it. Through motivation, it is possible to develop people's self confidence in taking the initiative at the family and community levels in efforts to cope with disasters and climate change. The ranges of motivation for the initiation and sustainability of CBDM and CCA are subjective in nature, based on perceptions and choices that the community and supporting agencies make. These may include targeting the underlying causes of vulnerability through a broader development effort, reducing people's dependency on outside assistance through community-based disaster preparedness and climate change adaptation interventions, and targeting the most vulnerable. This approach needs the active participation of the community and support from local governments and social organizations. It is very important that disaster preparedness and climate change adaptation start from the grass roots where individuals and the community should be empowered to face the challenges of disasters and climate change.

Objectives

- Mobilization of volunteers and change agents at the community level.
- Active participation of the people through preparedness actions at the family and community levels instead of being dependent on external assistance.
- Involvement of local government, civil society, and development agencies to minimize damage caused by disasters.
- Motivation also increases efficiency of the agency in the delivery of its services.

Step 1
Know the purpose of motivation for CBDM and CCA initiation

When analysing the situation, the following should be considered:
- Are the people's perceptions and choices to reduce vulnerability given due priority while initiating CBDM and CCA approaches that are suitable for that particular community?
- What steps are being taken to motivate people to be less dependent on external help?

Step 2
Identify existing CBDM and CCA initiatives

- Initiation of CBDM and CCA approaches should be needs-based and suitable for the community.
- To what extent are the existing CBDM and CCA initiatives, if any, reducing the people's vulnerability?
- Are they mobilizing people at the local level and ensuring their participation during

CBDM and CCA functioning?

- Are the government and non-government agencies providing support according to needs of the community?
- Are any measures being taken to improve the socioeconomic conditions of the people at risk?

Step 3

Design the training according to CBDM and CCA approaches that are suitable for that particular community

The training should be designed around a programme which:

- Addresses the underlying causes of vulnerability through a broader development effort for reducing people's dependency on outside assistance.
- Mobilizes volunteers and targets the most vulnerable.
- Increases preparedness of the community in a manner which complements civil society and local government response to impacts of disasters.
- Protects and ensures positive socioeconomic development.
- Reduces deaths and massive destruction of property.

Step 4

While conducting the sessions, assess the level of understanding of the people and how they are relating to the CBDM and CCA approach with regard to vulnerability reduction

The trainer should include in the workshop:

- An explanation of the importance of motivation in relation to its purpose;
- A SWOT analysis of existing CBDM and CCA approaches;
- Finding ways to strengthen the CBDM and CCA approaches that will ensure vulnerability reduction;
- Emphasis on mobilization and community participation to ensure effective CBDM and CCA programmes; and
- Consideration of what approach the participants can take in spreading awareness and motivating people in making the right choices according to their priorities.

Step 5

Assess the impact of the training on the participants in relation to motivation of the community

Impact assessment should attempt to answer the following questions:

- Are the people motivated to make their own choices in initiating CBDM and CCA approaches for vulnerability reduction?
- Are the people motivated to accept full community participation during the planning and functioning of CBDM and CCA initiatives?
- Are the people getting external assistance for sustaining the CBDM and CBCCA initiatives?
- Are the CBDM and CCA approaches changing their attitude by enabling them to build up their capacity to take the initiative at the family and community levels and reducing their dependence on external help?

Step 6

It is necessary to reflect on the lessons learned while motivating the community to accept the CBDM and CCA approaches

The following questions will assist in identifying lessons to be learned about motivating the community:

- Did they face any problems with the CBDM and CCA choices they made in terms of their respective cultures?
- Are the change agents successful in motivating the community with regard to behavioural change?
- What is the scope for reviewing the motivating techniques in motivating the community towards achieving sustainable development through the CBDM and CCA approaches?
- Have the extremely vulnerable groups been targeted and have they benefited?

Tool 4:
How to ensure participation and empowerment

Concept

Community participation and empowerment are essential components that foster a feeling of continued community ownership and sense of responsibility for sustainable CBDM and CCA projects. Application of a participatory rural appraisal (PRA) method encourages a community to participate in analysing and identifying their vulnerability to disasters and taking measures on their own to solve problems by using available resources. It encourages people to form their own disaster management committee and empowers them in identifying and assessing existing potential resources that are vital for mitigating the adverse impacts of disasters. These include activating coordination with local government departments and social organizations, involving stakeholders to heighten public awareness, linking of local council with government authorities, etc. Action planning, which leads to clear articulation of a community's felt needs in a practical, budgeted, and time-bound framework, should be promoted.

Objectives

- Ensure active participation of the people for preparedness at the family and community levels to cope with disasters and climate change.
- Build confidence to become a self-help group and less dependent on external assistance.
- Empower people at the local level to identify and make use of potential resources in disaster management.

Step 1
Find out the status of community participation and empowerment

Situational analysis should examine the following:

- Do the people understand that community participation is vital for combating disasters?
- To what extent did the people participate in community decision making before initiation of CBDM and CCA? How?
- Are they willing to participate in taking initiatives at the community level to cope with disasters?
- Do they believe that equal and full participation will lead to their empowerment and reduce vulnerability and dependence on outside assistance?

Step 2

Identify existing CBDM and CCA initiatives and extent of community participation and empowerment in the process

In identifying local resources, the trainer should ask the following questions:

- Are the existing CBDM and CCA projects ensuring community participation and empowerment during the process of formation and functioning?
- To what extent are the people participating to make CBDM and CCA initiatives effective?
- Have the people been empowered through equal participation?
- What measures are being taken to mobilize people and empower them to cope with disasters at the local level?
- Are the government and non-government agencies providing support according to the community's needs?
- Are any measures being taken to improve socioeconomic conditions?

Step 3

Design the training according to CBDM and CCA approaches that will ensure equal participation and empowerment of the people at the community level

When designing the training:

- Retain scope to ensure active participation by the participants so that they understand the value of participation and empowerment in solving problems at the community level.
- Define their respective roles and responsibilities according to requirements that will enable them to make decisions and take action.
- Focus on the benefits of resource mobilization at the local level.

Step 4

While conducting the sessions, put emphasis on the value of community participation and empowerment for successfully implementing CBDM and CCA approaches

- Use methodologies such as grouping exercise and role-playing, etc., so that trainees are convinced that they can be empowered to reduce vulnerability to disasters if they work together.
- Explain the importance of community participation and empowerment to make CBDM and CCA projects effective.
- Discuss the various motivation techniques to mobilize people at the local level to participate in a disaster management committee when it is formed.
- Make them understand their respective roles and responsibilities and provide scope to conduct a review according to their needs.
- Ensure that they are now confident about their respective roles and responsibilities which will enable them to make decisions and take action at the family and community levels.
- Explain the necessity of empowerment to identify potential resources at the local level and make use of those resources to reduce their vulnerability.
- Encourage them to identify potential resources in the community and what support services they can expect from them.
- Throughout the session, ensure that they are convinced that their participation and empowerment are necessary to take measures at the community level to combat disasters.

Step 5

Assess how much impact the training has created on community participation and empowerment

Impact assessment should attempt to answer the following questions:

- Are the people actively involved in the formation of the disaster management committee?
- Are they empowered to make decisions and take action?
- Are the people fulfilling their respective roles and responsibilities for effective functioning of CBDM and CCA initiatives?
- Is the empowerment enabling the community to have access to potential resources for support services that can meet their requirements?
- Have the participation and empowerment of the community reduced its vulnerability to disasters?

Step 6

It is necessary to reflect on the lessons learned and see to what extent vulnerability has been reduced through community participation and empowerment

When looking at lessons learned, it would be useful to consider the following:

- Did the participants encounter any problems during formation and functioning of CBDM and CCA initiatives?
- Was it difficult for them to perform their roles and responsibilities with regard to acceptance of their culture?
- Did they experience any kind of resistance when accessing resources for support service?
- Has the community benefited through active participation and empowerment, and to what extent?
- What is the scope for reviewing the techniques for enhancing people's participation and empowerment for sustainable development through CBDM and CCA approaches?

Tool 5:
For effective training approaches

Concept

Training is enhancing individuals'/groups'/organizations' ability to develop their full potential and contribute to the success of a specific intervention. The training approaches discussed here are for CBDM and CCA interventions. Training varies in accordance with the objectives of the project and the needs of the communities. Usually training is delivered through established organizations and institutions. Most importantly, training should be targeted to include those people who are involved in providing services relating to their respective roles and responsibilities during implementation of the project components. It is obvious that the right selection of the participants will lead to developing a sense of ownership among individuals and organizations, and encourage them to ensure sustainability of CBDM and CCA interventions. It is essential for the trainer to remember that this kind of training must be conducted through a participatory approach where full participation of the community is ensured.

Objectives

- To enhance the capacity of the people to cope with disasters before, during, and after the event, at the family and community levels.
- To change attitudes towards taking the initiative at the community and family levels, and become less dependent on external assistance.
- To form a community-based disaster and climate change adaptation management committee, and ensure effective functioning of this committee to reduce vulnerabilities
- To involve existing training institutions/organizations at the local level in the CBDM and

CCA training programmes for human resource and organizational capacity development.

Step 1

Clear knowledge of people's vulnerability to disasters while initiating CBDM training

Situational analysis should examine the following:

- Are the main causes of vulnerabilities for that particular community given due priority?
- What type of training courses have already been conducted for enhancing the capacity of the people at the community and family levels to cope with disasters and climate change?
- Appropriate selection of participants who will be trained as volunteers and change agents for effective implementation of CBDM and CCA projects.

Step 2

Identify the existing organizations or institutions which are already involved in delivering CBDM and CCA training courses

- Are the CBDM and CCA training programmes delivered by existing organizations/ institutions appropriate to the needs of the community?
- Do they follow any criteria for selection of the right type of participants for specific types of training courses?
- Is the training mobilizing people and ensuring their participation during CBDM and CCA functioning?
- Do they consider people's convenience while scheduling training programmes?
- To what extent has the existing training been able to change the attitude of the people in reducing their dependence on external aid?
- What is the scope for involving these organizations in the CBDM and CCA training programmes with regard to human resource and organizational development?

Step 3

Design the training according to CBDM and CCA approaches that are suitable for that particular community and involve existing local resources

- Conduct a SWOT analysis of existing training resources that are already providing CBDM and CCA training courses.
- Share training experience with existing organizations, and come up with new ideas to make training courses more meaningful.
- Define selection criteria for the participants to be involved in the training.
- To ensure full participation, use participatory methods, with emphasis on group discussions, group exercises, role plays, and mock demonstrations.
- Retain the scope for participants to come up with new ideas to mobilize community members for effective functioning of CBDM and CCA approaches.

Step 4

While conducting the sessions, ensure understanding of the people on the importance of training for sustainable CBDM and CCA approaches with regard to reduction of vulnerability

When conducting the workshop, the trainer should incorporate the following:

- Explanation of importance of training in relation to the vulnerabilities of that particular community.
- Significance of the participants' role and responsibility to mobilize the community to make CBDM and CCA projects sustainable.
- Call for participants to identify the weaknesses and threats that are responsible for vulnerabilities.
- Encourage participants to make their own choices to strengthen their weaknesses and avail themselves of opportunities through existing local resources that will ensure reduction of vulnerabilities.

Step 5

Assess the impact of training on community participation with regard to formation and effective functioning of CBDM and CCA components

To assess the effectiveness of the training approaches, an impact assessment should attempt to answer the following questions:

- Are the volunteers and change agents well trained in disseminating CBDM- and CCA-related messages to the community?
- Has the training created enough impact to mobilize people to take the initiative at the family and community levels to cope with disasters and climate change?
- Are the people accepting the messages of the change agents?
- Are the messages motivating people to change their attitude by taking CBDM and CCA initiatives at the family and community levels?
- Has the training been effective in its use of existing training organizations/institutions at the local level?
- Has the training been able to achieve its objective with regard to human resource development and organization capacity building in accordance with CBDM and CCA approaches?

Step 6

It is necessary to reflect on the lessons learned while conducting training sessions

In order to identify the lessons learned, make a SWOT analysis of the CBDM and CCA training courses conducted in terms of the following aspects:

- Issues addressed during training: for example, were the issues selected in accordance with the needs of the community? Were they relevant to the CBDM and CCA initiatives?
- Methods and materials: Were they user-friendly and accepted by the participants?
- Extent of support in delivering CBDM and CCA training through existing organizations/institutions.
- Capacity enhancement of the people at risk: are they more capable and willing to take initiatives by putting the knowledge into practice at the family and community levels for reducing their vulnerabilities? Has their attitude changed towards learning through trial-and-error and making improvements along the way?
- Community participation: what is the scope for reviewing the training techniques in enhancing the participation of the community in sustainable development through CBDM and CCA approaches?

Tool 6:
How to successfully identify stakeholders

Concept

All projects have a wide range of stakeholders. They include beneficiary groups such

as extremely vulnerable people at-risk; service providers such as local and central government institutions, nongovernmental organizations (NGOs), health sector, educational and religious institutions, and bilateral and multilateral donor agencies. This extensive list of stakeholders indicates that for CBDM or CCA to be successful, implementers should be adept at identifying and mobilizing as many stakeholders as necessary. Efforts should be made to make formal arrangement of partnership among the stakeholders.

Objectives

- Identification of potential stakeholders at the community level, including local-level institutions and organizations and national and international agencies.
- Defined support services from the identified stakeholders.
- Formal institutional arrangements among the stakeholders to improve accountability and transparency (which is important for sustainability of CBDM and CCA).

Step 1

Clear knowledge of people's awareness of the importance and role of stakeholders

Situational analysis should examine the following:

- Are the people aware of the importance of stakeholders as support service providers?
- What types of support services do the communities expect from stakeholders to cope with disasters and climate change?
- Are there any examples of stakeholders at the village level that helped the people to a great extent during the last disaster?

Step 2

Identify stakeholders who can be, or already are, involved in CBDM and CCA initiatives at the local and national levels

When identifying local resources, look for:

- Stakeholders who are already involved in other similar projects in the area.
- Stakeholders who can provide services to structural or non-structural disaster mitigation programmes, such as school teachers, religious leaders, representatives of the local government institutions, and NGO workers who can play the role of change agents; informal and formal leaders at the village level; volunteers who can take the responsibility of warning dissemination and evacuation; villagers with specializations, e.g., people who are mobilized to protect embankments and masons who can build earthquake-resistant structures; local business sector that can come up with financial resources; and local health sector that can provide emergency health services at post-disaster emergency phase.
- Scope of involving these stakeholders in initiating and activating CBDM and CCA projects.

Step 3

While designing the training programme, keep in mind the existing stakeholders and the kind of support services they can provide in CBDM and CCA projects

- Identify the activities of the stakeholders who are involved in developmental work in the community.
- Analyse the support services provided by the respective stakeholders for implementation of those projects.
- Make selection criteria for stakeholders according to their services that can be used during formation and implementation of CBDM and CCA projects.

- Use examples of other areas/countries that can be replicated and accepted by the community you are providing the training.
- Consider the extent to which the stakeholders involved in CBDM and CCA projects of other countries have been effective in reducing vulnerabilities?
- Remember to involve stakeholders at all levels, including community level, local government, NGOs, and national and international organizations.
- Define the roles and relationships of the identified stakeholders.

Step 4

While conducting the sessions, emphasize the importance of involving as many stakeholders as possible for sustainable CBDM and CCA initiatives

- Assess participants' understanding of the importance of stakeholders in relation to the type of support services they can provide to CBDM and CCA projects.
- Give examples of stakeholders of other areas/countries and their support services in CBDM and CCA projects.
- Ask participants to identify as many potential stakeholders as they can, and the type of support they expect from the identified stakeholders.
- Encourage participants to define the role and relationship of stakeholders for sustainable CBDM and CCA approaches.
- Encourage participants to replicate examples from other areas/countries according to the needs of their community for coping with disasters and climate change.
- Give importance to stakeholders at all levels that can provide different types of services needed for sustainable CBDM and CCA.
- Explain the process of mobilizing stakeholders during initiation of CBDM and CCA projects and in times of responding to emergencies.
- Explain the role of formal institutional arrangements among stakeholders in improving accountability and transparency, which is important for sustaining CBDM and CCA approach.
- Remember that the participants must be comfortable with their accessibility to the stakeholders. Guide them in using this channel for accessing their services.

Step 5

Assess involvement of stakeholders with regard to formation and functioning of CBDM and CCA activities

Impact assessment should examine the following:

- How many stakeholders have been involved in CBDM and CCA initiatives and at what levels?
- Are the support services of the stakeholders effective enough for smooth implementation of CBDM and CCA projects?
- Are the stakeholders playing their respective roles in reducing vulnerabilities of the people at-risk?
- Are there any initiatives being taken for formal institutional arrangements among stakeholders to improve accountability and transparency?

Step 6

It is necessary to reflect on lessons learned with regard to involvement of stakeholders in CBDM projects

The following questions will be useful in identifying lessons learned in relation to stakeholder engagement:

- Did the community face any problems accessing services of stakeholders?

- Which stakeholder, and at what level, played the most effective role in reducing vulnerability of the people at-risk in CBDM and CCA projects?
- Which stakeholder responded to the emergency according to the needs of the community during disasters?
- Have the stakeholders' services made the community more dependent on them or have the stakeholders been able to bring a positive behavioural change within the community?
- What is the scope for defining the role of the stakeholders and making better selection criteria that will enhance the community for sustainable CBDM and CCA approaches?

Tool 7:
How to develop community assets

Concept

CBDM and CCA projects should promote both tangible and intangible accumulation of physical, technological, and economic assets to reduce vulnerabilities. Most of the case studies conducted by UNCRD have identified tangible assets in the form of:

- Village contingency funds and availability of credit for income-generating activities.
- Micro-solutions, small- and medium-scale infrastructure projects that reduce the impact of hazards.
- Equipment and material for shelters, latrines, water supply, warning dissemination, and rescue and evacuation facilities.
- Intangible "assets" such as technology in disaster-resistant construction and access to information centres have also been identified.

Objectives

- Mobilization to influence potential stakeholders at the community level for development of village contingency funds and availability of credit for income-generating activities.
- Identification of micro-solutions, small- and medium-scale infrastructure projects at the local level, and ensuring their contribution to the reduction of the impact of hazards.
- Ensuring provision of latrines, water supply, warning dissemination systems, and rescue and evacuation facilities.
- Advocacy for technology in disaster-resistant construction and access to information centres.

Step 1

Know current situation of people's understanding of community assets development to cope with disasters and climate change

Situational analysis should examine the following:

- What is the people's understanding of community assets development in minimizing their vulnerabilities to disaster?
- What type of tangible and intangible assets could be accumulated to meet the communities' need to cope with disasters and climate change?

Step 2

Identify stakeholders who can be, or are already involved in, community assets

development

When identifying the available local resources, consider:

- What is the present situation of the stakeholders' contribution to community assets development?
- Which area are they giving priority to: tangible or intangible components?
- In what forms are the tangible and intangible assets used?
- Are they meeting the needs of the community according to the CBDM and CCA initiatives in that particular community?
- What is the scope for involving and influencing other potential stakeholders in community assets development?

Step 3

While designing the training programme, focus on needs-based community assets development in accordance with CBDM and CCA approaches

- Analyse the community assets development programme carried out by local stakeholders in terms of reduction of vulnerabilities.
- Which forms of physical, technological, and economic assets are preferred by the community?
- What is the extent of the local people's contribution to community assets development?
- Use examples of community assets development from other areas/countries that can be replicated in that particular area to cope with disasters and climate change.
- Give importance to community assets development that will result in improved socioeconomic conditions.

Step 4

While conducting the sessions, underline community assets development for reduction of vulnerabilities that will lead to improved socioeconomic conditions of the community

- Assess the participants' insight into the value of community assets development for coping with disasters and climate change.
- Explain the benefits of accumulation of tangible and intangible assets for reduction of vulnerabilities.
- Place importance on the participants' preferences for the kind of tangible and intangible assets to be developed.
- Encourage the participants to identify different forms of tangible and intangible assets that will be effective in the community and compatible with the CBDM and CCA approaches in that particular area.
- Give examples of other areas/countries and ask participants to identify those that will meet their needs.

Step 5

Assess the impact of community assets development on reduction of vulnerabilities

An impact assessment should attempt to answer the following questions:

- Which tangible and intangible assets accumulated seem to be more accepted by the community for reducing their vulnerability?(Assess the use and effectiveness of various forms of tangible and intangible assets by the respective stakeholders)
- To what extent are the people convinced about community assets development for reduction of vulnerabilities?
- What is the present status of community participation with a positive attitude in this regard?

Step 6

It is necessary to reflect on lessons learned through community assets development processes through CBDM and CCA projects

When identifying lessons learned, the following considerations will be useful:

- Did the people make the right choice during community assets development for reducing their vulnerabilities?
- Were they able to replicate any examples from other areas/countries and was it effective?
- Did they face any problems with stakeholders who provided services during community assets development?
- Did the CBDM and CCA approaches achieve their objectives in terms of improved socioeconomic conditions of the community by enhancing members' ability to cope with disasters and adverse climatic conditions?
- Are there other suggestions from the people that can be included in community assets development that would be more effective in formulating a sustainable approach to cope with disasters at the grass-roots level?

Tool 8: How to mainstream and legalize CBDM and CCA projects

Concept

It is logical to promote community assets development as one of the most important factors of CBDM and CCA initiatives by mainstreaming it into regular development planning and budgeting processes. Through incorporating vulnerability assessment and reduction processes into the regular development programme, CBDM and CCA projects can be given a legal basis. This process will definitely ensure continuation of disaster management techniques practiced by the people at the grass-roots level. There are several examples, identified in the case studies, which demonstrate that this is applicable and achievable.

Objectives

- To mainstream CBDM and CCA projects into regular development planning and budgeting processes to ensure sustainability.
- To legalize CBDM and CCA initiatives through incorporating vulnerability assessment and reduction processes into government development projects.
- To ensure continuation of disaster-coping techniques at the grass-roots level by people at-risk through behavioural change communication.

Step 1

Find out the current status of CBDM and CCA initiatives

Situational analysis should examine:

- How CBDM and CCA initiatives (if any) are formed and to what extent are they functioning for coping with disasters and climate change?
- How much is the government involved in existing CBDM and CCA initiatives?
- What is the scope for sensitizing the government?

Step 2

Identify local government authorities who can be mobilized to make CBDM and CCA legal

- According to the magnitude of damage in terms of loss of life and property, and type of disaster, identify local government authorities who can provide assistance through responding during an emergency.
- Consider the scope for involving and influencing local government authorities to make CBDM and CCA projects sustainable.

Step 3

While designing the training programme, focus on what needs to be done for legislation of CBDM and CCA projects

- Analyse the attitude of the local government authorities with regard to CBDM and CCA projects.
- Look at the scope for legalizing CBDM and CCA projects.
- Determine the view of the local people regarding legalizing CBDM and CCA initiatives.
- Use examples of other countries, such as Nepal, India, and the Philippines, on CBDM and CCA legislation and the benefits that can be replicated in that particular area to cope with disasters and climate change.

Step 4

While conducting the sessions, give importance to the legislation of CBDM and CCA approaches. Emphasize its role in ensuring positive behavioural change of the community in coping with disasters and climate change and explain the benefits of legislation of CBDM and CCA approaches

- Encourage the participants to come up with ideas as to how CBDM and CCA can be integrated into regular development planning and budgeting in government structure (participants from government departments can give important inputs during this procedure).
- Discuss with the participants the scope for incorporating vulnerability assessment and reduction into government development projects (participants from government departments can give important inputs during this procedure).
- Emphasize throughout the session that CBDM and CCA legislation will ensure positive behavioural change among the community with regard to coping with disasters and climate change.

Step 5

Has CBDM and CCA been mainstreamed and legislation been effective in terms of reducing vulnerabilities and responding to crises over time?

Impact assessment should attempt to answer the following questions:

- To what level have CBDM and CCA initiatives been mainstreamed within the broader development programme planning and budgeting?
- To what extent has the CBDM and CCA legislation been effective in meeting the needs of the community in coping with disasters and climate change?
- Has the legislated CBDM and CCA been effective during times of disaster?

Step 6

It is necessary to reflect on the lessons learned through legislation of CBDM and CCA projects

- Consider whether the legislation of CBDM and CCA initiatives met the objectives in terms of continuation of disaster-coping techniques by the community and reducing their vulnerabilities.
- Make a SWOT analysis of legalized CBDM and CCA projects, and identify areas that can be strengthened and threats to be countered with possible available opportunities.

Tools for Community Workers

TOOLS FOR COMMUNITY WORKERS

Who are Community Workers?

A community worker can be someone from 'within' the community, or could also be literally from 'outside' the community, but working closely with it. However, in the context of a tool, it means that the community worker has been through disaster experiences, emotions, hazards, coping mechanisms, and uncertainties like other members of the community. Or, like the rest in his/her community, is potentially at-risk vis-à-vis a natural calamity.

A community worker is not an individual pursuing an individualistic agenda. S/he is always part of a team – often a team engaged in developmental action with the community; and is perhaps working on Community Based Disaster Management (CBDM) and Climate Change Adaptation (CCA) not as an isolated concern, but as a part of the overall developmental goal. A community worker is someone:

- Who is willing to champion the cause of risk reduction and management from within the community and is slightly better positioned, by way of abilities, knowledge, attitude, and access to resources, compared to most within the community;
- Who believes s/he can change the situation for himself or herself and the rest of the community, and therefore potentially carries a strong positive self-interest, which extends to the collective interests of the community;
- Who represents the socioeconomic cultural psyche of the community; and
- Who is preferably chosen and created by the community, and is also made most accountable to the community in terms of how s/he creates a change process within them.

A community worker undertaking risk reduction and management as well as climate change adaptation work within the community faces perhaps the maximum pressure and expectations from the community – as well as from the external change agents, be they the implementing NGOs, donors, or the State. Under the combined pressure of both, the community worker may often compromise on basic planning processes; or may be compelled to achieve activity targets quickly, and thus short circuit the necessary stages that go into preparing a community for future disasters and impacts of climate change.

This tool has been developed, keeping in mind the special status of a community worker – the people who are expected to translate into action the many complex principles and processes that go behind sustainable community-based disaster risk reduction and management and climate change adaptation. However, community workers are governed by their socio-cultural contexts and this guideline, too, has to be adapted to the many different contexts in which it will perhaps be used. It is, therefore, not to be used as a prescriptive tool – but more as a flexible planning aid. And like all guidelines, its usefulness will lie in the creativity and initiative of the community worker, the team with which s/he works, and the accompanying organizations/institutions.

Lessons for Community Workers

Of relevance to the community worker are the case study experiences among countries, societies, and communities, which have clearly demonstrated the following issues.

1. Identifying the various formal and informal stakeholders, and coordinating, mobilizing, and involving them at each stage of CBDM and CCA, makes them more sustainable.

2. Enabling the community to recognize and enhance its perception of their vulnerability and their coping mechanism takes CBDM and CCA to a more sustainable direction.

3. Building upon communities' local knowledge regarding hazardous conditions, comprehending disasters and climate change adaptation from their point of view and strengthening traditional coping mechanisms increase people's participation, and makes CBDM and CCA more sustainable.

4. Institutionalizing community mechanisms and strengthening local community organizations increase the social capital of the region and inherently strengthens the community in coping, recovering, and moving on a long-term developmental path.

5. Creating a continuous process of participatory learning, action, and reflection leads to a better integration of past mistakes, and future strategies – very important in disaster situations.

6. Ensuring equity, thereby increasing the combined and collective ability to extend mutual benefits to fulfill mutual needs; and thus again increasing social capital.

7. Integrating disaster recovery and climate change adaptation mechanisms with developmental objectives and programmes makes the community a more sustainable community.

8. Strengthening the livelihoods and activities aimed at generating income makes CBDM and CCA more economically sustainable.

9. Increasing the tangible and intangible asset base of the community and infrastructure facilities make the community less vulnerable to physical losses and damage.

10. Capacity building of the community undertaken continuously refreshes the abilities and skills of the community through time, keeping it alert and prepared to respond to any calamity.

11. Creation of finance sources within the community, such as a contingency fund, empowers the community's ability to sustain a CBDM and CCA campaign, while reducing external dependencies.

Translating Lessons into Actions

The above issues are considered to be, to a large extent, in the control of community workers. It is necessary to develop the ability to address the above issues with the help of training institutions and, if necessary, external change agents and to translate these issues and lessons into actions.

It is believed that when experiential issues, such as those stated above, are understood in context, adapted, and replicated, the probability of sustainable CBDM and CCA is higher. However, until the community worker, as the primary change agent, knows how to identify and mobilize stakeholders, ensure equity, integrate disaster/climate change impact and development in routine activities, initiate participatory learning, and revive traditional knowledge and wisdom in a disaster/climate change context, CBDM and CCA cannot be

sustainable.

This section will attempt to suggest possible ways and methods by which a community worker can begin initiating some of the key steps identified above, which can lead towards implementing sustainable CBDM and CCA.

Tool 1:
How community workers can identify, involve, and coordinate stakeholders

- First of all, it is necessary to define the community with which to work in. Is it the most vulnerable economically or socially? Is it chosen because it has to spearhead the process of CBDM/CCA for a larger community? Is it in a location which is at highest risk? Is it critically affected by climate change?

- A stakeholder is the one who is specifically impacted by the disaster and/or impacts of climate change, and/or has a potentially significant role to play in reducing risks of the disaster or adaptation mechanisms within the community.

- Classify the who are the internal (within the community) and external (outside the community) stakeholders are in the target community.

- Identify, for instance, individuals at maximum risk in terms of climate change impact; individuals who are traditionally the first responders in a disaster like individuals who carry specific skills, which can contribute to prevention, mitigation, relief or recovery and survival skills.

- Identify stakeholders in the different stages of the CBDM/CCA cycle. Who, for example, are the stakeholders during mitigation, during management, etc.?

- Need to do extensive area profiling (baseline), including available resources to learn about the social and political dynamics to avoid disempowerment.

- Assess, with the stakeholders, the impact of disasters and climate change. Listen to their interpretation of the impact on the larger community and their own assessment as to how they specifically can help reduce the risks and plan for adaptation. This exercise will give an assessment of the stakeholders' attitudes, opinions, knowledge, and skills in relation to coping with disasters and climate change impacts.

- At the onset, convenience of the community should be seriously considered. Right location, timing, and language during meetings/activities should be culturally and gender appropriate to community needs. This would ensure sustained participation. Therefore, guarantee involvement of stakeholders in all CBDM and CCA stages and decision-making processes.

- Every community must be made to identify a specific role and responsibilities, which they are willing to shoulder, within the activity and action plan. This enhances the stakeholder groups' perception of their own value and abilities.

- Identify and prioritize climate risks and potential adaptation options and strategy by involving

all stakeholders, including vulnerable men and women, through a participatory process.

- Partner with existing government structure to facilitate the process.

Tool 2:
How to enhance a community's perception on its vulnerabilities and coping mechanisms

- It would be helpful to first initiate a collective understanding of the community, on what they consider a disaster and a climate change impact.

- Define the community's understanding of climate risk and identify specific risks by assessing the impacts through a systematic process involving the community.

- It does not help to have a preconceived notion of what constitutes a disaster for any given community. While the more frequent natural calamities would be the focal point for CBDM and CCA, remember that there are many less known, less publicized disasters which make communities increasingly vulnerable, and reduce their coping mechanism against large disasters.

- Undertake a participatory risk assessment process which would comprise a situational analysis, hazard mapping, risk mapping and, equally important, opportunity mapping.

- Use existing technical maps such as cadastral maps as base maps to facilitate a more accurate representation of the community, and thus acquire critical information. Use participatory rapid appraisal (PRA) tools such as timeline, problem tree analysis, crunch model historical maps, PCVA, economic and household analysis, transect walk, stakeholder mapping, seasonal calendar, and venn diagram to complement information gathered so that risk assessment results can be further strengthened.

- Participatory risk assessment tools used in CBDM can be used in the CCA process. Include climate-related terms and terminologies in the assessment tools to know the risks, impacts, and adaptation opportunities for climate change.

- It helps to assess how the community behaves in a crisis. Every disaster creates a crisis, but every crisis is not a disaster. However, community behaviour, attitudes, and cohesive strength resource base can sometimes more easily be assessed during a crisis. Increased abilities to deal with crises often suggest a decrease in vulnerability, and vice-versa. An epidemic or an accident, even a pest attack is an example of a crisis which might have put the community at economic, social, or physical risk.

- With climate change, assessments within timelines are important. A good time-span would be thirty years. Local knowledge and expectation can complement scientific projections for climate change impact.

- Awareness raising on emerging hazards due to climate change is critical to ensure informed decisions from the community. This can be complemented with training and other capacity-strengthening activities that would build on the information gathered through PRA.

Tool 3:
How to complement traditional wisdom and scientific knowledge

- As the community worker, you would have been witness to or benefited from local traditional coping mechanisms. First, go back and examine personal history; identify incidents, dialogues, and observations, and list them, because it is important that, first of all, you attach a value to traditional wisdom.

- If a value is attached to these systems, it is possible to generate pride and faith in the dialogues with the community. And it is possible to arrive at a full list of ways and means in which the community managed some phases of a particular disaster on their own.

- The coping mechanisms could be structural, e.g., types of houses, which have evolved over the years to counter earthquakes or roofing to counter cyclones or raised housing to counter rising sea levels. They must be listed separately as they represent traditional wisdom, skills, and innovations. Less visible are the non-structural mechanisms of coping, such as grief management.

- Assess the cost-effectiveness of traditional systems, alongside modern, technologically more advanced coping systems, structures, and processes. Economic analysis helps the community decide on its options.

- A conscious effort to revive local traditional wisdom is warranted. The local knowledge and practices on adaptation should be documented through participant observation methodology and through prescribed tools of identifying coping mechanisms in climate change adaptation. These could also be facilitated by creating a venue/platform for sharing indigenous practices on CBDM/CCA.

- Assess the reasons why such systems have failed, gone out of use, or vanished. Have they been rejected by society? Or were they overwhelmed by the introduction of more aggressive newer systems by external change agents.

- Use local resources such as DM and CCA funds to strengthen local coping mechanisms.

- Developing a contingency plan with the community often empowers the community to revive mechanisms and systems, in which it has greater faith. These options must be explored.

- A time-tested, popular, sustainable, but low-key traditional system must be highlighted extensively. The community worker must bring these to the notice of all external support agencies and institutions, and contribute towards getting them legitimized by the State. This is particularly true of traditional structural features – be they engineering structures, mechanical applications, or natural resource management systems.

Tool 4:
How to contribute towards strengthening and legitimizing community organizations

- Identify, along with the community, all the existing, functional community organizations, whether they are economic bodies, cultural organizations, youth clubs, social groupings, developmental agencies, semi-government partners, women's groups or even traditional law dispensing mechanisms, such as people's courts.

- Active participation of existing community organizations in platforms that offers participation and governance (e.g., village development councils, general assembly).

- Create, along with the community, a credibility circle, which can place each identified organization on varying scales of credibility, as perceived by the community. They would be assessed on varying parameters – effectiveness in normal times, in disasters, responsiveness, capable membership, self-sustaining, fair, partisan, well-managed, consistent, etc.

- This review will facilitate and assess whether there are groups or organizations which should be strengthened in view of their credibility, together with what the capacity-building needs are, and who should constitute the stakeholders.

- In the absence of strong, credible local organizations which can take the CBDM/CCA processes ahead, you would have to develop and nurture a team from within the community. This begins by forming a committee.

- Formation of committees, as a legitimized, organized body for CBDM/CCA, is an activity you are expected to engage in. Committee formation for CBDM/CCA should ensure that:

  (a) Even though the CBDM may focus on the most vulnerable, the committee must have a good representation from among the vulnerable, but must not be constituted of all members who are the most vulnerable. In a disaster, the committee is expected to rise out of their vulnerable situation and act for the larger community. It helps the most vulnerable to have two to four resourceful and sensitive members from among the relatively less vulnerable;
  (b) All stakeholders and different sections of the community should be represented equally in the community;
  (c) If there are existing committees for developmental purposes in the community, try not to parallel and segregate the developmental, CBDM, and CCA committees;
  (d) Ensure a lead time when all members of the committee are undertaking equal responsibilities and are mutually dependent on each other's role. Only after a certain period of active implementation of activities, should power positions in committees be assigned;
  (e) Once a committee is perceived and understood to be responsible and mature enough to handle power positions without power-politics, the process of structuring the committee into a community organization can be considered;
  (f) Develop second liners to sustain governance and leadership (e.g., train members together with leaders);
  (g) Instill good governance (transparency, accountability, and capacity) in CBDM and CCA;
  (h) Formal and informal linkages should be built with the government or non-government organizations who are closely working with CCA; and
  (i) A common platform or network is necessary among CBOs for strengthening their capacity to mainstream adaptation issues.

Tool 5:
How to generate a continuous participatory learning and action process, which can empower the community in CBDM/CCA

- The approach to participatory learning and action begins with understanding of the community's role. Remember, external change agents are participating in your CBDM/CCA. It is not the community, which is participating, that has to be consistent in order

to be sustainable. For instance, if you solicit the participation and decision making of all community representatives, then meetings have to be structured and planned, taking into consideration everyone's time and space. Holding spontaneous and ad hoc meetings in the initial stages will mean that only the more proactive and resourceful will participate.

- As a change agent of the community itself, you have to take the initiative to own up to CBDM/CCA efforts. You identify the needs, initiate the dialogue, and organize the time, place, and scale of meetings in consultation with change agents from the outside. Mentally owning up to the process will ensure physical, intellectual, and emotional participation.

- Guard against token participation, where CBDM/CCA processes tend to be ratified or undertaken with a chosen few from the community. The committee or representative bodies are the bridge between external agencies and the community. Therefore, the onus of consulting, dialoguing, and communicating with the larger community must lie with the committee or local organization. A committee is there to engage with the larger community, not to engage in exclusive dialogue with you and other change agents.

- Participatory training, exposures, study assessments, and monitoring must be undertaken continuously, until participation becomes valued within the community.

- Symbols, symbolism, and symbolic events all contribute to an environment of participation. For example, symbolic identification of all the stakeholders binds them and generates transparency as well as accountability. Designating days which are associated with CBDM /CCA processes is another common way of creating such an environment. Developing campaigns around specific and targeted mitigation or climate change adaptation measures across a region creates energy for participation.

- Non-negotiable commitment of time and even financial resources by the community towards different activities (as their contribution) ensures a constant process of enquiry and accountability within CBDM/CCA.

- Participatory learning has to be cultivated as a practice in all the developmental intervention of the community; it is only then that it will get extended in a sustainable manner, over the time, to CBDM/CCA.

- To empower local communities to adopt a participatory bottom-up approach CCA is considered the best approach. Decision making for adaptation implementation needs to be systematic and transparent and grounded in comprehensive socio-cultural, ecological, and economic assessments of vulnerabilities and coping capacity. Cost-effective and culturally appropriate technologies can enhance communities' resilience.

- Build capacity on documentation that is culturally appropriate.

- Institutionalize regular meetings, monitoring of plans and actions, updating risk assessment, and other outputs (e.g., PRA outputs).

Tool 6:
How to ensure equity

- It is essential to develop positive discrimination towards the more vulnerable and less resourceful to ensure equity. Equity has to be seen in the context of gender, class, clan or ethnic groups, and locations (for example urban-rural) and also must include people with disabilities.

- A socioeconomic assessment of the impact of disasters and climate change on different sections, during and after a disaster, would give the community a factual picture of inequity.

- Through creative role-plays and training exercises, the community must be made aware of the fact that inequity means that those more vulnerable will pull down the strength of the larger community through continuous dependency on those more resourceful, and reduce the social capital needed to fight disaster situations, while plugging inequities by reaching out to the most vulnerable first would increase the collective ability of the community to fulfill each other's needs and enhance the social capital.

- You, as a community worker, can ensure equity through various processes – in the prioritization of activities, allocation of resources for the various activities and programmes, and be the first to benefit, and become in a sense the 'first actors in CBDM'. By setting equitable norms, you also sensitize the larger community to equity issues.

- Disasters and impacts of climate change unleash a new process of development, and create many developmental opportunities for the community. Relief, recovery, and rehabilitation are all merely immediate punctuations on what is a renewed developmental path. Climate change is no exception.

- If you define development as the physical well-being of a community, as well as a community pattern of responsibility, self-reliance, and dignity, then you will first ensure that these attributes are not sacrificed in the process of rehabilitation and recovery, or

adaptation. Therefore, every activity of CBDM and CCA will be planned to ensure that it leads to the above definition of development.

- As stated in earlier tools, it is imperative to ensure participation of various stakeholders such as local governments, scientists, academia, private sector, etc., to ensure integration of development interventions in CBDM and CCA.

- Patterns of external aid, how much is required, when, for whom, and until what time, are aspects which must be reviewed minutely under CBDM and CCA. Lack of consciousness by the community on where and how it comprises its developmental goals in a disaster or impact of climate change, will lead to a repeat of the pattern in each disaster and CBDM and CCA cannot be sustained.

- Three areas of development are closely linked with disaster mitigation and climate change adaptation. These are: (a) natural resource management activities; (b) reconstruction, revitalization, and maintenance of physical infrastructure and facilities; and (c) vocational or livelihood generating training. The three areas become key developmental goals which actually lead to disaster mitigation and climate change adaptation need as well. The same three areas of natural resources, infrastructure, and livelihoods are also keys to climate change adaptation. Undertaking a participatory appraisal of all three sectors with different sections of the community and building action plans around them can create strong integration between CBDM, CCA, and developmental interventions.

- Formal education through teachers, curriculum, and children comprises a sector which becomes vulnerable to disasters and climate change impact, and yet also strengthens and makes it a medium for CBDRRM and CCA, as well as strengthens the developmental objective.

- A community's access, ability, and capacity to use developmental finances effectively with integrity, transparency, and accountability are important. Educating and enabling the community to do so, increases its ability to expend and implement in a disaster and to adapt to the more gradual impacts of climate change. It empowers them in CBDM and CCA and makes the community a more sustainable society. The lack of experience to manage and handle funds makes a community much more dependent on external factors and forces in a disaster or climate change situation, and reduces its ownership as well as participation in the long term.

- Information management and use of ICT is today widely recognized as a sector which needs to be integrated with all developmental activity – as it has proven to be empowering for the vulnerable. Strengthening this aspect and recognizing its potential role in CBDM and CCA is important. For example, introducing GIS/GPS-based techniques for mapping developmental needs as well as assessing disaster and climate risks would be immensely useful. It can not only empower the community in terms of creating an early warning system, but also increases its ability to assess the extent of risks.

Tool 8:
How to ensure multi-stakeholder participation in CBDM and CCA

- Building the capability to develop a database on the community, which would entail community profiling and data banking of every household. These would include: its changing demographics, status of physical infrastructure, facilities, socioeconomic status of households, inventory of skills, assets and resources within the community, extent of liability, status of natural resource base, larger changes in the environment and livelihood status, etc., that are needed to create an effective advocacy plan for climate risks management.

- Maintaining and updating databases may include gathering and use of secondary data such as census and previous surveys, risk assessment results, and documented good practices. Databases within the community enables both micro and macro planning – both action and policy. It helps define priorities and sharpen areas of neglect.

- The credibility of an accurate database enhances the credibility of the community worker and that of the community's representation of issues in different forums like a community assembly. Advocacy becomes effective and with the database, it becomes possible for the community to actively participate in the advocacy.

- The community should also be capacitated to be equipped with required knowledge, skills, and attitude for lobbying.

- You have to become a credible conduit for feedback from the community to organizations and the State – especially on policy issues. Which policy mechanism is effective and which is not, has to be constantly assessed within the community; and a system for reporting the impact regularly, in terms of quantitative and qualitative feedback to the State and donors/trainers/NGOs should be developed by the community worker. The "power map" can be used and the importance of a support system and partnerships should also be recognized.

- It is also very important to facilitate establishment or strengthening of a community organization that takes the lead in advocating DM and CCA initiatives.

Tool 9:
How to sustain the outcome of CBDM and CCA processes, sustain the 'spirit of anticipation,' and ensure long-term sustainability of a CCA strategy

- Physical, institutional, structural, economic, and human capacitation on CBDM and CCA is necessary for sustainability. Once the community defines what constitutes its disaster and climate risks, together with the community all the skill sets and trainings required to manage it should be identified. This is a continuous process of socializing and re-socializing.

- Capacity-building processes must address the communities' need to manage and overcome more routine hazards, even while preparing them for the 'predictable disasters'.

- Increased abilities to manage smaller community crises effectively will generate faith in the basic CBDM process. Since smaller and routine hazards/crises happen more frequently (it could even be snake bites), institutional mechanisms such as committees, structures, systems, and norms set up within the CBDM programme, will be in a constant action and learning mould. Their skills and abilities will be called upon more frequently and will get repeated opportunities to demonstrate their role, responsibility, and effectiveness.

- Create a culture of annual rewards for those who uphold CBDM and CCA principles. Extrinsic (material) rewards can be given in the form of allowances, wages, and material incentives; while intrinsic rewards can be given in the form of motivational statements, recognition, awards, etc.

- CBDM training and events must be incorporated and mainstreamed into the formal calendar and curriculum of the community and schools. You, as the community worker, must identify the right opportunities to negotiate with the community organizations and schools to create the platform for inviting creative interventions. These platforms become an opportunity for learning exchange, which can be creatively undertaken through exhibits, exchange visits among communities, sharing workshops, etc.

- To ensure continuity of practices, structural mitigation, and the like, it is necessary to develop services and enterprises around this. For example, after the initial period of awareness raising and generating a demand for cyclone-safety roof tile hooks, it is imperative that the right individuals within the community are supported to fulfill this need commercially. Creating a market and an enterprise around desirable CBDM and CCA features creates a stronger continuity and more propagators of the cause.

- Sustainability also means sustained livelihood opportunities through identification and supporting disaster-resilient and climate smart livelihoods.

- Finally, for sustainability to happen, systems must be in place. Laws supporting CBDM and CCA should be well implemented and concretized at the community level. Structures such as local disaster risk reduction and management committees are functional. Budget allocation is given for the integration of CBDM and CCA to development plans.

Tool 10:
How to ensure that capacity-building processes undertaken by trainers are effective and sustaining

- Identify stakeholders within the community who should be capacitated. Place emphasis on those who have been living in the same community for a long time and have a commitment and interest to do something for the betterment of the community. When dealing with hazard events and climate risks, it is not necessarily the position or qualification that determines the efficacy of a person; rather, it is certain personality types which play a proactive role during hazard events and climate change scenarios. Similarly, traditional skill sets need to be considered, and credibility within the community is also important.

- Ensure that the person selected for training is rooted within the community, and has strong bonding in the area and with the community. It does not help to train someone who may seem credible and capable, but is planning to immigrate out of the area. The person should demonstrate commitment, active participation, and cooperation to

community initiatives.

- Do not get confused between 'communities,' 'the vulnerable,' 'committees,' and 'cadres'. While training and consciousness raising are necessary with all the above, one must plan with the trainer as to what form of capacity building is necessary for the larger community, the most vulnerable, committee members, and specific cadres. Each is a subset of the other, and each has a specific role to play. Committees have to play a responsible decision-making role on behalf of the community. While cadres are task-oriented and focused on specific skills and requirements of the community, the most vulnerable need special developmental inputs to make them more able partners in CBDM and CCA. The community needs to be sensitized in order to be able to identify the most vulnerable, nominate committees for executing action plans, and recognize special areas for which cadres may need to be developed.

- Need for training and capacity building in CBDM and CCA must gradually come as a demand from the community, often articulated through you. Only if there is a demand, will the process be sustainable.

- Capacity-building programmes must have a balance of skill training such as masonry, first aid, carcass disposal and surveying, information and knowledge (on weather patterns, policies, resource linkages, seismic or cyclone safety, and methods of flood proofing), and perspectives (on equity, sustainability, on man-environment relationship, and community ownership). You must provide the necessary feedback, critique, and follow-up on whether the community is receiving these balanced inputs, finding it effective, and demanding more.

- The trainers, on the other hand, must demonstrate mastery of the subject matter, i.e., DRRM and CCA. S/he should be a good facilitator and be able to link with required resource persons.

- Effectiveness and sustainability of the capacity-building process can be measured through defined indicators for CBDRRM and CCA. These can include demonstration of behavioural changes, i.e., increased cooperation and contributions within the community; "zero casualty" maintained; timely reporting; quickness in road clearing; established effective garbage management system; established evacuation centres; sustained organizational functioning; defined delivery of communication and information protocols; effective dissemination of early warning system; and clear application of teamwork principles.

Tool 11:
How to develop internal contingency funding or community resources (cash and non-cash items)

- With DRRM and CCA laws in place, funds allocated to support CBDM and CCA initiatives are ensured. However, this may not be ideally true in all areas. Thus, a community contingency fund can be very helpful.

- The community contingency fund is not a one-time contribution, but an ongoing, continuous replenishment by the community.

- It is important for the fund not to be static. Even if small at the beginning, the community can begin using it for smaller CBDM and CCA initiatives. The perceived use-value of the fund by the community increases subsequent participation and contribution.

- It is important that the fund is 'generated' by the community and not 'created'. The fund can be sustained only if it is constituted by contributions from the community and not given by a donor.

- The community fund does not always begin only with cash contributions. Community members could sell old stock and scrap to generate funds. Each family could contribute grain, for example, which can be collected, sold, and converted to funds. It begins with small steps, depending on the economic level of the community.

- The fund must be contributed to by all stakeholders – big or small. This ensures equity in decision making. It also will ensure that the community is accountable to each other and is also making the main organizers accountable.

- The formation and capacity building of a responsible team/committee/council, which manages the fund on behalf of the community, is a critical area of implementation and capacity building.

- One must try to ensure the active role of women in fund management, not only because of their inherent skills of fund management (amply demonstrated in numerous developmental programmes across the world), but also because of their ability to look at community interest from the point of view of 'family' needs.

- The practice of setting up contingency funds must be inherently paralleled to a similar practice in other development activities and the household practice of savings. The community contingency fund cannot be developed in isolation. It will not be sustainable.

- Remember, idle funds attract internal conflicts. Funds must be regularly utilized for perceivable community emergencies – whether in the larger community, smaller sections or among the vulnerable.

Interventions

We have just seen the issues which emerge as areas influencing CBDM and CCA. We have also made an attempt to know what these factors entail and how to ensure that they are developed as positive and sustaining influences in CBDM and CCA. However, CBDM and CCA are part of a development process, and as in all development processes, the community worker must know when to introduce what. Each issue has its own pros and cons, and as in development, the community has to be ready to accept and internalize what you want to introduce. This means, that there is a pace to community readiness. They will differ widely in different socioeconomic and political contexts. But, however much they may vary, there will always be clear, recognizable stages of intervention in CBDM and CCA, as different factors get introduced at different stages in CBDRRM and CCA. Let us take a look at these stages.

Stages of Interventions

CBDM and CCA demand that there needs to be a timeless intervention. It is a process of re-socialization wherein a community begins with very low belief in its own ability to deal with disaster and climate risks, then gradually demonstrates resilience and the ability to cope with, and bounce back from, hazard events and adapt to the impacts of climate change. It is, however, a long journey with many stops and junctions. Through this journey, a good community worker will steer the community through various stations, determining

when to stop, when to move on, when to chug along, and when to accelerate. In six countries, the communities have experienced this journey and developed a road map. It would help to keep this road map with the community workers. Sustainability of CBDM and CCA, to underscore the point, is entirely dependent on the manner and extent of ownership, and participation of the community through the following nine stages:

1. Define the 'community' and identify the key stakeholders;

2. Undertake an assessment of the disaster and climate change impacts, risks hazards, socioeconomic-political contexts, history of disasters and climate change, and evolving coping mechanisms within the community;

3. Create belief and faith in their capacity and ability to stand up to disasters and climate change. The community is made to recognize that it has always been the first responder and adapters in hazard events and climate change impacts. With more sustained inputs, they can reduce their own vulnerabilities. In the same way, the community has been facing the ongoing impacts of climate change and they have adapted with their own initiative to ensure their survival;

4. They begin taking responsibilities, and they become responsive to specific short-term and long-term issues, needs, and requirements in the context of disasters, climate change, and development;

5. Capacity building is undertaken at different levels, in order to make the community not only responsible, but effective. Good practices of adaptation are documented and disseminated through local initiatives;

6. Norms, mechanisms, and community decision-making structures and systems are legitimized and formalized in order to nurture the 'spirit of anticipation' and make the CBDM/CCA a continuous process. Once legitimized, these practices can also be used to integrate climate risk issues into development initiatives and advocate for better adaptation through institutional mechanisms;

7. Integrating disaster mitigation and management and climate change adaptation, learning, and action with developmental needs of the community, including Integrating CBDM, CCA, and development planning, implementation, and outcomes;

8. Undertaking sustained advocacy on various issues and policies which impact upon the community, thereby creating a healthy relationship and mutual accountability between various stakeholders; and

9. Assessing the level of participation empowerment, and sustainability within CBDM/CCA through a set of indicators.

The timeline for a community worker to go through all the nine stages will vary in different contexts, and also depend on the training and experience that the worker has been through. However, in the best of situations, the process described above may take two to three years before it can be become sustainable. It is important for the community worker to commit to such a time-frame before initiating the first stage.

Key Indicators for Participation and Empowerment of the Community within CBDRRM and CCA

- Ability to manage – plan, develop, and maintain – common property resources, which include public infrastructure;
- Existence and effective management of a community fund;
- Transparent and accountable behavior vis-a-vis decisions and transactions. Ability to be accountable, and make accountable;
- Extent of people participating from all sections in key community meetings; at least 60 per cent participation;
- Regular attendance and active participation by all committee members in committee meetings;
- Increase in number of people within the community, who serve as skilled, informed or knowledgeable resource persons within the community since the start of CBDM and CCA;
- Number and nature of community norms and legislations developed by the community for ensuring the safety of that community;
- Existence and active functioning of customs or systems for generating people's contribution for developing common facilities;
- Ability to negotiate with State and execute State-owned implementation;
- Availability and access by the community to equipment and tools in case of emergencies – e.g.: cranes, cutters, trawlers, and others;
- Extent and nature of handling violation of codes and norms leading to higher risk within communities;
- Extent of women's role in decision making and management of CBDM and CCA processes;
- Level of needs assessment skills within the community;
- Extent and nature of demand for capacity building. Number of people within the community who have undergone various capacity-building processes;
- Extent of change in socioeconomic and physical status of the most vulnerable families within the community. Level of their participation in decision making and management of CBDM and CCA processes;
- Level of functioning of basic developmental services in the community, especially health, water, sanitation, and education;
- Proportion of external aid to internal contribution (or value of that contribution in terms of labor, finances, time or services); and

- Last, but not the least, the extent to which a 'community organization' has emerged and evolved, which sets its own agenda, and owns it, is a key parameter.

The challenges and difficulties that you may face in implementing or introducing the eleven issues at different stages are numerous. Much will depend on the level of development intervention that the community you work with has been exposed to. Much will also depend on the overall commitment of the implementing organization to the goals of CBDM and CCA. Many other unforeseen difficulties such as political instability; recurring hazard events within short time frames; inadequate State policies for disaster risk reduction and management and climate change adaptation; and ethnic, class, and community conflicts are potential hindrances which may be entirely outside the control of the community worker.

However, the biggest challenge to the community worker is to integrate CBDM and CCA with existing developmental goals of the community, and institutionalize CBDM and CCA processes within community organizations. The challenge will be deeper if the community is not exposed to any developmental activity. This is where the various stakeholder organizations need to assess the development status of the community first, the develop a developmental agenda, if necessary, for the area and its people, before initiating CBDM and CCA.

As we reach the end of the tools for community workers, it is suggested to all potential users that an indicator of one's empowerment as a community worker in CBDM and CCA, will be one's ability to improvise upon this tool, and create your own set of tools for sustainable CBDM and CCA.

NOTES

[1] This refers to city-, district-, and provincial-level disaster managers responsible for the implementation of local disaster initiatives. This includes city/district/province department officers and practitioners. This Guide uses the term of local government units (LGUs) for these agencies.

[2] United Nations International Strategy for Disaster Reduction (UNISDR), Inter-Agency Task Force on Disaster Reduction (IATF/DR), "On Better Terms – A Glance at Key Climate Change and Disaster Risk Reduction Concepts," p. 21 (2006) (Available at http://www.unisdr.org/eng/risk-reduction/climate-change/docs/On-better-terms.pdf; retrieved on 28 September 2010).

[3] Intergovernmental Panel on Climate Change (IPCC), "Fourth Assessment Report: Climate Change" (2007). (Available at http://www.ipcc.ch/: retrieved on 13 September 2010)

[4] United Nations Framework Convention on Climate Change, "Kyoto Protocol" (December 1997) (Available at http://unfccc.int/kyoto_protocol/items/2830.php; retrieved on 28 September 2010).

[5] Rusty Binas, *Climate Change Adaptation Manual* (The Hague: Cordaid, 2010).

[6] UNISDR, *Stockholm Policy Forum on Climate Smart Disaster Risk Management Summary Report* (2009) (Available at http://www.unisdr.org/preventionweb/files/12109 12010StockholmPolicyForumsummaryfin.pdf).

[7] James Kouzes and Barry Posner, *The Leadership Challenge*, 3rd ed. (San Francisco: Jossey-Bass, 2003).

[8] *Ibid.*

[9] David Adams and Michael Hess, "Community in Public Policy: Fad or Foundation?" *Australian Journal of Public Administration* 60 (2: 2001).

[10] Kouzes and Posner, *The Leadership Challenge*.

[11] P30,000,000 or more, but less than P40,000,000, was the average annual income during the last three calendar years.

Appendices

APPENDIX 1

Glossary of Terms

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

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

Capacity development – The process by which people, organizations, and society systematically stimulate and develop their capacities over time to achieve social and economic goals, including through improvements of knowledge, skills, systems, and institutions.

Climate change – (a) The Inter-governmental Panel on Climate Change (IPCC) defines climate change as: "a change in the state of the climate that can be identified (e.g., by using statistical tests) by changes in the mean and/or the variability of its properties, and that persists for an extended period, typically decades or longer. Climate change may be due to natural internal processes or external forcings, or to persistent anthropogenic changes in the composition of the atmosphere or in land use".
(b) The United Nations Framework Convention on Climate Change (UNFCC) defines climate change as "a change of climate which is attributed directly or indirectly to human activity that alters the composition of the global atmosphere and which is in addition to natural climate variability observed over comparable time periods".

Contingency planning – A management process that analyses specific potential events or emerging situations that might threaten society or the environment and establishes arrangements in advance to enable timely, effective and appropriate responses to such events and situations.

Coping capacity – The ability of people, organizations and systems, using available skills and resources, to face and manage adverse conditions, emergencies or disasters.

Disaster – A serious disruption of the functioning of a community or a society involving widespread human, material, economic or environmental losses and impacts, which exceeds the ability of the affected community or society to cope using its own resources.

Disaster risk – The potential disaster losses, in lives, health status, livelihoods, assets and services, which could occur to a particular community or a society over some specified future time period.

Disaster risk reduction – The concept and practice of reducing disaster risks through systematic efforts to analyse and manage the casual factors of disaster, including through reduced exposure to hazards, lessened vulnerability of people and property, wise management of land and the environment, and improved preparedness for adverse events.

Early warning system – The set of capacities needed to generate and disseminate timely and meaningful warning information to enable individuals, communities and organizations threatened by a hazard to prepare and to act appropriately and in sufficient time to reduce the possibility of harm or loss.

Hazard – A dangerous phenomenon, substance, human activity or condition that may cause loss of life, injury or other health impacts, property damage, loss of livelihoods and services, social and economic disruption, or environmental damage.

Mitigation – The lessening or limitation of the adverse impacts of hazards and related disasters.

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

Public awareness – The extent of common knowledge about disaster risks, the factors that lead to disasters and the actions that can be taken individually and collectively to reduce exposure and vulnerability to hazards.

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

Resilience – The ability of a system, community or society exposed to hazards to resist, absorb, accommodate to and recover from the effects of a hazard in a timely and efficient manner, including through the preservation and restoration of its essential basic structures and functions.

Response – The provision of emergency services and public assistance during or immediately after a disaster in order to save lives, reduce health impacts, ensure public safety and meet the basic subsistence needs of the people affected.

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

Risk assessment – A methodology to determine the nature and extent of risk by analyzing potential hazards and evaluating existing conditions of vulnerability that together could potentially harm exposed people, property, services, livelihoods and the environment on which they depend.

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

Vulnerability – The characteristics and circumstances of a community, system or asset that make it susceptible to the damaging effects of a hazard.

From the International Strategy for Disaster Reduction (ISDR), “2009 UNISDR Terminology on Disaster Risk Reduction”
(See http://www.unisdr.org/eng/library/UNISDR-terminology-2009-eng.pdf)

APPENDIX 2

Counterparts and Contributors/Experts

(In alphabetical order)

Bangladesh Disaster Preparedness Centre (BDPC) – Bangladesh
http://www.bdpc.org.bd/

Cambodian Red Cross (CRC) – Cambodia
http://www.ifrc.org/address/kh.asp

CARE Bangladesh
http://www.careinternational.org.uk/cares_work/where/bangladesh/

International Institute of Rural Reconstruction (IIRR) – Philippines
http://www.iirr.org/

Institute of Technology Bandung (ITB) – Indonesia
http://www.itb.ac.id/

Japan International Cooperation Agency (JICA) – Japan
http://www.jica.go.jp

Kutch Nav Nirman Abhiyan (KNNA)
http://www.kutchabhiyan.net/

National Society for Earthquake Technology (NSET) – Nepal
http://www.nset.org.np

Philippine National Red Cross (PNRC) – Philippines
http://www.redcross.org.ph/

Sustainable Environment and Ecological Development Society (SEEDS) – India
http://www.seedsindia.org

Tokyo University Master's Programme in Sustainable Urban Regeneration
http://www.due.t.u-tokyo.ac.jp/mps/

United Nations Centre for Regional Development (UNCRD) – Japan
Nagoya Headquarters http://www.uncrd.or.jp

APPENDIX 3

UNCRD User's Guide Contributors in the Philippines Consolidation and Validation Workshop

Organization	Name	Designation
LOCAL GOVERNMENT UNIT		
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Cavite Rescue 161	Raymond C. De Lara	Medical Officer
City Government of Makati	Cheryl Lyn E. Cagara	Social Welfare Officer
	Rabboni Saipudin	Social Welfare - DR/M
City Government of Tagaytay	Jose Clyde Yayong	OIC - TCDRRMO
Municipal Government of Bacoor	Redel John B. Dionisio	Administrator
	Richard T. Quion	Admin Officer
	Arthur O. Pila	Staff Officer
Municipal Police Station - Amadeo	PO2 Marvin A. Noveno	Asst Operation
	PO1 Sonny Boy C. Ligsay	PCP Prico
Municipal Government of Carmona	Cesar T. Manaig	Civil Security Unit Officer
	Evelyn Papa	Admin Officer IV
	Erwin D. Medina	Admin Aide II
Municipal Government of Dumanggas	Ronaldo Golez	Municipal Mayor
	Saul de Asis	OIC - MPDC / MDRRMC
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	Manuel B. Riego	Medical Officer
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Center for Disaster Preparedness	Malu F. Cagay	Managing Director

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	Maggie Rosimo	Learning Community Coordinator
	Gonzalo Servano, Jr.	Project Staff - DRR / CCA
	Luningning Belardo-Reyes	Administrative Assistant
Mahintana Foundation	Rex Charlie Teves	Project Staff
Metrobank Foundation Inc	Ariel Culala	Programme Assistant
OXFAM	Lyra Magalang	Programme Officer - DRR
Philippine Red Cross	Victor M. De Leon	NFR - ICDPP Coordinator
Philippine Rural Reconstruction Movement (PRRM)	Dr. Sharon Taylor	Asst. Director, PRRM CBIS
Pusod Inc	Ann Hazel Javier	Executive Director
Suhay Batangas	Edgardo M. Samaniego	President
	Cris Peralta	Consultant
Tanggol Kalikasan	Ipat Luna	President
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