सत्यमेव जयते

# NATIONAL DISASTER MANAGEMENT GUIDELINES
# Community-Based Disaster Risk Reduction (CBDRR)


**National Disaster Management Authority (NDMA)**
**Ministry of Home Affairs**
**Government of India**

***October 2024***

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**A publication of:**
National Disaster Management Authority (NDMA)
Ministry of Home Affairs
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NDMA Bhawan
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# Contents

# Executive Summary

Disasters are increasingly recognized as a threat to sustainable development and poverty reduction goals. Local communities, as first responders, often become a key stakeholder in all stages of disaster management. The community can be defined as a group of people that may share one or more things in common, like living in the same environment, similar disaster risk exposure or being affected by the same disaster.

Although the concept of Community Based Disaster Risk Reduction has been discussed and percolated down from global, national, state and district levels, a holistic conceptualization along with appropriate policy paradigms, for realizing the same at the community level, is a dire need with each calamity. The stakeholders, including the government and non-governmental actors, must aim at realization of the appropriate institutional mechanisms – in the preparatory stage of an identified calamity (risk understanding), during the calamity (risk or disaster management), and post calamity (disaster recovery). Involving communities in managing their own risks, along with necessary support from stakeholders, is a practical management strategy to leverage the strength of local wisdom, social leadership and collective action.

In short, CBDRR is a paradigm shift in shaping the government's policy to plan, respond and prepare the community to face disasters in a composed manner through its active involvement. The prime objective here is to reduce the impact of a disaster on the living conditions of vulnerable people. The initial step in this direction is to ensure the community's capacity to withstand the impact of a disaster, at least for the first few days, until the availability of external assistance. And the same, should be followed by long-term sustenance of its safety and livelihoods. The Civil Society Organizations as well as the elected leaders of Panchayati Raj Institutions (PRIs) and Urban Local Bodies (ULBs) can play a significant role in making the community self-reliant. People in India comprise the largest and the most readily available work-force; and it can help realize the CBDRR, through constant vigil and involvement.

The CBDRR Guidelines are a step in this direction. The guidelines lay down the fundamental principles of CBDRR, to give priority to local issues and local solutions (or answers) that address the needs of the most vulnerable people, and it is envisaged that such efforts are not only inclusive but also sustainable and innovative. Developed through a rigorous process of primary data collected and secondary studies, based on experiences of some states, the guidelines provide a comprehensive road-map for designing, implementing and monitoring CBDRR interventions.

The guidelines also draw from the current Disaster Management Institutional Framework - global and national, as the foundation for mainstreaming CBDRR approaches in sector-wise undertakings by various ministries/ departments of the government.

The document articulates the processes in CBDRR and details out steps in the direction. It also provides mechanisms on the formation and functioning of community-based institutions and elaborates the roles and responsibilities of various stakeholders in the right perspective. Besides, it gives an overview on the importance of Disaster Risk Reduction (DRR) planning, including capacity building of the community stakeholders for disaster preparedness/ response and possible sources of funding for implementation. It also provides an indicative list of structured training programmes aligned with various stages of the CBDRR process.

The overall purpose of the guidelines is to provide a practical direction to support implementation of CBDRR; and, the guidelines are aligned with nationally accepted norms and practices so that the process of CBDRR resonates with the main ingredients of the concept of disaster risk reduction. A detailed matrix on the specific roles and responsibilities of various stakeholders at different levels, including State /Local levels has been developed in alignment with the priorities laid out in the Sendai Framework for Disaster Risk Reduction (SFDRR) and India is a signatory to the same.

The document provides a framework for community engagement. Appreciating the community advantages and innovative practices, the document highlights some of the actions by the community members – especially in terms of volunteerism – and actions during different stages of disaster management while facing hazards like floods and cyclones, the frequency and intensity of which have been quite high in recent times in the country.

# Foreword

India's geo-climatic conditions and socio-economic factors make it one of the most vulnerable countries to natural disasters in the world. It is now an established fact that communities are the first responders and bear the maximum brunt of any disaster event. Taking this into cognizance, the government is reinforcing the need to encourage community level initiatives for disaster preparedness through the National Disaster Management Guidelines on Community Based Disaster Risk Reduction (CBDRR). These Guidelines aim at translating Government's commitment into practice to enhance people's participation in disaster risk reduction measures.

The Guidelines are in line with the Disaster Management (DM) Act, 2005; National Policy on Disaster Management (NPDM), 2009; Prime Minister's Ten Point Agenda on DRR, 2016; as well as National Disaster Management Plan (NDMP), 2019 and would empower communities to plan, implement programs and respond to disasters effectively. The Guidelines provide a matrix of participatory risk assessment as a strategy to be adopted at community level for ensuring participation and decision making through members of the community. A separate section has been devoted towards the Community-Based Disaster Risk Reduction Guidelines pertaining to a few common hazards.

The Guidelines outline the roles and responsibilities of stakeholders and provide a framework for community-based disaster risk reduction processes both in urban and rural areas. It recognizes the involvement of all the stakeholders and community-based organisations in the process of CBDRR.

Innovative effective approaches and strategies are required to enhance the knowledge and skills of the vulnerable communities. This would help them to deal with impacts of hazards on economic, social and environmental aspects and minimize disaster risks, besides empowering them.

The key aspect of community involvement is its sustainability. The most common elements of community involvement are the participation, partnership, empowerment and ownership by the local people. Unless the disaster management efforts are made sustainable at individual and community levels, it would be difficult to reduce the losses and the impacts of a disaster. While people should own the challenges of any preparedness initiatives, it is necessary to take people's involvement further into policy, strategy and delivery.

**Lt Gen Syed Ata Hasnain (Retd)**
Member

**Dr Krishna S. Vatsa**
Member

**Sh. Rajendra Singh**
Member and HoD

# ACKNOWLEDGEMENTS

Community Based Disaster Risk Reduction (CBDRR) by its very nature demands a decentralized bottom-up approach with intensive, micro interventions at the Gram Panchayat, ward and village levels. It intends, beside knowledge enhancement, to generate confidence, create awareness, build partnership and ownership at the local level. The CBDRR guidelines effectively address all the relevant issues towards achieving risk reduction measures at community level.

The process of preparation of these guidelines started with the formation of a National Core Group of Experts. During several rounds of discussion this Core Group prepared Operational Framework for the guidelines. Later on, a draft was circulated to all the relevant stakeholders. We acknowledge the base work done by this Core Group in drafting the Guidelines on Community Based Disaster Risk Reduction, which has been further developed.

The Sendai Framework for Disaster Risk Reduction (SFDRR) replaced the concept of Disaster Management with Disaster Risk Reduction. Hence, redrafting the Guidelines in view of SFDRR was taken up and the guidelines document has been renamed as Community Based Disaster Risk Reduction. We acknowledge the guidance and constant support of the officers of NDMA in all the processes of preparation of the guidelines. We sincerely acknowledge the contribution, guidance and unwavering support provided by Sh. Kamal Kishore, Ex-Member & HoD, NDMA; Dr. Krishna S. Vatsa, Member, NDMA; Lt Gen Syed Ata Hasnain (Retd), Member, NDMA and Shri Rajendra Singh, Member & HoD, NDMA in finalizing these Guidelines.

We are thankful to Col Kirti Pratap Singh, Advisor (CBT, Ops & Communication); Lt Col Surya Prakash Pandey, Joint Advisor (CBT); Shri Suvas Chandra Mohanty, Lead Consultant (CBT); Sh. Amit Tuteja, Senior Consultant (CBDRR); all other officers, consultants and staff of CBT Division for extending required support in preparing these Guidelines. As the preparation of the guidelines involved support and guidance of various stakeholders, comments and suggestions from various States/UTs, CSOs/NGOs and CSO partners of NITI Aayog which enriched the contents of this document, their contributions are also deeply appreciated.

# ABBREVIATIONS USED

| | |
|---|---|
| ANM | Auxiliary Nurse Midwives |
| ASHA | Accredited Social Health Activist |
| AWW | Anganwadi Worker |
| CBDRR | Community Based Disaster Risk Reduction |
| CBO | Community Based Organisation |
| CoR | Commissioner of Relief |
| DDMA | District Disaster Management Authority |
| DM | Disaster Management |
| DRT | Disaster Response Teams |
| GP | Gram Panchayat |
| IMD | India Meteorological Department |
| IRDAI | Insurance Regulatory and Development Authority of India |
| LADMC | Local Area Disaster Management Committee |
| MHA | Ministry of Home Affairs |
| MoES | Ministry of Earth Sciences |
| MoHUA | Ministry of Housing and Urban Affairs |
| MoRD | Ministry of Rural Development |
| NABARD | National Bank for Agriculture and Rural Development |
| NCC | National Cadet Corps |
| NDMA | National Disaster Management Authority |
| NDMP | National Disaster Management Plan |
| NDRF | National Disaster Response Force |
| NEC | National Executive Committee |
| NGO | Non- Governmental Organisation |
| NLSA | National Legal Services Authority |
| NSS | National Service Scheme |
| NYKS | Nehru Yuva Kendra Sangathan |

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|---|---|
| PRI | Panchayati Raj Institution |
| RWA | Residents Welfare Association |
| RYSK | Rashtriya Yuva SashaktikaranKaryakram |
| SDG | Sustainable Development Goals |
| SDMA | State Disaster Management Authority |
| SDRF | State Disaster Response Force |
| SEC | State Executive Committee |
| SFDRR | Sendai Framework for Disaster Risk Reduction |
| SHG | Self Help Group |
| ULB | Urban Local Bodies |
| UNISDR | United Nations International Strategy for Disaster Reduction |
| VDMC | Village Disaster Management Committee |
| VDMP | Village Disaster Management Plan |
| WFP | World Food Programme |

# GLOSSARY OF KEY TERMS

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| **Community Based Disaster Risk Reduction** | Community-based Disaster Risk Reduction (CBDRR) is the active engagement of the community in identification, analysis, assessment, monitoring, implementation and evaluation of disaster risks to reduce their vulnerabilities and enhance capacities. |
| **Capacity** | The combination of the strengths, attributes and resources available within a community, society or organization that can be used to achieve agreed goals. |
| **Capacity Building** | It includes, identification of existing resources and resources to be acquired or created; and acquiring or creating resources identified, organization and training of personnel and coordination of such training for effective management of disasters |
| **Disaster** | Disaster means a catastrophe, mishap, calamity or grave occurrence in any area, arising from natural or manmade causes, or by accident or negligence which results in substantial loss of life or human suffering or damage to, and destruction of, property, or damage to, or degradation of, environment, and is of such a nature or magnitude as to be beyond the coping capacity of the community of the affected area (DM Act, 2005) |
| **Disaster Management** | Disaster management is the organization and management of resources and responsibilities for dealing with all humanitarian aspects of emergencies, preparedness, response and recovery to lessen the impact of disasters (DM Act, 2005). |
| **Disaster Risk Reduction** | The concept and practice of reducing disaster risks through systematic efforts to analyse and manage the causal factors of disasters, including through reduced exposure to hazards, lessened vulnerability of people and property, wise management of land and the environment, and improved preparedness for adverse events (UNISDR, 2009). |
| **Community** | Community, in context of disaster management, can be defined as a group of people that may share one or more things in common, like living in the same environment, similar disaster risk exposure or being affected by the same disaster. |
| **Community Organisation**<br><br>**CSOs and PRIs** | It is a "process by which a community identifies its needs or objectives, gives priority to them, develops confidence and will to work at them, finds resources (internal and external) to deal with them, and in doing so, extends and develops cooperative and collaborative attitudes and practices in the community" (Murray, 1967).<br><br>The Civil Society Organizations (CSOs), i.e., Non-Government Organizations (NGOs) and Community-Based Organizations (CBOs), in the company of Panchayati Raj Institutions (PRIs) as the grassroots institutions, play an important role in the process of transforming a community self-reliant in dealing with disasters. |

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| **Local Authority** | Includes the Urban Local Bodies (ULBs), Municipalities, District board, Cantonment board, Town Planning Authorities, Panchayati Raj Institutions viz; Gram Panchayat, Panchayat Samiti, Zilla Parishad, or any other authority as enjoined by the law for rendering essential services or with the control and management of civic services, within a local area (DM Act, 2005). |
| **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 (MHA, GoI, 2009). |
| **Preparedness** | The state of readiness to deal with a threatening disaster situation or disaster and the effects thereof (DM Act, 2005). |
| **Recovery** | Restoration and improvement of facilities, livelihoods and living conditions of disaster- affected communities, including efforts to reduce disaster risk factors (UNISDR, 2009). |
| **Response** | 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 need of the people affected (UNDRR, 2017). |
| **Hazard** | A dangerous phenomenon, substance, human activity or condition that may cause loss of life, injury or other health impacts, property damage, loss of livelihoods and services, social and economic disruption, or environmental damage (UNISDR, 2009). |
| **Risk** | Risk (or more specifically, disaster risk) is the potential disaster losses (in terms of lives, health status, livelihoods, assets and services) which could occur to a particular community or a society over some specified future time period (UNISDR, 2009). |
| **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 (UNDRR, 2017). |
| **Vulnerability** | Vulnerability describes the characteristics and circumstances of a community, system or asset that make it susceptible to the damaging effects of a hazard. |

# LIST OF TABLES AND FIGURES

# Chapter 1

# INTRODUCTION

***Go and meet your people, live and stay with them, love them, work with them. Begin with what they have, plan and develop from what they know, and in the end, when the work is over, they will say: "We did it ourselves."***

–Lau Tse

## 1.1 Disaster Management in India

India is vulnerable, in varying degrees, to a large number of natural and human-induced disasters. More than 58 percent of Indian landmass is prone to earthquakes of moderate to very high intensity; over 12 percent land is prone to floods and river erosion; more than two thirds of the Indian coastline is prone to cyclones and tsunamis; nearly seventy percent of the cultivable area is vulnerable to drought. Covering about 15 per cent of landmass, hilly regions of the country are at risk of landslides and avalanches. Vulnerability to disasters/ emergencies of chemical, biological radiological and nuclear origin also exists. Heightened vulnerabilities to disaster risks can be related to expanding population, urbanization and industrialization, development within high-risk zones, environmental degradation and climate change (NPDM, 2009).

In this backdrop, Disaster Management (DM) practice in India has evolved from one that was largely top-down, relief-oriented to a risk management based approach that has different sectoral roles to be played by different stakeholders. India has created a specialised, fully equipped National Disaster Response Force, which now has sixteen battalions. In addition, several states have developed their State Disaster Response Forces. However, there are certain advantages in the community playing the role of immediate responders. The specialised Forces cannot be stationed in all locations. This necessarily involves some time taken for the personnel of the Forces to reach the disaster site. The potential of local people in reducing disaster risk and in serving as immediate first responders has been demonstrated over the years.

It is also to be noted that even when trained personnel of a specialised Force arrive at a village, the local community would still be required to guide them by indicating the locations where people are trapped or marooned and the households that require special assistance. The success of the Aapda Mitra Scheme of NDMA stand testimony to this fact. In order to help appreciate the complementary nature of specialised forces and the communities in a systematic way, there is a need for a policy guideline which can provide a comprehensive framework for strengthening community-based actions for disaster risk reduction, while recognising the role of other stakeholders.

## 1.2 Need for guidelines on Community Based Disaster Risk Reduction

Disasters are increasingly recognised as a threat to the immense resource investment made by the government and people towards the goal of sustainable development and holistic poverty reduction in the country. Experience has shown that the effects of a disaster are foremost felt at the level of the community. Additionally, disaster risk reduction measures are most successful when they involve the people exposed to hazards, and investment in community-based preparedness and early warning systems, which have been proven to save lives, protect property, and reduce economic losses. Failure to understand risk behaviours and culture of local communities can lead to poorly designed early warning systems while involvement of the local people promotes self-reliance and ensures that emergency management plans meet local needs and circumstances. Community Based Disaster Risk Reduction (CBDRR) has emerged as a key priority area in disaster risk management especially with reference to prevention, preparedness, mitigation and response (Haque & Etkin, 2012).

CBDRR is thus understood as a process of imbibing elements of prevention and mitigation of disasters by strengthening resilience and capacity building of the community. CBDRR approach aims to actively engage communities in identification, analysis, assessment, monitoring, implementation and evaluation of disaster risks as well as reducing their vulnerabilities and enhancing capacities (Lassa et.al, 2018). It is well known that communities are essential sources of indigenous knowledge, local wisdom and innovation against hazards and mitigation. It needs to be noted that before the advances in science and technology in terms of early warning systems and before the modern governance systems came in, the communities managed natural disasters.

In recent scenarios other stakeholders are complementing the communities with a range of activities so that human life loss during disasters can be prevented and property losses can be minimised. Thus, the communities are not left to fend for themselves; opportunities are explored for the other players, including specially equipped forces to work closely with the communities. The former can work with the communities in training and capacity building, in normal, pre-disaster times, and can further empower them with information on modern early warning systems and governance mechanisms.

The publication of these guidelines in no way implies any reduction in the role of state in providing best possible applications of science and technology in early warning, disaster risk reduction, specialised response and advanced technology options for overall management of disasters. Rather, these guidelines are meant to highlight the scope for community action, while other players are expected to play their roles, while appreciating the need for both, community- based actions as well as centralised governance systems, with optimum synergy. It is not expected that the work that requires application of sophisticated equipment for search and rescue or for early warning systems would henceforth be handled by communities on their own. Certainly, communities have strengths in certain areas, like (i) Quick response, (ii) Identification of vulnerable households, (iii) Identification of vulnerable family members in each household who may require special support and (iv) Encourage appropriate behaviour in public places during public health emergencies. (v) Low cost, location specific disaster

mitigation solutions. However, community actions may not address all aspects of disaster management. There are areas where other stakeholders have natural advantages. Examples of this include (i) Technical studies required to identify disaster risk (ii) Designing landslide early warning system (iii) Development of satellite based communication system (iv) Induction of Doppler weather radar (v) Impact assessment by fine tuning existing capabilities of early warning organisations (vi) Development of e-Governance systems to ensure accountable enforcement of techno-legal regime in areas like land use, building plan approvals etc. (vii) Conducting studies that could enable risk transfer solutions and (viii) Conducting scientific research into the interface between the need for sustainable management of earth's resources on the one hand and incidence of disasters, on the other. Thus, it is essential to recognise the roles of various stakeholders, rather than treating community-based action as a solution to all the problems.

## 1.3 Objectives of the Guidelines

The overarching aim of these guidelines is to foster Community Based Disaster Risk Reduction to build a safe and disaster resilient country. These guidelines are designed with the following objectives:

- Develop better understanding among all the concerned stakeholders, about Community Based Disaster Risk Reduction (CBDRR).
- Provide the institutional framework and explain the roles and responsibilities of various stake-holders associated with communities, like NGOs, CSOs, ULBs, concerned Departments, DDMAs, RWAs, PRIs, Ward/Gram Sabha, VDMCs, SHGs, Youth Volunteers and other community-based organisations as well as public spirited individuals.
- Guide the process and methods of the implementation of CBDRR.
- Bring forth the best practices to enhance people's participation in decision making for risk reduction at local level through CBDRR.

These guidelines have been developed to support the members of State Disaster Management Authorities and District Disaster Management Authorities, State Social Welfare Departments, Industrial Training Institutes, State Institute of Rural Developments, Urban Local Bodies/ Panchayati Raj Institutions (including Ward Sabha/Gram Sabha), Non-Governmental Organizations, Civil Society Organizations, Self Help Groups, Youth Volunteers, Auxiliary Nurse Midwives and Accredited Social Health Activist in the implementation of the principles and processes of CBDRR.

## 1.4 Structure of the Guidelines

**Chapter 1**: An overview on the conceptual framework, aim, objectives. The chapter provides the need and rationale for addressing and strengthening efforts on community-based disaster risk reduction. It covers the details of various stakeholders to be involved in the CBDRR processes.

**Chapter 2**: Provides the principles of CBDRR as generalized guiding rules for sound practice and value judgments; the principles of CBDRR which are discussed and developed within the frame of reference and in harmony with the spirit of people participation in a democratic society.

**Chapter 3**: Starts with international goals and frameworks like SDGs & SFDRR and its implications on CBDRR, moving on to various institutional and policy frameworks for Disaster Management in India, local government/ organizations/ schemes in community involvement with specific emphasis on CBDRR.

**Chapter 4**: Details the processes of CBDRR including multi-stakeholder participation, risk assessment and explains the process with support of various matrices. The chapter focuses on specific roles of NGOs, local authority, industry and private sectors, educational institutes and financial sectors, beside the issues of planning, monitoring and evaluation in CBDRR processes.

**Chapter 5**: A detailed road-map for implementation of CBDRR, with the reiteration that capacity building is a continuous and integral process of any intervention relating to CBDRR.

**Chapter 6**: Focuses on community risk resilience, and the specific complementing actions that can be undertaken by different stakeholders within the existing institutional framework.

**Chapter 7**: Presents a few hazard risks, with specific emphasis on community action, community planning in disaster risk reduction. Some prominent role of community with regard to all four functions of disaster management, namely Preparedness, Response, Recovery and Reconstruction and Mitigation have been enumerated. These guidelines aim to empower communities to take an active role in managing disaster risks, ensuring resilience, and minimizing losses.

**Chapter 8**: Concludes with the positive note that these guidelines are meant to serve as a strategic pathway for communities, practitioners and policy maker to work together towards a safer and more resilient future.

With the increasing need for community participation in disaster risk reduction, common guidelines assist the communities through the process. The guidelines understand, outline and integrate the roles and responsibilities of various stakeholders contributing to disaster risk reduction (and, managing disasters as well) and develop a structured matrix to follow. The comprehensive CBDRR framework, alongside its enshrined principles, provides a peek into the global and national policy frameworks including key institutions for CBDRR in India.

# Chapter 2

# PRINCIPLES OF COMMUNITY-BASED DISASTER RISK REDUCTION

Principles of CBDRR are ideals that serve as the foundation of all actions included in a CBDRR intervention. The actions at the local level, irrespective of the location, vulnerability, level and type of hazards, must be included as part of CBDRR. The key principles of CBDRR may be listed as follows:

## 1. Community participation

The nature of disaster risk reduction (DRR) activities may vary across the hazards. It may also vary over a period of time contingent upon economic, social and infrastructural developments in the locality. It is necessary to encourage participation of all in the community in all activities of disaster risk reduction. People's participation is essential in bringing in the necessary cultural changes for conducting different components of disaster management.

The community members must be engaged in DRR programmes at every step, from identification of risks to articulating appropriate strategies and solutions for reducing them by addressing the principal causes of vulnerability. Community ownership also fosters effective and meaningful participation of various groups within the community in the design of interventions and management and implementation of the same.

Community knowledge has been proved to be vital to CBDRR interventions, especially in relation to traditional early warning signs, locations of safe and vulnerable areas, experiences of past disasters, traditional coping mechanisms and social relations.

There must be transparency for community ownerships to be effective in the management of CBDRR activities. Transparency ensures that local level power dynamics are balanced and all groups within the community are able to effectively participate in the programme design and implementation. The effective participation of community in disaster management is central to the success of processes such as needs assessments, selection of beneficiaries, decision to choose relief items, procurement procedures, delivery of items, and reviewing progress of a particular intervention as well as its monitoring. Government developmental programmes usually facilitate community engagement, which can be built upon for a CBDRR intervention.

## 2. Social Equity

Social equity in CBDRR interventions is a legal requirement as well as a moral imperative. Literature is replete with evidence on disaster vulnerability of traditionally marginalized groups such as the economically weaker sections, elderly, women and children, and the differently-abled. These groups need to be meaningfully included in CBDRR interventions for effective design and implementation, which must ensure their social inclusion and realization of optimum human potential.

## 3. Mainstreaming into other developmental activities

Mainstreaming DRR within development continues to be slow and challenging. CBDRR prepares communities to use mainstream Government development programmes and schemes to address their DRR and CCA priorities. It needs to be strategically ensured that all the ongoing development efforts are planned with a DRR perspective; this would ensure that development investments are sustained and lead to long-term vulnerability reduction, both now and in future.

## 4. Sustainability

CBDRR is inherently futuristic in nature and therefore socio-economic and environmental sustainability must be inherently engrained in these interventions so that new risks are not born out of present interventions. Ecological, social and economic implications of interventions must be assessed and weighed from a community perspective before they are implemented. Community education must be skill based, with practical approaches on disaster management for the community to access it and imbibe the learning in their lives.

## 5. Partnerships

The changing nature of risk and the community's lack of awareness of it necessitates a strong partnership between the community and the local government. Working in partnership with communities at risk leads to the local capacity and coping mechanisms to respond. Increasing awareness of risks within communities inspires more people to get involved to prevent the loss of their own livelihoods. The rationale for multi-stakeholder partnerships in DRR is clear and compelling given the complex nature of disaster risks demanding partnerships from stakeholders belonging to different disciplinary and institutional groups.

## 6. Respect for the local knowledge and traditional coping mechanisms

CBDRR processes capitalize on existing capacities and traditional coping mechanisms rooted in cultural practices of the community, including traditional wisdom, local knowledge and resources, shared values and coping mechanisms. When threatened by a hazard, indigenous communities often respond by making use of all the traditional knowledge and local practices, which have evolved over generations and will continue to adapt to future changes. These are critical building blocks for systemic solutions to local hazards and must be included in response preparedness actions at the community level (IOM, Papua New Guinea, 2015).

The fundamental principle of CBDRR involves a bottom-up approach, involving processes arising from the communities themselves. Development is based on community needs and its aspirations for safety, and appropriate actions to address these issues. The principles of CBDRR will only be effective when the various institutions involved in the CBDRR process uphold the same. These principles are reflected in the institutional framework, processes and practices adopted for enhancing CBDRR. The following chapter outlines the policy framework and the respective roles of various institutions at the government and the community level therein to uphold these principles.

# Chapter 3

# INSTITUTIONAL FRAMEWORK FOR CBDRR

The principles of CBDRR have been upheld by various national and global policy frameworks on Disaster Management. The various institutions at the national and local level that have a crucial role to play in the CBDRR processes also emulate its principles. Local communities can play a vital role in disaster mitigation and preparedness, response and recovery. The potential of local communities to deliver on this expectation has been recognized in global and national frameworks that guide policy, planning and practice. The existing institutions that are mandated to steer disaster risk reduction actions in the country may be instrumental in facilitating effective DRR through community based approaches. This section provides further insights into the existing institutional architecture for promoting CBDRR.

## 3.1 Global and National Policy Frameworks

Over the past few decades, leading global and national frameworks have paved way for institutionalization of citizen participation in managing disasters at the grassroots level. Some of these guiding frameworks are:

### 3.1.1 Sustainable Development Goals (SDGs):

The 2015-2030 Agenda for Sustainable Development is a global transformative plan of action. India is a signatory to the plan along with 192 countries to implement SDGs. There are seventeen goals demarcated under the SDGs framework. Many of these goals promote integration of DRR into development planning and processes. While Sustainable Development Goal 11 is more explicit about building sustainable communities, other goals related to poverty (Goal 1), ending hunger (Goal 2), ensuring healthy lives (Goal 3), education (Goal 4), gender equality (Goal 5), clean water and sanitation (Goal 6), combat climate change (Goal 13), protect life on land, restore ecosystems (Goal 15), and partnerships to achieve goals for sustainable development (Goal 17), emphasize equally on building community's resilience. A total ten goals emphasize on reducing the social and environmental vulnerabilities of the community. The SDGs have been instrumental in setting a new direction to think and plan for disaster managment based on community led approaches.

### 3.1.2 Sendai Framework for Disaster Risk Reduction (SFDRR):

Taking forward the legacy of Hyogo Framework of Action (2005-2015), the SFDRR (2015-2030) marks a definitive evolution towards comprehensive reduction of disaster risks and enhancement of disaster resilience. It speaks for a broader, more people-centred and preventive approach to disaster risk reduction. The Framework emphasizes that Governments should engage with all relevant stakeholders, including women, children the elderly and youth, persons with disabilities, poor, migrants, indigenous people, volunteers, the community of practitioners and older persons in the design and implementation of policies, plans and standards." (UNDRR, 2016, p27).

All the four priorities of SFDRR, which inherently emphasize on the role of local community in managing disaster risk reduction, are:

- **Priority 1: Understanding disaster risk** - Community mobilization and enhancing collaboration among people at the local level to disseminate disaster risk information through the involvement of community-based organizations and nongovernmental organizations. To build the knowledge through sharing experiences, lessons learned, good practices, promote common efforts and improve dialogue and cooperation among scientific and technological issues.

- **Priority 2: Strengthening disaster risk governance to manage disaster risk** - To assign, as appropriate, clear roles and tasks to community representatives within disaster risk management institutions and processes, and decision-making through relevant legal frameworks, and to undertake comprehensive public and community consultations. Empower the local authorities, to work and coordinate with civil society, and communities, at the local level.

- **Priority 3: Investing in disaster risk reduction for resilience** - Strengthen the inclusive policies and social safety net mechanisms through community involvement, integrated with livelihood programmes, and access to basic health care services, and encourage disaster resilient investments (through structural, non structural measures) in critical facilities, including schools, hospitals etc. Promote mainstreaming of disaster risk assessments into land-use policy development and implementation, including urban planning, land degradation assessments, mapping and management into rural development planning and management of, inter alia, mountains, rivers, coastal flood plain areas, wetlands, drylands etc to help reduce risks.

- **Priority 4: Enhancing disaster preparedness for effective response and to "Build Back Better" in recovery, rehabilitation and reconstruction** – By developing, maintaining and strengthening people-centred multi-hazard, multi-sectoral forecasting and early warning systems to establish community centres for the promotion of public awareness and the stockpiling; empowering women and persons with disabilities to publicly lead and promote gender equitable response, recovery, rehabilitation and reconstruction approaches. Promote regular disaster preparedness exercises, including drills, and train local workforce and volunteers to ensure better response in emergencies.

### 3.1.3 Key Actionable Points

Key actionable points for States/Districts/Sub Districts, to respect India's commitment to Sendai Framework for DRR are as follow:

#### Priority 1: Understanding Disaster Risk

(a) Organize sensitization meetings on Disaster Risk; and,

(b) Create a Disaster Damage Database for districts

### Priority 2: Strengthening Disaster Risk Governance to Manage Disaster Risk.

(a) The PRIs and ULBs to follow building bye-laws; and,

(b) Identify flood/earthquake-prone areas so that future construction of buildings to be earthquake-proof and flood resilient.

(c ) Formation and functioning of specific task forces at the Sub District level

### Priority 3: Investing in Disaster Risk Reduction for Resilience.

(a) Ten Percent (10%) of all funds at the district level to be devoted to schemes which help DRR;

(b) Sensitize private builders about the need for disaster-resilient construction; and,

(c) Train masons/contractors on disaster-resilient building construction

### Priority 4: Enhancing Disaster Preparedness for Effective Response and to Build Back Better in recovery, rehabilitation and reconstruction.

(a) Regular meetings of DDMAs (once in 3 months), even if there is no calamity and, to discuss preparedness measures;

(b) Meetings with the Forecasting Agencies during the monsoons;

(c) Preparation of Standard Drills for responding to Flood/Cyclone/Tsunami/ Earthquake/ Chemical/ Biological/ Radiological &Nuclear Disasters;

(d) Preparation for Heat Wave in summers/cold wave in winters as relevant;

(e) Regular drills involving Police, Health, Civil Defence & Fire Services; and,

(f) Imparting training to village level workers for promotion of disaster sensitivity.

Post-disaster response and relief is well institutionalized in India because of well laid out institutional structures and dedicated funds in be form of National Disaster Response Fund (NDRF) and State Disaster Response Fund (SDRF), and capacity development over the years. Recovery and long term reconstruction so far was treated with ad-hoc measures, due to lack of dedicated fund and institutionalized mechanism, though in a few high impact disasters, project based recovery programmes were undertaken with external assistance. Recovery extends beyond immediate relief and humanitarian assistance. It is about restoring services and infrastructure, developing resilience through rebuilding shelter and livelihoods, and reducing risks and enhancing the community resilience through DRR and social protection.

## 3.1.4 The 73rd and 74th Constitutional Amendments:

These amendments recognize Panchayati Raj Institutions (PRI) and Urban Local Bodies (ULBs) like Municipalities as “institutions of self – government”. They were put in place to decentralize and devolve functions, functionaries and fund (called “3F’s”) through a tiered structure from the district downwards right up to the Gram Sabha level. In case of urban self-government,

the devolution is to be up to the ward level. Under the Constitution 74th Amendment Act, the District Planning Committees (DPCs) were constituted in all the districts across the country, with a mix of the elected representatives from both the rural and urban areas.

Thus, the CBDRR paradigm is entirely in line with this constitutional recognition of the importance of decentralization and devolution of powers. The elected representatives of the local bodies are the key stakeholders to facilitate effective participation and ownership by the local communities with regard to CBDRR.

### 3.1.5 Disaster Management Act, 2005:

As the overarching legislation that governs the disaster management activities within the country, the Act recognizes the need to mainstream community centred approaches in disaster management actions in India. For instance: Section 22(2) (i) prescribes actions to promote general education, awareness and community training regarding various disasters to which States/UTs are vulnerable. Section 30(2) (xiii) emphasizes on community training and awareness programmes for prevention of disaster or mitigation with support of local authorities, governmental and non-governmental organizations. Section 30(2) (xxvii) encourages participation of non-governmental organizations and voluntary social-welfare institutions working at the grassroots level in the district for disaster management. Additionally, Section 41 also discusses functions of the local authority in disaster management.

### 3.1.6 National Policy on Disaster Management 2009 (NPDM):

The NPDM lays emphasis on community based disaster preparedness for ensuring local ownership, addressing local needs, and promoting volunteerism and mutual help to prevent and minimize damage. The Policy recognizes community as the base of the process of disaster response. It stresses community training on various aspects of response such as first-aid, search and rescue, management of community shelters, psycho-social counselling, and distribution of relief and accessing support from government/agencies etc. It also promotes stakeholder participation including CSOs i.e., NGOs and CBOs for community empowerment. The Policy further emphasizes dovetailing of Community Plans into Panchayat, Block and District plans.

### 3.1.7 National Disaster Management Plan (NDMP) 2019:

The Plan reinforces the need for enhancing the capacity of communities as first responders to disasters. This includes awareness, sensitization, orientation and developing skills of communities and community leaders to deal with disasters. The NDMP has laid emphasis on social inclusion and mainstreaming DRR in various sectors.

### 3.1.8 Prime Minister's Ten Point Agenda on Disaster Risk Reduction:

Presented at the Asian Ministerial Conference on Disaster Risk Reduction (AMCDRR) 2016 in New Delhi, PM's Ten Pont Agenda also promotes community involvement in DRR.

This all-inclusive agenda presents a holistic approach to disaster risk management and addresses a whole range of issues, from building local capacities and initiative to use of innovative technology to encouraging greater involvement and leadership of women in disaster risk management.

## Prime Minister's Ten Point Agenda on DRR

| Sl. No. | Agenda Point |
|---|---|
| 1 | **All development sectors must imbibe the principles of disaster risk management.**<br>***Explanation:***<br>Development and Disasters are two sides of a coin. While a planned development can reduce the risks of disasters, the absence of proper planning can aggravate them. It is, therefore, essential to imbibe disaster risk reduction approach in all development schemes. Development should focus on reducing disaster risks and not create them. |
| 2 | **Risk coverage must include all, starting from poor households to SMEs to multi-national corporations to nation states.**<br>***Explanation:***<br>Disasters result in loss of lives and damages to properties and assets. Those who survive face the challenges of their rehabilitation. This applies to all from poor households to SMEs to multi-nationals.<br>It is necessary to think big and innovatively to widen the risk insurance cover. Some bold steps have been taken to ensure financial inclusion and risk insurance for the poorest.<br>Government has some schemes having risk coverage in consideration which include Jan Dhan Yojana, Suraksha Bima Yojana, Fasal Bima Yojana (crop insurance) etc.<br>There is a need for:<br>• Development of disaster insurance mechanisms for home-owners in disaster prone area<br>• Development of parametric insurance for weather and climate related disasters<br>• Develop insurance products to cover major infrastructure projects |
| 3 | **Women's leadership and greater involvement should be central to disaster risk management.**<br>***Explanation:***<br>It is necessary to encourage greater involvement and leadership of women in disaster risk management to support special needs of women affected by disasters. Women are generally seen as vulnerable to disasters. But women can play an important role in disaster risk reduction at the household, society, community and beyond. We need large number of women volunteers, engineers, masons and building artisans to participate in post-disaster reconstruction and promote women self-help groups which can assist in livelihood recovery. There is a need to include women in NDRF and SDRF, and to train elected women representatives at the local level under development. |

| Sl. No. | Agenda Point |
|---|---|
| 4 | **Invest in risk mapping globally to improve global understanding of Nature and disaster risks.**<br>***Explanation:***<br>Disasters know no boundary. Many natural hazards impact across countries, so there is a need for better understanding of such risks at global level. With a shared understanding of the nature and severity of disaster risks globally, their impacts can be mitigated with better planning and preparedness. This requires undertaking multi-hazard risk assessments and developing maps for all major hazards in a standardized format to facilitate disaster risk reduction. |
| 5 | **Leverage technology to enhance the efficiency of disaster risk management efforts.**<br>***Explanation:***<br>Efforts must be made to leverage technology to enhance the efficiency of our disaster risk management efforts. This requires use of technology in resource planning, e.g., India Disaster Resources Network (IDRN), creation of e-platform to map expertise and resources on highly specialized aspects of disaster response and to increase the efficacy of early warning systems for all major hazards through the application of technology. |
| 6 | **Develop a network of universities to work on disaster-related issues.**<br>***Explanation:***<br>It will be helpful to develop a network of universities and academic institutions to work on disaster-related aspects. As part of this network, different universities could specialize in multi-disciplinary research on disaster issues most relevant to them. |
| 7 | **Utilise the opportunities provided by social media and mobile technologies for disaster risk reduction.** |
| 8 | **Build on local capacity and initiative to enhance disaster risk reduction.**<br>***Explanation:***<br>Disaster management must build on local capabilities and initiatives. The task of disaster risk management, particularly in rapidly growing economies, is so huge that formal institutions of the state can at best be instrumental in creating the enabling conditions. Specific actions have to be designed and implemented locally. Such efforts reduce risk and create opportunities for local development and sustainable livelihoods. Localization of disaster risk reduction will also ensure that good use is made of the traditional best practices and indigenous knowledge. |
| 9 | **Make use of every opportunity to learn from disasters and, to achieve that, there must be studies on the lessons after every disaster.**<br>***Explanation:***<br>Ensure that the opportunity to learn from a disaster is not wasted. After every disaster there is a need to undertake research studies to understand the best practices and learn lessons to improve the policy and disaster governance. |

| Sl. No. | Agenda Point |
|---|---|
| 10 | **Bring about greater cohesion in international response to disasters.**<br>***Explanation:***<br>Disasters' impacts are huge and so are the needs to be prepared for and respond strategically. Across the globe, countries face disasters similar in nature and sometimes across the countries. It requires coordinated and unified response by affected countries. Pre-disaster planning and preparedness can result in effective and timely response, hence it is important to bring about greater cohesion in international response to disasters. International forums and protocols should be used in addressing disaster risks for effective and coordinated response. |

## 3.2 Key Institutions for promoting CBDRR in India

As laid out in the Constitution of India, and more specifically in the Disaster Management Act, 2005 of Government of India, the following institutions have a role in promoting CBDRR in the country:

### 3.2.1 National Disaster Management Authority:

The National Disaster Management Authority (NDMA) lays down policies on disaster management as well as guidelines to be followed by the State Authorities in drawing up the State Plans. The NDMA plans coordinate specialised training programmes for disaster management at different levels for the officers, employees and voluntary rescue workers. It is also mandated to take such other measures as necessary, for preparedness and capacity building to deal with threatening disaster situations or disasters as it may consider necessary.

### 3.2.2 State Disaster Management Authorities:

Community involvement at the state level is prioritized, planned and implemented by State Disaster Management Authorities (SDMAs). SDMAs are also mandated to-lay down the state disaster management policy; coordinate the implementation of the State Plan; review the measures being taken for mitigation, [undertake] capacity building and preparedness of the departments; and issue such guidelines as may be necessary.

### 3.2.3 District Disaster Management Authorities:

At the district level, the District Disaster Management Authority (DDMA) is directly involved in planning, implemention and monitoring processes related to various dimensions of disaster management. The DDMAs are mandated to ensure the guidelines for prevention of disasters, mitigation of its effects, preparedness and response measures. DDMAs are also mandated to coordinate with local authorities in the district to ensure that measures for the prevention or mitigation of threatening disaster situation or disaster in the district are carried out promptly and effectively. Specifically, the DDMAs are expected to encourage the involvement of non-governmental organizations and voluntary social-welfare institutions working at the grassroots level in the district for disaster management and ensure that communication systems are in order, and disaster management drills are carried out periodically.

## 3.3 Institutional framework for CBDRR at the local level

### 3.3.1 Gram Panchayat Development Planning (GPDP) Guidelines:

Panchayati Raj Institutions (PRIs) /Urban Local Bodies (ULBs) play a significant role in planning and implementing various development schemes and programmes at the local level.

Building on the Gram Panchayat Development Plan (GPDP) Guidelines of Government of India, mitigation and prevention activities need to be integrated into Gram Panchayat (GP) plans for adequate follow up and implementation. These local bodies in rural and urban areas are best placed to ensure that community members are informed about CBDRR processes and all groups within the community to effectively participate in these processes. CBDRR requires multi-stakeholders collaboration, and GPDP Guidelines underscores the critical role of a facilitator to balance various interests. A suitable local government official, elected representative, NGO/CBO or any interested individual of the community may perform this role. The reform of establishing a Village/Ward Secretariat in Andhra Pradesh can be taken as an encouraging development. The Village Secretary is the facilitator in this case who brings all the stakeholders to a common platform and help them to work in a coordinated manner to achieve the larger goal. The facilitators are required to identify champions in the village, including from the elected representatives and women, who have been given 50% representation in local bodies. The champion can also be a village leader or a youth or one of the front line workers.

Further, various existing committees at the village level may be strengthened to plan and undertake development interventions with risk informed perspective. For instance, the Village Health Sanitation and Nutrition Committees (VHSNCs) formed under the National Health Mission (NHM), which also includes community health workers and Accredited Social Health Activists (ASHAs), have been instrumental in addressing fundamental causes of vulnerability of women and children, beside addressing to public health emergencies. Joint Forest Management Committee (JFMC) is another democratic, decentralized and transparent local institution of forest and forest fringe dwelling communities that can be entrusted with the responsibilities of DRR in a tribal area. Set up as per the enacted statutory provisions, JFMC is a part of the Gram Sabha, formed at the level of village, or a cluster of villages situated adjacent to Reserved Forests (RF) registered with the Territorial Divisional Forest Office.

### 3.3.2 Village/Local Area level Disaster Management Committee (VDMC/ LADMC):

In most states of the country, the Gram Panchayat/Local Administration/Urban Local Board are already entrusted with the responsibility to constitute a Village Disaster Management Committee / Local Area level Disaster Management Committee (VDMC/LADMC) for better coordination (KSDMA,2019). Under the Panchayati Raj Act (1992) of Government of India too, committees have been designated to shoulder the responsibility of preparing disaster management plans similar to the Gram Panchayat Development Planning process. Based on the state/local context, these institutions formed under Gram Panchayat/ULB are responsible for anchoring CBDRR interventions. Alternately, VDMCs may be constituted as per the

template of Village Disaster Management Plan developed by NIDM. The VDMC/LADMC is a critical instrument for leading CBDRR activities at the local level. On the otherhand, it engages with PRI/ULB and other frontline government workers for effective implementation of development activities, with the focus on vulnerability reduction.

Basic features about VDMC/LDAMC formation include:

- There must be one VDMC for very large, large and medium size village and one LADMC for class II, III, VI, V, VI towns. For class I towns there may be two LADMCs (Classification as per Census of India, 2011).
- For small villages and hamlets, there may be Cluster/Federation level Disaster Management Committees for 4-5 small villages/hamlets subject to geographical locations and distance between them.
- VDMC/LADMC must represent men and women from cross-section of the village/local area and must include 9 to 11 members.
- VDMC/LADMC must work for the issues/problems on disaster management and risk reduction without any bias of caste, creed, gender etc.
- VDMC members must be selected by the villagers in the open village/cluster/federation level meeting. Roles and responsibilities of the VDMC member may be disseminated during the meeting.
- VDMC should act as an extended arm of PRI structure by including specialized functionaries as its members.
- Provision should also be made for forming teams/task forces to support VDMC for performing various functions required in different phases of DM cycle.
- VDMC members may also conduct village level community's capacity building programme.

### 3.3.3 The Roles, Responsibilities of VDMC/LADMC

- Organize monthly meetings of VDMC/LADMC to discuss plan of action and work to be done.
- Conduct risk assessment in the village maps with high ground resource/escape routes/ contact numbers etc.
- VDMC/LADMC will use participatory tools in risk assessment process, as it encourages the communities to express real life experiences, views and perceptions.
- Organize and participate in capacity building activities.
- Develop local level DM Plan/Village Disaster Management Plan (VDMP) in coordination with local communities under the leadership of local CSOs.
- Ensure that households prepare their survival kits as per the plan.
- Ensure community level preparedness before each hazard season as per the standard advisories/SoPs issued by the state government.

- Manage early warning dissemination during disasters and conduct community level drills.
- Motivate community members to participate in the Gram Sabha for integrating disaster risk reduction measures in the Gram Panchayat (GP) disaster management plan.
- Monitor quality of construction work (from DRR perspective) being done from GP funds.
- Collect funds and manage village contingency fund in a transparent manner.
- Keep records and minutes of VDMC meetings and correspondence with Gram Panchayat and other government departments.
- Participate and ensure participation in government organized coordination meetings and training programmes.
- VDMC/LADMC will document the lessons learnt by local communities and will share the same with local authorities for further learning/ developmental training.

### 3.3.4 Role of NGOs/CBOs:

NGOs/CBOs have very important role to play in disaster management at various levels, and in all phases, namely relief, response, rehabilitation, reconstruction, recovery, preparedness and mitigation. NGOs have grassroot presence and they closely work with communities hence they can readily respond to the needs of affected communities and can also build capacities of local communities (including Disaster Management Committees, Taskforces) and other allied stakeholders as well. It has been witnessed many a time at the time of disasters, that NGOs come forward to help communities. Even during Covid pandemic, the local NGOs, CBOs played vital role to serve the communities. Further, NGOs could help in enhancing preparedness and disaster response to communities, through better coordination, especially through platforms like NGO Coordination Centers and Inter Agency Groups at District and State level.

### 3.3.5 Role of Volunteers in CBDRR:

Volunteers form an integral part of the local disaster risk management force. Volunteerism benefits both society at large and the individual volunteer by strengthening trust, solidarity and reciprocity among citizens, and by purposefully creating opportunities for participation (UNDP, 2011). Volunteers have significant role to play at all stages of disaster management (before, during and after disaster). However, they can specifically contribute a lot in the disaster preparedness, capacity building and efficient response during any disaster.

Volunteers can be very useful at the local level in Golden Hour, to extend timely help to disaster victims. They can get engaged with local NGOs, NGO Coordination Centers at the District level, and support & supplement NGOs/ CBOs/ CSOs and local communities, in various activities related to disaster management.

Volunteers from institutions such as Nehru Yuva Kendra Sangathan (NYKS), National Social Services (NSS), Civil Defence, and other bodies play a crucial role in DRR, and may be involved in the activities of CBDRR. Some examples of possible ways of engaging volunteers in CBDRR are presented as follows:

a. The Nehru Yuva Kendra Sangathan (NYKS) is the largest grassroot level youth organization under the umbrella Scheme called Rashtriya Yuva Sashaktikaran Karyakram (RYSK), which has taken up an initiative for preparing Disaster Response Teams (DRTs) of NYKS Youth Volunteers for DRR. Youth volunteers play a significant role in disaster management, especially NYKS Youth Volunteers. The organisation (NYKS) collaborates with National Disaster Response Force (NDRF) on the principles of volunteerism, self-help and community participation. The volunteers of NYKS primarily act as an interface between affected community and concerned stakeholders to provide initial rescue and relief services. In addition, the volunteers are also engaged in associated activities, like undertaking mock drills at local levels, generating awareness among the village communities, peer education and participating in Gram Sabha meetings on DRR during normal time (MoYAS, 2019).

b. Bharat Scouts and Guides is one of the largest organisations working for youth mobilisation with a membership of around 56 lakh uniformed members spread all over the country. The organisation has affiliated associations in all the States and Union Territories, all the Zonal Railways, Kendriya Vidyalaya Sangathan (KVS) and Navodaya Vidyalaya Samiti (NVS). The Bharat Scouts and Guides is recognized by the Ministry of Youth Affairs & Sports (MoYAS), Government of India as the apex body in the field of "Scouting and Guiding" in the country. The Bharat Scouts and Guides provide training in life skills, covering first-aid, shelter-making, rescue and rehabilitation, handicrafts and various community development programmes. "Disaster Management and Preparedness" is a part of scout training and sustained training for young scouts and guides in handling risk situations are undertaken in coordination with local administration. These trained volunteers are regularly rendering their services in the time of need caused by natural and human-made disasters in the communities. They assist the local administration and agencies in rescue and relief work with promptness.

c. The National Service Scheme (NSS) was initiated to leverage community participation in various government led community service activities and programmes. Students, NSS volunteers have the immediate presence to undertake community development activities and facilitate relief and rescue operations during emergency disaster situations. NSS volunteers have supplemented the Government efforts at local (Community) level in many disasters including Bhopal Chemical Disaster, Latur Earthquake (Maharashtra), Gujarat cyclone etc. NSS volunteers also came forward to help in recent COVID Pandemic. They sanitized the affected areas, prepared food packets for disaster victims, maintained common kitchens and distributed medicines.

d. Civil Defence organisation consisting of volunteers was originally established under the then Emergency Relief Organisation (ERO) Scheme, which was modified in view of the Civil Defence (Amendment) Act, 2009 to include disaster management as an additional role for the Corps.

   Civil Defence has the huge potential in disaster management in India, especially at the local (Community) level, as they are expected to be the first responders in any disaster. However, these volunteers can be channelized in a more effective manner to deal with any emergency situation.

e. The Aapda Mitra Scheme was initiated to enhance the role of volunteers in DRR by NDMA in 2016.

- The pilot scheme for Training of Community Volunteers was focused on training of 6000 community volunteers (200 volunteers per district) in disaster response with focus on flood in 30 most flood prone districts of 25 States and UTs.
- Based on success of pilot scheme as well as appreciation and request from all States and UTs, Aapda Mitra scheme has been up-scaled covering 350 districts of all States and UTs with a target of training of 1,00,000 community volunteers for responding to the natural and manmade disasters.

  The highlights of implementation of the Aapda Mitra Scheme have been:

  - It has provided opportunities for learning and skill building and enabled young people to take a more active and constructive role in society.
  - Developed sense of responsibility and self-respect among the volunteers.
  - Aapda Mitra Volunteers played very significant role during recent disasters. They supplemented local Administration in many ways, including the prompt support required in evacuating local people to deal with floods, cyclones, landslide etc and emergency response during disasters.
  - These volunteers also helped the local Administration during recent COVID pandemic, in facilitating Covid Care Centers, promoting people for Covid Appropriate Behaviour, assistance in the vaccination drive and other allied support required at the local level.
  - Volunteers are also very supportive in providing psycho-social support to community and enhance the confidence level of the disaster-prone community.
  - Enhanced ability of Aapda Mitra to think creatively for generating locally appropriate solutions from existing resources.
  - The members are working as liaison between the disaster management committees at the community level and District Disaster Management Authority to disseminate early warning and response process.
  - The Scheme has enhanced women's participation in disaster risk reduction at the community level.

f. Yuva Aapda Mitra Scheme

As the Aapda Mitra Scheme has made a significant impact in enhancing disaster preparedness by training community volunteers in disaster response, recognizing the importance of continuous improvement and adaptation, a new scheme is being launched to further expand the scope of Aapda Mitra Scheme. This scheme incorporates two key components: (i) expanding volunteer engagement from youth organizations; and, (ii) creating pool of master trainers from previously trained volunteers.

### Expanding Volunteers' Engagement

The new phase of the Aapda Mitra Scheme aims to engage a broader demographic, focusing on youth organizations such as the National Cadet Corps (NCC), National Service Scheme (NSS), Nehru Yuva Kendra Sangathan (NYKS), and Bharat Scouts & Guides (BS&G). By tapping into these vibrant, motivated groups, the scheme not only aims to increase the number of trained volunteers but also ensures that the volunteer base is youthful, energetic, and ready to respond to emergencies. These young volunteers will bring fresh perspectives and a high level of enthusiasm, which are important in a crisis situation.

### Creating Master Trainers

A key component of the new scheme is the development of master trainers from the pool of previously trained Aapda Mitra volunteers under Up-scaling of Aapda Mitra Scheme (UAMS). These experienced individuals will undergo advanced training to enhance their skills and knowledge. Once trained further for this specific purpose and duly certified, they will play a pivotal role in training new volunteers, ensuring that the knowledge and best practices are effectively passed down. This approach leverages the experience and expertise of seasoned volunteers, fostering a sustainable and scalable training model.

The Yuva Aapda Mitra Scheme (YAMS) focuses on training 2.37 lakh young volunteers from various youth organizations across the country in disaster response, and training of 1300 Aapda Mitra Community Volunteers as Master Trainers, as a part of CBDRR.

## 3.4 Role of Social Media in CBDRR

Social media has very important role in the disaster management as well as in risk reduction, especially in the internet era through platforms including Facebook, Twitter (Now, X), Instagram, google + Social media remains accessible even if the failure of power, electricity, computers, landlines etc Hon'ble PM of India also categorically mentioned to utilize the opportunities provided by social media and mobile technologies, as seventh agenda of PM's ten point agenda for DRR, in 2016. Social media has become increasingly popular in the society and proved to be very useful in community mobilization, disaster preparedness, dissemination of early warning to concerned stakeholders (including communities), coordinated response, public tracking at ground zero and timely recovery. It is a very potent tool; hence, should be used extensively at local level for CBDRR.

Applying international and national institutional frameworks for effective integration of CBDRR at the community level must take into account specific local needs too. Isolated DRR interventions have been often proved to be disorganised, insufficient, inefficient, ineffective and unsustainable as response to the crisis becomes the prime objective here. Hence an integrated approach is required for sustained impact, where the efforts of CBDRR must engage with various features of the community organization against existing institutional framework. Based on the aforementioned institutional framework the next chapter details on the processes of CBDRR with community's engagement at the very local level.

# Chapter 4

# KEY PROCESSES OF CBDRR

## 4.1 Definitive Actions

The national and international frameworks on development and disaster management guide effective planning of the CBDRR process. The institutions engaged in disaster management at different levels are required to undertake various processes of community engagement and participation, as has been outlined in this chapter. CBDRR facilitates community resilience through the following definitive actions:

i. Understanding risks and disaster management concerns in the community

ii. Empowering community to manage risk

iii. Developing collective and self-reliant practices for reducing risks and enhancing long term resilience

iv. Building trust between community and other stakeholders

The concept of CBDRR is based on a decentralised and bottom-up approach that results in effective micro interventions at the local level. It empowers community by building confidence, awareness and knowledge, fostering culture of partnership and ownership about the local disaster management activities. Some of the key processes of CBDRR are discussed as follow.


*Figure 1: The Process of Community Based Disaster Risk Reduction (Source: Adapted from ADPC, 2008)*

## 4.2 Processes of Community Based Disaster Risk Reduction

Community is at the center of CBDRR process and community participation is the key for any CBDRR intervention. CBDRR process is executed by the local community with the support of other stakeholders. It involves various sequential stages, can reduce the risk of disaster to a significant level. The different stages in CBDRR include:

i. Community organisation and engagement
ii. Multi-stakeholder participation
iii. Risk assessment
iv. Planning (Needs and capacity assessment, formulation of task forces) and implementation of risk reduction activities
v. Monitoring and evaluation

### 4.2.1 Community Organization and Engagement:

Community organization is a process wherein the facilitator encourages interactions about possible ways of preparing, responding and mitigating the impact of disasters. Some of the important features of the community organization and engagement are as follow:

i. Community Mobilization is a process wherein the facilitator interacts with community leaders, ward members, representatives of SHGs and representatives from other socially backward groups. Community mobilization encourages organization of participative community meetings at regular intervals. The various committees identified under the Panchayati Raj Act (1992) may also be entrusted with this task of the CBDRR processes. Further, Village Disaster Management Committees (VDMCs)/Local Area DM Committees (LADMCs) may be involved in cases where ethnic/local issues dominate the socio-political context.

ii. Regular Community Meetings and Discussion need to be conducted ensuring participation of community leaders, ward members, representatives of SHGs and representatives from socially backward groups. An inception meeting is normally the first activity in the community to disseminate information about the CBDRR process to key stakeholders and set formal relationship with Gram Panchayat (GP) level functionaries. The meeting shall help in identifying problems faced for service delivery and identify mechanism to ensure that services remain functional during any disaster situation. Elected representatives and government front-line workers, especially the Panchayat Mukhiya, GP Secretary, ASHA worker, Rojgar Sewak, ICDS worker, Shiksha Mitra, Aapda Mitra and community leaders will be the participants in these meetings. The discussion will largely focus around history of disasters, activities taken up in the past to reduce the damaging impacts, mitigation efforts, adaptability, and preparedness.

iii. Engagement Activities with Communities are essential for building trust and active participation of the members. It entails understanding of the local social relationships, power structures, economic ties and nature of informal relationships among the local people. Area identification, an important aspect of CBDRR, which addresses issues like

gathering primary information about the disaster affected community and assessing the community readiness to participate in the CBDRR process, can be carried out jointly by the facilitator identified by the local community. This is also an opportunity for the facilitator to build initial affinity with community leaders, members of PRIs and government frontline workers.

The Appendices list out the strategies for community based preparedness with regard to animal safety and also steps for participatory risk assessment.

iv. Inclusion of women and disadvantaged groups is a critical consideration for designing community engagement. Women, children, and other vulnerable groups of a community must be encouraged to participate as they play an important role in building resilience to disasters. Participatory approach, encouraging every member of a community to participate in decision-making is vital to fostering effective community ownership, as it yields learning and voluntary action for "risk aware disaster and development planning" through the coordination of various stakeholders from community to PRIs/ULBs. The SDMAs, DDMAs and PRIs are expected to take adequate measures to promote and ensure participation of women and disadvantaged groups in CBDRR planning as well as its institutionalization.

### 4.2.2 Multi-stakeholders' Participation:

Apart from the community members, the participation of other stakeholders present in the area like NGOs/CBOs/SHGs/community leaders/elected representatives, traders, line departments, banks, ward committees, associations, local governments, local industries, teachers, students, educational institutions or research centres with relevant technical capabilities is very important for a successful CBDRR initiative. Various stakeholders can strengthen the process and outcome of CBDRR in terms of risk reduction and sustainability.

i. Non-Governmental Organization/Community Based Organizations (NGOs/ CBOs) can support the process of building trust between community members and other stakeholders with their understanding of the local culture, requirement and gaps. CBO/NGOs can also provide technical support to the community by developing basic database and analysis of local hazards, risk reduction planning and decision-making. They can mobilize the local task forces, like women groups, youth groups in reducing risks and can ensure the representation of the vulnerable groups in CBDRR. Further, they can also raise awareness and generate funds through donations and launch campaigns to finance CBDRR activities.

ii. Community Leaders are deemed to have a prudent convening power and better understanding of prevailing local conditions. They may liaison between governmental and non-governmental agencies and the community for financial and technical assistance, provide leadership in development of plan of work for the community, mainstreaming disaster risk reduction in various development projects with implementation and monitoring issues at community level. These leaders can be in entrusted with the objective that every assistance from government/non-government agencies reach the targeted people in the community.

iii. Formal/informal common interest groups including Agricultural Products Market Committee (APMC), Women Self Help Groups (SHGs), Migrant workers and daily wage earners and others form an unparalleled channel of communication. Mostly these closely-knit collectives have a well-developed sense of group consciousness and advocacy capacity. Careful identification and nurturing the capabilities of SHGs, who can be potential leaders within the community, will create a critical mass of able women leaders committed to address differential needs of men and women in the broader development processes.

iv. Local Authorities include the local government administration body, which in this case are the Ward Committee for urban area, and the Gram Sabha for rural area. The local authorities can play the role of a facilitator, enabler and resource provider; can facilitate participatory disaster risk assessment with the involvement of local people, community leaders and subject experts; can identify local resources in forms of private sectors or organizations like teachers' associations, women union, religious associations and youth unions. The local authorities can also mobilize financial resources in the form of micro-credits and small grants to enable families and community groups for undertaking CBDRR activities, and monitor implementation of the disaster risk reduction plan at the district, block or Gram Sabha level.

v. Role of Women in the Community Development leads to a truly representative democratic process. Reservations provided in the constitutional framework, for the weaker sections, especially women, can help achieve the level-playing field at the grassroots governance as elected women make a perceptible impact on the lives and livelihoods in rural India. The presence of a large number of women, some of whom have shown evidence of social and political activism, may show the way for their economic empowerment in the time to come. The SHGs led by enterprising women, belonging to the weaker and poorer sections of the society, have provided the requisite platform for emergence of leadership among them. Accessibility of a large number of women-led SHGs at the local level complements inclusive community development. For example: Kerala's much-acclaimed "Kudumbasree" scheme acts as a leader for many innovative micro women entrepreneurs across the country.

vi. Local industries or private sectors can be both key stakeholders as well as partners in the CBDRR process. Private institutions can contribute to social, economic and environmental development of communities by providing financial, knowledge or infrastructural support which may/may not be undertaken as part of Corporate Social Responsibility (CSR)/ Responsible Care. Their participation is also essential to ensure the sustainability aspect of CBDRR.

vii. Educational Institutes and research centres contribute significantly to the success of CBDRR activities. The research experience and academic capacity available with the institutions help bring together various stakeholders of CBDRR and facilitate knowledge exchange. The research helps understand the strengths, weaknesses, opportunities and threats associated with a particular CBDRR activity, and brings out best practices which can be taken up in the local context. Some universities run disaster management courses with a preparedness and response approach to address an emergency. This has been

emphasized in the Prime Minister's 10 point agenda on DRR. It is necessary that more Universities take up research activities and teaching related to various aspects of disaster risk reduction.

viii. Financial institutions and service providers (viz., self-help groups, banks, insurance providers) can support CBDRR activities with long-term planning and sustainability. A 5% of the CSR funding by all corporate houses/organizations should be made mandatory for CBDRR activities.

### 4.2.3 Participatory Risk Assessment:

Participatory Risk assessment in CBDRR helps community members to understand disaster risk in order to plan for concrete actions. Given the differential vulnerability of specific groups in a community, such as children, elderly, single women and people with special needs, risk assessment exercises must include their concerns expressed though designated representational processes and with the support of various stakeholders.

Participatory tools shall be used for risk assessment, as it encourages communities to express real life experiences, problems and issues. VDMC/LADMC or any other designated committees are expected to be in the lead role for facilitating risk assessment process systematically as per the steps illustrated in Appendix II. This may be carried out using participatory tools such as:

- **Seasonal calendar:** It shows when the hazards occur and when other significant events take place. It shows months which put communities at risk and seasons which are relatively safer. The calendar may be developed with support of local people in community meetings.
- **Interview method:** Individuals, groups, key informants may be interviewed on historical data and other factors of disasters for developing resource inventory and hazard mapping.
- **Focused Group discussion:** Required to ensure views and experiences of all stakeholders (class, caste and strata of community). This may be organized collectively and individually.
- **Transect walk:** A systemic walk could be done within the community with a semi-structured format to learn more on hazard, vulnerability and exposure vis-à-vis the potentially affected people.

Documentation and synthesis of levels of knowledge, attitude and practices at the community level paves way for better risk management. Disaster risk assessment calls for practical and strategic needs in risk reduction. This participatory process must involve all community members, along with Mukhiyas, Gram Sewaks and frontline workers. It proposes concrete risk reduction measures that are intertwined with the development programmes. Estimations/ projections of the funds for implementation of each activity are entailed in the participatory processes.

### 4.2.4 Planning and Implementation of CBDRR activities:

This refers to formulation or revision of DRR strategies and action plans including setting of priorities, allocation of resources (financial or human) and initiating DRR programmes (UNDP, 2010).

At this stage further analysis needs to be conducted building on hazards and risks identified jointly by local authorities and communities. Risks are prioritized in a participatory format, keeping in view equity and inclusion of marginalized segments. This may be done by VDMC/ designated Committee members with support from other stakeholders like local authority, local leaders etc. Appropriate risk reduction options catering to socio-economic concerns of the community and its capacity are identified based on practical and strategic needs of women and men. This could be safety at home, community, workplace; livelihood security; food security; health and nutrition. Analysis of resources and capacities that are available with the community is undertaken and gaps are identified to redress.

One of the biggest highlights of this process is the formation of task forces to lead specific action, such as search and rescue (SAR), first aid, early warning etc. VDMC and other committee members may be divided into thematic task forces for addressing underlying risks. These thematic task forces are trained on technical knowledge and skills for addressing the vulnerabilities. These could be socio-economic, cultural and political factors such as extreme poverty, social exclusion, disease prevention and health promotion, First aid and response, mental health care, inadequate social services and infrastructure, lack of rights and access to resources etc.

The role of various stakeholders: ULBs/ PRIs (Ward Sabha/Gram Sabha), NGOs, CSOs, SHGs, Youth Volunteers, ANM, and ASHA workers is crucial here. Various structural and non-structural activities, such as community training, disaster response drills, community early warning systems, disaster resilient construction of houses etc. need to be carefully implemented by involving the relevant stakeholders.

### 4.2.5 Participatory Monitoring & Evaluation:

Monitoring and evaluation is an essential aspect of successful DRR processes, to make prompt adjustments during the project life and ensure progress towards targeted objectives. In the case of CBDRR, it becomes Participatory Monitoring and Evaluation (PME). Transparency in PME helps the community being aware of the DRR processes and engage actively with local authorities and other stakeholders. The process of monitoring and follow up should also involve documentation of learning from the process and sharing good practices. The community should be aware about necessary follow-up actions and their responsibilities therein. Follow up of initiative is one of the significant tasks of VDMCs/local committees in coordination with Ward Members and Mukhiyas, Panchayat Samitis, respective line departments and Zilla Parishads.

CBDRR aims to reduce vulnerabilities and enhance capacities of vulnerable groups and communities to cope with disasters, prevent or minimize consequent loss and damage to life, property and the environment; to minimize human suffering; and to hasten recovery in the aftermath of a disaster. The following chapter provides the implementation strategies for CBDRR, including areas of capacity building training and financial arrangements. The various processes of community engagement and participation as discussed in this chapter would need certain enabling conditions for realization of the objectives of DRR. The chapter details the scope of CBDRR in terms of financial arrangements as well as various training and capacity development possibilities, which will materialize effective implementation of CBDRR.

# Chapter 5

# IMPLEMENTATION OF CBDRR – ENABLING CONDITIONS

## 5.1 Introduction

Various processes of community engagement and participation, would need certain enabling factors. These factors could be in terms of financial leverage, knowledge and capacity building – all of which help the CBDRR process to move along the desired trajectory.

CBDRR is not a one-time activity. It is an ongoing process, against continuous risks from climatic, demographic and development changes. Risks must be identified, prioritised; corrective measures must be identified, and planning must be undertaken. The risk reduction plans formulated by the communities need resource support from Government (District/ Local Area Administration); Panchayati Raj Institutions/ULBs for planning and implementing various development schemes and programmes; the Gram Panchayat/ ULB for mitigation and prevention activities. The VDMC members, ward member and Mukhia (or Sarpanch) link the community with GP plans about information, and ensure implementation of the plans. For example, the Ward-Sabhas may prepare the checklist of required activities on DRR measures, and the Gram Sabha may prioritize the resolutions provided by each Ward Sabha keeping in view the vulnerability of the area and the needs of the people. The Gram Sabha may also modify the list accordingly for final approval in cases where the gap between the demand and the actual availability of funds for undertaking development projects is substantial.

The People's Planning Campaign (PPC) in Kerala, hailed as the greatest decentralization exercise in the world, may be mentioned here. Many states in India have followed PPC's planning strategies, whereas the rest of the country has managed only sub-optimal decentralization – regarding the functions, functionaries, and funds (called the 3F's). However, this effort aims at enabling the following key processes during implementing and monitoring development projects:

- Community participation and ownership by engaging community leaders and other stakeholders having direct influence over community-based organizations and PRIs/ULBs, to ensure sustainability. Adolescents and youth, with higher potential to contribute to CBDRR sustainability, must be preferred for leadership towards effective risk reduction.
- Management of community action teams like VDMC/LADMC, and thematic and preparedness task forces for achievement of any standard CBDRR intervention.
- Volunteerism in CBDRR processes and coordination between community and government levels by facilitators.
- Financing risk reduction initiatives through public/private/corporate funding sources. PRIs/ ULBs have a vital role to play in CBDRR process as they have the convening power and the mandate to mobilize/channelize local funding.

## 5.2 Financial arrangements for CBDRR

Some of the key financial arrangements made by the Government of India, which can support sustaining the CBDRR process, are mentioned below:

### i. Own Source Revenue

Funds of Panchayats and Urban Local Bodies accumulated from taxes, duties, fees and grants-in-aid, donations, investments, interest returns and other sources may also be used for disaster management purposes.

### ii. Recommendations of Fifteenth Finance Commission

The 15th Finance Commission adopted a holistic approach by earmarking financial allocations for preparedness, response, mitigation, recovery and reconstruction in disaster management. The Commission recommended the creation of funding mechanism for disaster mitigation along with different components of disaster response, by way of National Disaster Risk Management Fund (NDRMF) and State Disaster Risk Management Fund (SDRMF). Substantial amount of financial resources are available at the local level to encourage communities to take up various activities with this source.

Further, the funds available with DDMAs may be used for capacity building of VDMCs, preparation of VDMPs and implementation of activities for vulnerability reduction, in convergence with development programmes.

### iii. Centrally Sponsored Schemes

Centrally Sponsored Schemes are designed to serve specific objectives. However, centrality of the people of India and their representative bodies in each such scheme is progressively ensured in most of the schemes. This can potentially be a huge leverage for CBDRR initiatives. Some indicative examples are presented below:

a. The Composite Water Management Index (CWMI), 2018 report by the NITI Aayog, estimates that by 2030, the country's water demand is projected to be twice the available supply, implying severe water scarcity for hundreds of millions of people- both urban and rural. Thus, maintenance of ground water and surface water harvesting structures, such as ponds, lakes, dams etc. as well as catchment areas for rainfall is important for better water management in rural areas. Conserving rain water and regulating the use of the ground water are critical risk mitigation measures for arid zones that may be taken up through watershed development programmes.

b. Agro-forestry schemes of the Ministry of Environment, Forests and Climate Change can be leveraged for drought mitigation through careful water and moisture conservation and by planting more trees, including fruit and fodder trees, in and around the village, and by improved maintenance of pastures.

c. In flood-prone areas, overflowing pit latrines pose a significant health risk. While preparing Gram Panchayat Development Planning (GPDP), GPs may consider appropriate latrine solutions with innovative design for flood-prone areas. This may be taken up through the now Swachh Bharat Abhiyan in an appropriate manner.

d. The Ministry of Programme Implementation has revised the MPLADS scheme to include flood shelters, cyclone shelters, retrofitting of essential lifeline buildings including Govt Hospitals, Govt. Schools, Early Warning Systems for effective disaster mitigation etc. MPLADS works can also be implemented in areas affected by natural and human-made calamities, as per MPLADS Guidelines.

e. The Gram Panchayat Development Planning (GPDP) guidelines of Government of India (GoI) lay down that it is imperative to undertake a thematic approach especially in terms of planning at the GP level, since GPs are entrusted with specific responsibilities to deliver citizen centric services in the GP areas. Issues such as Environment and Climate Change, Gender responsive Panchayats, Economic Development, allotment of safer land for constructions of Public Buildings such as Panchayatghar, Schools, Community Halls, Water Conservation, Food Security, Nutrition, Planning of Children &Vulnerable Groups etc. need to be given prominence in local level planning. Therefore, these issues are to be integrated into GPDP. Further, GPs are expected to play an effective role in the planning and implementation of functions related to 29 subjects enlisted in the Eleventh Schedule of the Constitution.

f. Smart City Mission of Government of India seeks to promote "cities that provide core infrastructure and give a decent quality of life to its citizens, a clean and sustainable environment and application of Smart Solutions." The programme may be effectively leveraged to specially address key anthropogenic hazards such as fires in urban habitations. "Unplanned areas" covered under the smart cities programme often manifest underlying causes of vulnerability of urban dwellers. The programme particularly refers to application of smart solutions to infrastructure and services in area-based development to make them better. It also aspires to facilitate "visible improvement in the Area (e.g. replacing overhead electric wiring with underground wiring, encroachment-free public areas, drainage clearance before the rainy season to avoid waterlogging, and ensuring safety of citizens especially children, women and elderly)", and can meaningfully partner promotion of CBDRR initiatives.

g. Atal Mission for Rejuvenation and Urban Transformation (AMRUT) seeks to (i) ensure that every household has access to a tap with assured supply of water and a sewerage connection; (ii) increase the amenity value of cities by developing greenery and well-maintained open spaces (e.g. parks); and (iii) reduce pollution by switching to public transport or constructing facilities for non-motorized transport (e.g. walking and cycling). All these outcomes are assessed against Service Level Benchmarks (SLBs) that are qualitative rather than quantitative; for example, elimination of urban flooding from storm water through drain maintenance and road networks in low lying areas

h. Mahatma Gandhi Rural Employment Guarantee Scheme (MGNREGS) can be effectively utilized for creation of common and selected individual assets that may be informed through a risk informed planning of shelf of works. Plinth raising of hand-pumps, maintenance of river embankments, bunds and other such measures for flood risk management have been effectively implemented in a few states. In addition, the construction of wells, ponds and allied interventions have been taken in water scarce/ drought prone states.

i. Pradhan Mantri Awas Yojna (PMAY): The Scheme provides financial assistance to the local people for construction of their houses. The Scheme can also be utilized for creation of Rainwater harvesting Systems in water scarcity regions. The safe habitats under the PMAY reduce the vulnerability of communities, to a large extent.

### iv. State Sponsored Schemes:

Various State sponsored schemes are currently being run in many States, which can be very useful financially, for strengthening community based disaster risk reduction at the District and Sub District level.

## 5.3 Capacity Development for CBDRR

CBDRR can only be achieved if the community is capacitated and developed in risk reduction according to the local requirements. Capacity development for CBDRR is a process that helps the stakeholders to acquire knowledge and enhance the necessary skills to perform their tasks and duties for self resilience. To enhance knowledge and understanding of individuals, families and communities about hazards, risks, vulnerabilities, risk reduction and preparedness, communities must be capacitated through orientation, training and capacity building efforts on regular basis. To build capacity of community there is also a need to develop capacity of institutions at different levels, which also possess sufficient capacities, human resources and know-how on CBDRR. The CBDRR process takes community through various experiences of interaction, assessment, planning, coordination and implementation. Hence it requires capacity development of all the concerned stakeholders in a systematic manner.

A systematic plan comprising of structured training and informal/peer learning programmes for CBDRR capacity development will lead to:

a. Empowerment of individuals and communities for understanding risks and causal vulnerability factors leading to individual and community responsibility for risk reduction.

b. Institutional developments with reference to well-managed community based institutions, with time bound effectiveness in execution.

c. Social transformation with reference to community actions pertaining to disaster risk reduction.

The plan may be laid down by the respective SDMAs and DDMAs with the guidance of NDMA. An indicative list of structured training programmes aligned with various stages of the CBDRR process, indicating the various stakeholders who may be involved, is presented on the next pages.

| S. N. | Training | Content | Target audience | Proposed time-lines |
|---|---|---|---|---|
| 1 | Training of Trainers (ToT) Programme for CBDRR personnel | • Need for CBDRR<br>• Processes of CBDRR<br>• Community Mobilization<br>• Identification of PRI committee responsible for CBDRR / VDMC formation<br>• Orientation of PRI committee/ VDMC<br>• Risk and vulnerability assessment<br>• DRR planning<br>• Mainstreaming DRR in GP and other govt. schemes<br>• Formation of thematic task forces | NGO / CBOs Members/ Local Leaders/ Teachers/ Volunteers | Most important activity with duration of 3-5 days. |
| 2 | Orientation of PRI committee /VDMC | • CBDRR concepts<br>• PRI committee/VDMC members roles/ responsibilities<br>• DRR planning.<br>• Documentation<br>• Management of Task Forc | PRI committee / VDMC Members | 1-2 months |
| 3 | DRR planning process | • Identifying risks and vulnerabilities including underlying risks<br>• Prioritization of risks<br>• Village DRR planning<br>• Documentation | PRI committee / VDMC Members / Task force Members/ NGOs/ CBOs | 3 – 4 months after initiation |
| 4 | DRR main-streaming and M&E | • Preparing micro-plans for DRR<br>• DRR mainstreaming<br>• How to link government schemes with DRR plan<br>• Monitoring of plan implementation,<br>• Review/ update DRR plan | PRI committee / VDMC Members/ Elected Representatives | 5 – 7 months |
| 5 | Cross learning | To learn from other CBDRR initiatives in the state/India | Task force Members/ Selected VCMC Members | 12 – 15 months |
| 6 | Technical training of thematic Task forces | • Understanding underlying risks & link with emergency<br>• Specialized Training on specific tasks: | Task Force Members / Volunteers | 12 – 15 months |
| 6A | Hazard safety | • Dos and don'ts on common hazards, e.g. fire, earthquake, flood etc. | Task Force Members / Volunteers | 10 – 15 days |

| S. N. | Training | Content | Target audience | Proposed time-lines |
|---|---|---|---|---|
| 6B | Health and sanitation | • Personal hygiene e.g., hand washing, water handling, water testing and chlorination of hand pumps, diarrhoea management etc.<br>• Malnutrition across the life cycle, with focus on essential Nutrition Interventions during the first 1000 days i.e. from conception to age 2 years<br>• SOPs on Nutrition to be incorporated within the Camp Management guidelines – which should include the following:<br>• Adequate provisions of food to be made (WFP norms)<br>• Adequate space and privacy for breastfeeding mothers<br>• Immunization and health services, including antenatal care for pregnant women, management of childhood illnesses<br>• Nutritional supplements as per National Programs<br>• Appropriate foods for young children<br>• Screening of children with severe malnutrition, treatment and referral steps<br>• Controlled access to and use of breast milk substitutes (under medical supervision only) Awareness, Dos and Don'ts on Pandemic such as Covid-19.<br>• Handling/ disposal of dead bodies affected by any disease. | Task Force Members/ ASHA/ ANM/ AWW/NGOs | 5 – 7 months |
| 6C | Emergency prepared-ness by families | Emergency preparedness so as to ensure that losses due to floods are minimal. | Task Force Members / Volunteers | Before Monsoon |
| 6D | Search & Rescue, First aid | • Rescue drawing people<br>• First- Aid<br>• CPR<br>• Stretcher making<br>• First-Aid on snake bite<br>• Diarrhoea management<br>• Making rope stairs | Task Force Members / Volunteers | 3 - 4 months |

| S. N. | Training | Content | Target audience | Proposed time-lines |
|---|---|---|---|---|
| 6E | Child Protection | • Specific vulnerability of children in emergencies<br>• Psycho-social support to children<br>• Family tracing and restoration<br>• Development of Safe Space for children (in the camp and within the community);<br>• Community based protection mechanism (such as Child Trafficking after math of disaster) | Task Force Members / Volunteers | 3 - 4 months |
| 6F | Education | • Framework for Education in Emergencies<br>• Minimum Standards for Education: Preparedness, Response, Recovery<br>• Temporary Learning Spaces (TLS) / Child Friendly Spaces in Emergencies | Task Force Members / Teachers / NGOs | 5 – 7 months |
| 6G | Water Sanitation and Hygiene (WASH) | • Water supply issues, contamination, solutions<br>• Sanitation issues- excreta disposal, solid waste, waste water, vector control,<br>• Risky hygiene behaviour- specific to women and adolescent girls,<br>• Key solutions<br>• Common understanding of WASH issues in disasters. | Task Force Members / ASHA/ ANM/ AWW/ NGOs/ Volunteers | Before Monsoon |
| 6H | Animal Protection | • Undertake precautionary health care measures such as vaccination for animals<br>• Provide emergency shelters for animals.<br>• Disposal of carcasses. | Task Forces/ Volunteers | 12 – 15 months |
| 7 | Training on the role of Panchayat in DRR | • CBDRR concept<br>• Role of Panchayat in DRR<br>• Village level disaster preparedness<br>• Risk informed GP planning<br>• Use of various schemes for DRR | GP, Ward Members, Panchayat Samiti Members | 4 – 6 months after designation of PRI committee/ VDMC |
| 8 | Training on role of govt. functionary in DRR | • CBDRR concept<br>• Impact of disasters on functioning of essential services<br>• Problems being faced<br>• Improving service provision through involvement of PRI committee /VDMC | ANM, AWW, ASHA, MNREGS facilitator, Panchayat Secretary, Vikas Mitra | 7 - 10 months After Village DRR plan development |

Mock exercises and Sensitization Programmes form another important aspect in capacity building which aid community preparedness. There have to be adequate number of such exercises, which may be taken up in schools, sub-centres, Anganwadis and panchayat or other community-based institutions. Mock drill calendar may be developed at village level for various local hazards. Mock drills may be organized with support of facilitators, external agencies and participation of all the community dwellers.

## Community Capacity Development

The approach of the DRM programme is to: a) focus on building community capacities, community based planning; b) partnership with all stake-holders in DM like governments, professional bodies, training institutions, peoples' representatives, technical institutions, etc; and c) boost capacities at all levels with special emphasis on women to address disasters through an integrated approach for reducing vulnerabilities. Thematic focus is on education, training and capacity building for better preparedness and mitigation in terms of DRM and recovery at community, district and state level by strengthening linkages with SDMAs and DDMAs. (Source: National Disaster Management Guidelines, Management of Urban Flooding)

Community training programmes for enhancing the capacity of communities, as they are the first responders to disasters, should significantly, be socially inclusive, with particular emphasis on building the capacities of women, children, the elderly, SC/ST and Persons with Disabilities (PwDs). Capacity building also needs to be made a more regular exercise with Resident Welfare Associations and Panchayats/ Gram Sabhas, to answer identified local hazards.

The success of various steps of the CBDRR process as laid out in this chapter is directly related to the effectiveness with which the various stakeholders of CBDRR carry out their roles and responsibilities. The succeeding chapter outlines various roles and responsibilities that each stakeholder is expected to play at different levels.

# Chapter 6

# ROLES AND RESPONSIBILITIES OF STAKEHOLDERS IN CBDRR

Different objectives of CBDRR in terms of knowledge and capacity building, and financial leverage, can be actualized only through an in-depth understanding of disaster risk and mainstreaming of CBDRR in developmental programmes, besides inter-agency coordination and planning. The responsibilities of actors at different levels, ranging from the state to the centre, need to be earmarked and carried out for successful CBDRR processes.

CBDRR approach is people and development oriented. It empowers people to address the causes of vulnerabilities by transforming social, economic and political structures which generate inequality and under development. Community engagement is the key factor in sustainability of community level initiatives for disaster reduction. Agencies, like government, non-government organizations also play an important role in sustaining the impact of CBDRR as facilitators.

The National Guidelines on CBDRR reinforces that disaster management is a cross cutting exercise and different stakeholders have to perform varied roles for sustaining the efforts of CBDRR; a single individual or agency cannot, on their own, be responsible for building a risk resilient community. There is a need for a more practical linkage among the state, district and local governance structures for identification, analysis, treatment, monitoring and evaluation of disaster risks at local level. Moreover, these structures need to work together along with the community which is at the heart of decision-making and implementation of disaster risk reduction activities.

The involvement of most vulnerable social groups is considered as paramount in this process, while the support of the least vulnerable groups is necessary for successful implementation and concerted actions at State, District and Local levels are to be taken for effective CBDRR.

The table on the next page is a summary of action points for various stakeholders at the state and local levels in terms of understanding disaster risk, mechanism for risk governance, inter-agency coordination, investing in DRR, capacity development, and post-disaster response process.

## Summary of 'Action Points' for various stakeholders:

### Table 1: Understanding Disaster Risk

| Sl No. | Major Theme | State/ other Agencies and their Responsibilities | |
|---|---|---|---|
| | | Activity (State) | Responsibility (State/Others) |
| 1. | Hazard, Risk & Vulnerability Analysis | Undertake HVCRA as part of DM Plans and for the development planning | SDMAs & DDMAs |
| | | Ensuring Hazard, Risk & Vulnerability Identification | Village Committee / VDMC/ RWAs under supervision of DDMAs |
| | | Resource Inventory | Village Committee / VDMC , RWAs |
| | | Preparation of Hazard and Resource Map through Participatory Rural Appraisal and Participatory Appraisal | Village Committee / VDMC, RWAs |
| | | Identify hazard specific vulnerabilities faced by the community | DDMAs in consultation with Village Committee / VDMC/ RWAs, VOs, CSOs-CBOs, NGOs |

### Table 2: Mechanism for Disaster Risk Governance

| Sl No. | Major Theme | State/ other Agencies and their Responsibilities | |
|---|---|---|---|
| | | Activity (State) | Responsibility (State/Others) |
| 1. | Institutional Mechanism | Setting up the VDMCs and RWAs | Village Panchayats, District Panchayats, Municipal Corporations/ Councils/ Ward Council, DDMAs |
| | | Establish inter agency coordination | DDMA, Zila Panchayat, ULBs |
| | | Promoting involvement of SHGs in DRR Activities | State Government, SDMAs, District Administration, DDMAs, SHGs |
| | | Ensure representation of VDMCs and RWAs in SPDRR | Departments dealing with Disaster Management |
| | | Ensuring representation of VDMCs and RWAs in DRR committees | Departments dealing with Disaster Management, SDMAs, DDMAs |

| | | | |
|---|---|---|---|
| 2. | Main-streaming CBDRR | Inclusion of CBDRR into all Schemes including guidance on financial provision/leveraging. | All Concerned Departments |
| | | Evaluation of mainstreaming activities through Social Audit | Department of Rural Development, Department of Urban Development |
| | | Third Party Evaluation of impact of various activities | All Departments/ SDMAs/ DDMAs, CBOs, NGOs |
| 3. | Funds | Earmark specific budgetary allocations towards CBDRR | All Departments |
| | | Mobilize and utilize the CSR Fund towards implementation of the inclusive actions | SDMAs/ DDMAs/ District Administration |
| | | Strengthening of SHGs | State Govt., NABARD, etc. |
| 4. | Disaster Management Plans | Preparation of DMPs of VDMCs and RWAs | VDMCs, RWAS, NGOs, CBOs |
| | | Approval of DMPs of VDMCs and RWAs | DDMAs |

## Table 3: Inter-Agency Coordination

| Sl No. | Major Theme | State/ other Agencies and their Responsibilities | |
|---|---|---|---|
| | | Activity (State) | Responsibility (State/ Others) |
| 1. | Community Based DRR | Organize consultations with resource organizations to develop community based DRM system on the local need basis | SDMAs/DDMAs, NGOs/ Charitable Organizations |
| | | Ensure that the community emergency planning and preparedness in place | CoR/Departments dealing with Disaster Management/ DDMAs, NGOs/ Charitable Organizations |
| 2. | Participation of Community in DRR | Participation of Community | CoR/SDMAs/ DDMAs/NGOs |
| 3. | Community Based Organizations | Undertake capacity building of CBOs to involve community in all stages of Disaster Management | SDMAs, DDMAs, NGOs |

## Table 4: Investing in DRR – Non-Structural Measures

| Sl No. | Major Theme | State/ other Agencies and their Responsibilities | |
|---|---|---|---|
| | | Activity (State) | Responsibility (State/ Others) |
| 1. | Resource Mapping and Planning | Conduct resource mapping | SDMAs/ DDMAs/IDRN |
| 2. | Information & Communication, Early Warning Systems | Make emergency information and early warning messages accessible to community | CoR/SDMAs/ Information Department/ District Administration |
| | | Institutionalize effective communication easily understandable to community | CoR/ Department dealing with Disaster Management/ SDMAs/ DDMAs |
| 3. | Insurance – Health/ Life / Crop/ House/ Assets/ | Encourage Insurance companies to provide insurance for assets | Finance Department |

## Table 5: Investing in DRR – Structural Measures

| Sl No. | Major Theme | State/ other Agencies and their Responsibilities | |
|---|---|---|---|
| | | Activity (State) | Responsibility (State/ Others) |
| 1. | Multipurpose Shelters | Design the emergency/ temporary shelters in consultation with community | PWD, Commissioner of Relief, SDMAs |
| | | Committee for Maintenance of the Emergency Shelters/ Temporary Shelters with involvement of Community | Department dealing with Disaster Management, COR, SDMAs, DDMAs, DDRCs |
| 2. | Structural Audit/ Retrofitting | Conducting Rapid Visual Screening and Structural Safety Audit of Buildings and retrofitting taking into consideration the Multi-Hazard Approach | State Governments/ SDMAs/ DDMAs/ Public Works Department and Concerned Departments/ owners of the institutions |
| 3. | Housing/ Reasonable Accommodation/ Infrastructure | Ensure construction of all social housing and reconstruction schemes in consultation with community | Department of Urban Development, Department of Rural Development, SDMAs, DDMAs/ |

## Table 6: Capacity Development

| Sl No. | Major Theme | State/ other Agencies and their Responsibilities | |
|---|---|---|---|
| | | Activity (State) | Responsibility (State/Others) |
| 1. | Capacity Development | Training of community in DRR | SIDM/ ATIs/ SDMAs/ DDMAs/ |
| | | Ensure creation of a voluntary group within the Community | NGOs/VOs/ CBOs/RWAs/ DDMAs/VDMCs etc. |
| | | Psycho-social support | NGOs/VOs/ CBOs |
| 2. | Curriculum Development | Adaptation of curriculum for CBDRR and integration in all levels of education in vernacular language | Department of Education/Text Book societies in States |
| 3. | Training | Trainings on CBDRR for all State Departments Trainings on CBDRR including special needs of various vulnerable groups. | ATIs, Disaster Management Institutes |
| | | Training of volunteers (NSS, NYKS, NCC, Bharat Scouts & Guides, NGOs) | NDRF and SDRF |
| | | Training of School Children and College students in various life saving skills like First aid, search and rescue etc. | Department of Education, University Grant Commission |
| 4. | Awareness Generation/ Sensitization | Sensitize the community including school, collages, RWA, Villages on Disaster Management through IEC material, videos, awareness programmes. | State Social Welfare Department, Disaster Management Department, Media, NGOs, IPRD, DDMAs, SDMAs, WCD, DoEs, District Disability Committees |
| | | Orient Youth Programmes towards CBDRR | NSS, NYKS, NCC, Scouts & Guides, NGOs |
| | | Sensitize the elected representatives at state level and below on CBDRR | Department of Panchayati Raj, Department of Urban Development |
| 5. | Knowledge enhancement – Good Practices on mitigation/ rehabilitation/ recovery | Create knowledge platforms of researchers, academics, practitioners, policy makers, planners and organizations working on CBDRR | SDMAs, VDMCs, RWAs |
| | | Create networks and engage with CBOs/ NGOs, knowledge partners | SPDRR, SDMAs, DDMAs |
| 6. | Mock Drills/ Exercises | Conduct regular drills including evacuation drills at various level and ensure people participation | CoR, SDMAs, DDMAs/, VDMCs, RWAs, DoE, UGC |

## Table 7: Post Disaster Response Process

| Sl No. | Major Theme | State/ other Agencies and their Responsibilities | |
|---|---|---|---|
| | | Activity (State) | Responsibility (State/ Others) |
| 1. | Restoration / Reconstruction/ Rehabilitation/ Recovery | Like – Water, food distribution/ medicines/ counselling/ Restoration of roads, etc. feed & fodder, veterinary medicines etc." | SDMAs/DDMAs |
| 2. | | Quick assessment of functional buildings/ infrastructure, Set up relief camps | SDMAs/DDMAs |
| 3. | | Supporting for Owner Driven Reconstruction or other form of reconstruction approaches<br><br>Quick assessment of functional buildings/ infrastructure, set up relief camps for affected humans and animals | SDMAs |
| 4. | | As per their mandate of funding agencies | SDMAs |

Effective implementation of CBDRR involves effective implementation of the above responsibilities and activities of various stakeholders at the state, district and local levels for knowledge building, interagency coordination as well as investment in structural and non-structural measures.

The next chapter briefly mentions the Community-Based Disaster Risk Reduction Guidelines at four stages of Disaster Management, concerning a few natural and human-induced hazards.

# Chapter 7

# SOME HAZARD-WISE COMMUNITY-BASED DISASTER RISK REDUCTION GUIDELINES FOR INDIA

**7.0** Community-Based Disaster Risk Reduction (CBDRR) guidelines are essential for building resilience and minimizing the impacts of both natural and man-made disasters. CBDRR empowers local communities to identify risks and take proactive measures, ensuring that responses are timely and appropriate to their specific context. Key action points across the four phases of disaster management include 'preparedness', which involves awareness campaigns, mock drills, and the creation of emergency action plans; 'response', where trained local responders can ensure prompt evacuations, provide first aid, and secure essential resources; and 'recovery', which focuses on rebuilding livelihoods, restoring services, and 'mitigation', where communities can engage in risk assessment and implement hazard-resistant infrastructure incorporating lessons learned into future mitigation efforts. By involving communities at every stage, CBDRR promotes ownership and sustainability of disaster management efforts, ultimately saving lives and resources.

These guidelines have been framed for some common hazards. There may be other local hazards for which the guidelines can be applied through appropriate changes.

## 7.1 Flood

Flood risk management is critical for protecting communities in India from the impacts of floods, which are common due to the country's diverse climate and geography. Effective management involves preparedness, response, recovery, reconstruction, and mitigation. These guidelines aim to empower communities to take an active role in managing flood risks, ensuring resilience, and minimizing losses.

### 7.1.1 Preparedness

**Risk Assessment and Mapping:** Flood risk assessments and mapping are crucial for identifying vulnerable areas and populations. This process involves using past data and records related to floods to create detailed maps that show the areas more prone to flooding and guide planning and response efforts.

**Public Awareness Campaigns:** Public awareness campaigns and community meetings are essential to educate residents about flood hazards and safety measures. These initiatives should include distributing informational materials, organizing workshops and meetings, and using local media to reach diverse segments of the community, ensuring that everyone understands how to respond during a flood.

**Evacuation Plans and Drills:** Community involvement in the development and practice of evacuation plans, including routes and shelters, is a key factor in ensuring readiness. Regular drills should be conducted to familiarize residents with evacuation procedures, with special attention given to accommodating the needs of vulnerable groups, such as the elderly and people with disabilities.

**Early Warning Systems:** Establishing early warning systems is crucial for providing timely alerts and allowing communities to evacuate safely and efficiently. These systems should integrate modern technology, like mobile alerts and community loudspeakers, to ensure that warnings reach even the most remote areas promptly.

**Training of Emergency Responders:** Training community volunteers and emergency responders in flood safety is not just about learning, it's about empowerment. This training can enhance local capacity to manage disaster events effectively. It should cover basic rescue techniques, first aid, and the use of emergency equipment, empowering volunteers to act swiftly and confidently in crisis situations.

**Pre-positioning of Emergency Supplies:** Pre-positioning of emergency supplies in strategic locations ensures ready availability of essential resources during floods. Supplies like food, water, medical kits, and blankets should be stored in easily accessible areas, such as flood centres and community centres, to facilitate quick distribution when needed.

### 7.1.2 Response

**Activating Disaster Response Plans:** When floods occur, promptly activating disaster response plans is essential to protect lives and property. This involves immediately mobilizing resources and personnel, including Home Guards, Civil Defence, and Aapda Mitras, to implement response measures and ensure the safety of affected individuals.

**Coordinated Efforts:** Coordinated efforts among local authorities, NGOs, and community organizations are necessary to ensure a unified and effective response. These entities must work together seamlessly, sharing information and resources to maximize efficiency and cover all affected areas, particularly remote and hard-to-reach locations.

**Providing Essential Services:** Providing essential services such as food, water, shelter, and medical care to affected communities is a priority. Relief camps should be set up quickly, stocked with necessities, and staffed by trained personnel to address immediate needs and prevent further hardship.

**Establishing Temporary Sanitation and Hygiene Facilities:** Temporary sanitation and hygiene facilities must be established to prevent disease outbreaks. These facilities should include clean water access, latrines, and waste disposal systems, reducing the risk of waterborne diseases in flood-affected areas.

**Providing Psychological Support and First Aid:** Psychological support should be provided to help affected individuals cope with trauma and stress. Counselling services and support groups can be organized within relief camps to offer emotional assistance and promote mental well-being among survivors.

**Effective Communication and Coordination:** Effective communication and coordination among all stakeholders, including the establishment of a centralized communication centre, are critical for managing the response. This center should serve as the hub for disseminating information, coordinating relief efforts, and facilitating communication between government agencies, NGOs, and the affected community, ensuring that everyone receives accurate and timely updates.

### 7.1.3 Recovery and Reconstruction

**Conducting Damage and Need Assessment:** After the floodwaters recede, conducting thorough damage and needs assessments is crucial for prioritizing recovery efforts. This involves detailed surveys to identify the extent of damage to infrastructure, houses, and livelihoods, ensuring that recovery plans address the most urgent needs first.

**Rebuilding Infrastructure:** Rebuilding infrastructure, such as roads, bridges, schools, and healthcare facilities, should incorporate flood-resistant designs to enhance resilience. This includes using materials and construction techniques that withstand future flooding, helping to minimize damage and disruption in subsequent events.

**Involving Local Community in Recovery Planning:** Community involvement in recovery planning ensures that local needs and preferences are met, promoting community-led initiatives for reconstruction. By engaging local residents in decision-making processes, authorities can develop recovery projects to meet the community needs, generating a sense of ownership and empowerment.

**Mobilisation of Financial Resources:** Mobilizing financial resources from government agencies, NGOs, and international donors is essential to support recovery efforts. Effective coordination and transparent management of these funds are critical to ensuring that resources are allocated efficiently and equitably across affected areas.

**Providing Technical Assistance:** Providing technical assistance to local builders and artisans in flood-resistant construction techniques can enhance the quality and sustainability of rebuilding efforts. Training programs should be organized to equip local workers with the skills needed to implement innovative building practices, thereby improving communities' resilience to future floods.

### 7.1.4 Mitigation

**Flood Protection Structures:** Implementing structural measures such as protection structures can significantly reduce flood risks. These structures help manage water flow and protect vulnerable areas from flooding, and their construction should be guided by careful planning to ensure they are effective and sustainable.

**Supporting Eco-system Restoration:** Restoring ecosystems, such as wetlands and floodplains, plays a vital role in natural flood mitigation. These natural landscapes act as buffers by absorbing excess water during floods, reducing the impact on nearby communities and enhancing biodiversity and ecological health.

**Flood Plain Zoning:** Enforcing floodplain zoning regulations is essential to prevent construction in high-risk flood areas. Strict adherence to these regulations helps minimize potential damage by ensuring that new developments are built in safer locations and with designs that can withstand flooding.

**Integration of Risk into Planning:** Integrating flood risk considerations into local development plans and policies can help communities plan for the future. By incorporating flood risk assessments into urban planning and land-use decisions, communities can reduce vulnerability and promote sustainable growth.

**Promoting use of Flood-Resistant Technology and Material:** Promoting sustainable practices, such as using flood-resistant construction materials and designs, can enhance resilience. Encouraging the adoption of these practices among builders and homeowners can significantly reduce the damage caused by future floods and support long-term community resilience.

**Continuous Community Education:** Continuous community education about flood risks and mitigation strategies engenders a culture of preparedness and resilience. Regular workshops, training sessions, and informational campaigns can help keep communities informed about the latest strategies for flood risk reduction and empower them to take proactive measures.

By following these guidelines, communities in India can strengthen their resilience to floods and reduce the impacts of such disasters. Active community involvement, supported by effective planning and resource allocation, is key to successful flood risk management.

## 7.2 Cyclone

Community-based Disaster Risk Reduction (CBDRR) is essential for effective cyclone disaster management, as it empowers communities to proactively prepare for, respond to, and recover from cyclones. By involving households and communities in risk identification, the development of early warning systems, and the implementation of evacuation plans, CBDRR significantly reduces the potential for damage and loss of life. Moreover, CBDRR encourages community-driven initiatives related to preparedness and mitigation which are vital in mitigating the impacts of cyclones. By placing communities at the forefront of their own risk reduction strategies, CBDRR not only builds resilience and self-reliance but also ensures long-term sustainability, ultimately safeguarding lives and livelihoods. Additionally, CBDRR is inclusive by design, addressing the specific needs of vulnerable groups—such as women, children, and the elderly.

These guidelines are designed to empower communities to actively manage cyclone risks, ensure resilience, and minimize losses.

### 7.2.1 Preparedness

**Enhanced Focus on Early Warning Systems:** Highlight the importance of decentralized early warning systems that engage local communities in monitoring and disseminating warnings. Stress the need for real-time data collection and the use of modern technology (like mobile apps and SMS alerts) to ensure that warnings reach even the most remote areas promptly.

Encourage community-led monitoring systems where residents can report weather changes or hazards, enhancing the accuracy and timeliness of warnings. Integrate traditional knowledge with scientific methods to create a robust, locally relevant early warning network.

**Integration with National and Regional Systems:** Advocate for the integration of community-based early warning systems with national and regional meteorological services to ensure a seamless flow of information. This includes regular training for community members on interpreting warnings and understanding their implications. Suggest establishing clear communication channels between local communities and disaster management authorities to ensure a quick response based on early warnings.

**Decentralized and Participatory Planning:** Preparedness planning for cyclones should adopt a decentralized and participatory approach, beginning at the village level and scaling up to the district level. This approach fosters localized responses, leveraging community partnerships through techniques such as Participatory Rural Appraisal (PRA) and focused group discussions. It is essential to engage Urban Local Bodies (ULBs), Panchayati Raj Institutions (PRIs), NGOs, Self-Help Groups (SHGs), and other Community-Based Organizations (CBOs) in these planning efforts. Special emphasis must be placed on including vulnerable groups, who are often the most affected by cyclones. Planning should integrate historical knowledge of past disasters and traditional coping strategies to ensure the plans are both contextually relevant and practical for the communities involved.

**Augmented Community-Level Preparedness:** Emphasize the need for regular community mock drills and exercises that prepare people for cyclone scenarios. These drills should be tailored to local vulnerabilities and include special provisions for the elderly, children, and people with disabilities. Advocate for the involvement of schools, NGOs, and other community-based organizations in these drills to foster a community-wide culture of preparedness. This includes providing training in search and rescue operations, medical preparedness, and the development of detailed disaster management plans at the block and village levels.

**Developing Local Leadership in Disaster Preparedness:** Promote identification and training of local leaders who can act as disaster response coordinators. These leaders should have the knowledge and resources to guide their communities during cyclones. Suggest the formation of community disaster management committees that include representatives from all sections of the community. These committees should be responsible for creating and updating local disaster preparedness plans.

**Resource Mapping and Community Assets:** Encourage communities to conduct resource mapping to identify local assets that can be utilized during a disaster. This includes safe shelter buildings, vehicles for evacuation, and local healthcare providers. Highlight the importance of maintaining a stockpile of essential supplies like food, water, first-aid kits, and communication tools that can be quickly mobilized during a cyclone.

**Inclusivity and Participation:** Reinforce the need for inclusive planning that actively involves vulnerable groups in decision-making processes. This ensures that the specific needs of women, children, the elderly, and people with disabilities are met in disaster preparedness

efforts. Recommend the development of community-specific evacuation routes and shelter plans, considering the unique geographical and social contexts of each area.

### 7.2.2 Response:

**Prompt Activation of Disaster Response Plans:** Activate disaster response plans upon receiving a severe cyclone warning to protect lives and property promptly. This involves immediately mobilizing resources and personnel, including Home Guards, Civil Defence, Aapda Mitras, and other first responders. These teams must be prepared to swiftly implement response measures and ensure all affected individuals' safety.

**Evacuation and Search & Rescue Operations:** Evacuate communities in areas likely to be impacted by the cyclone and relocate to designated safe zones. Search and Rescue (SAR) teams must immediately evacuate marooned or stranded individuals. Provide temporary shelters for evacuees and comprehensive humanitarian assistance is a critical component of the response effort.

**Provision of Essential Supplies and Services:** Supply the affected communities with food, water, clothing, and other non-food items to meet their basic needs. Temporary sanitation and hygiene facilities should be established to maintain public health. In addition, basic first aid and medical assistance must be made available, alongside psychological first aid and counseling services, with a particular focus on vulnerable groups such as children, women, the elderly, and people with disabilities.

### 7.2.3 Recovery and Reconstruction:

**Community-Led Recovery and Decision-Making:** Plan recovery and reconstruction in consultation with the community in the aftermath of a devastating cyclone. Communities must actively engage in planning and decision-making processes to ensure that their needs and priorities are accurately reflected in the recovery efforts. Empowering communities to take charge of their recovery fosters ownership and ensures that reconstruction efforts align with local realities.

**Rapid Damage Assessment and Debris Clearance:** Conduct damage and loss assessment, with the participation of community leaders, and create detailed maps of the affected areas. The clearance of debris and rubble must be undertaken swiftly, emphasizing recycling and reusing materials where possible to minimize waste and promote sustainable recovery practices.

**Restoration of Critical Infrastructure:** Restore water and sanitation services immediately. At the same time, the restoration of critical infrastructure, such as roads, bridges, and schools, must be prioritized. These efforts should incorporate disaster-resilient designs and materials to ensure the rebuilt infrastructure is better equipped to withstand future cyclones. The same principles should apply to housing reconstruction, where community-led efforts should be supported to rebuild homes using resilient construction methods.

**Health and Sanitation Restoration:** Restore health and sanitation services as quickly as possible, including medical care and vaccinations. All affected individuals must have access to safe water and sanitation facilities. When necessary, psychological support and counselling should be provided to victims, particularly those in need of trauma care, to help them recover emotionally from the disaster.

**Livelihood Restoration and Economic Recovery:** Restore the livelihoods of the affected communities. The State and local governments should support the revival of livelihoods in affected communities, including agriculture, small businesses, and other vital economic activities. Such support may be extended through cash transfers, small grants, and subsidized loans. Where appropriate, vocational training should help people rebuild their livelihoods and promote early economic recovery.

### 7.2.4 Mitigation

**Structural Mitigation Measures:** Implement structural mitigation measures effectively, as they can significantly reduce cyclone risks by protecting vulnerable areas from the impacts of cyclones. Construction of cyclone-resistant buildings, including schools, hospitals, and shelters, using reinforced materials and designs is critical in mitigating cyclone risks. Existing social housing that lacks cyclone- and flood-resilient features should be retrofitted to withstand high winds and flooding. Additional structural measures, such as installing storm shutters, impact-resistant doors and windows, and constructing multi-purpose cyclone shelters in coastal villages and areas prone to frequent cyclones, should be prioritized. Reinforce public utilities and critical infrastructure such as bridges, culverts, and power lines with cyclone-resistant features. Along vulnerable coastlines, constructing sea walls, dunes, and other coastal protection structures is essential. Community-led mangrove reforestation and other coastal protection initiatives should be actively supported, as they provide natural barriers against cyclone impacts.

**Non-Structural Mitigation Measures:** Reduce cyclonic risks through non-structural mitigation efforts. This includes establishing early warning systems and emergency communication networks to ensure timely dissemination of information. Communities should regularly conduct cyclone drills and evacuation exercises to practice response plans, while public awareness campaigns and education programs are necessary to keep communities informed and prepared.

**Environmental Conservation Measures:** Conserve non-structural mitigation. Initiatives such as mangrove restoration and coastal afforestation should be prioritized, as these natural defences can reduce the severity of cyclone impacts. Relevant agencies must ensure the enforcement and monitoring of Coastal Regulation Zone (CRZ) guidelines, alongside implementing flood-control measures, such as floodplain zoning and wetland restoration. Additionally, a strong techno-legal framework must be maintained in town-planning and country-planning rules to support disaster risk reduction.

**Empowering Communities in Mitigation Efforts:** Empower communities. State, district, and local administrations should support communities in taking ownership of mitigation efforts by supporting community-based initiatives. The formation of cyclone mitigation teams and other grassroots-level efforts must be encouraged. Risk transfer mechanisms, such as multi-hazard insurance for life and property, should be emphasized to provide financial protection to communities during a disaster.

## 7.3 Earthquake

Community-Based Disaster Risk Reduction (CBDRR) for earthquakes in the seismic zones is of paramount importance. It not only empowers local communities to manage their own risks and build resilience but also fosters a sense of responsibility and ownership. Engaging people in identifying hazards, assessing risks, and developing strategies creates a culture of preparedness, significantly reducing the damage and casualties caused by earthquakes. This approach encourages social cohesion derived from collective preparedness, safe construction, and public awareness, which are essential for building resilient communities capable of withstanding and recovering from earthquakes.

As with all hazards, the CBDRR for earthquakes has four distinct stages: a. preparedness, b. response, c. recovery and reconstruction, and d. mitigation. One crucial aspect of preparedness is early warning for earthquakes, an emerging area of science that is still experimental. The sections below elaborate on all the four aspects.

### 7.3.1 Preparedness

**Community Earthquake Drills:** Regular earthquake drills in schools, public offices, and community centers are critical to familiarizing people with evacuation routes, procedures, and assembly points. These drills should simulate realistic scenarios to test response times and coordination among community members, ensuring everyone knows what to do during an actual earthquake.

**Capacity Building of Response Teams:** Train community volunteers, police, fire brigades, civil defense, and first responders in search and rescue, first aid, and trauma management. Regular refresher training and simulations are essential to keep their skills sharp and ensure they are equipped with the latest techniques and tools for disaster response.

**Public Awareness Campaigns:** Conduct workshops, distribute pamphlets, and use local media to inform communities about earthquake risks and safety measures during and after earthquakes. Integrate these campaigns with school curricula and community events to ensure wide reach and sustained awareness among all age groups and social segments.

**Resource Mapping and Stockpiling:** Identify critical resources such as hospitals, schools, and shelters. Ensure these places have emergency supplies, including food, water, and medical kits, and conduct regular checks to maintain the quality and availability of supplies, while identifying additional local resources that can be quickly mobilized in an emergency.

**Inclusive Emergency Planning:** Engage vulnerable groups, such as women, children, and persons with disabilities, in emergency planning. Develop tailored evacuation strategies that consider the specific needs of these groups, ensuring that emergency services and resources are accessible to all, particularly during and after a disaster.

**Seismic Hazard Maps:** State and district authorities should create and update seismic hazard maps, ensuring that communities understand high-risk areas and can plan accordingly. These maps should be disseminated widely through public platforms, schools, and local authorities to enable better-informed community preparedness and infrastructure planning.

### 7.3.2 Response

**Activation of Emergency Operation Centres (EOCs):** Following an earthquake, local authorities must activate EOCs at the district, and sub-district levels to coordinate response activities and ensure effective communication. These centres should be equipped with modern communication systems, real-time data monitoring tools, and have predefined roles for officials to expedite decision-making during the response phase.

**Evacuation Management:** Implement pre-identified evacuation routes and safe zones. Facilitate search and rescue operations and provide food, medical assistance, and psychological support to evacuated individuals. Special provisions should be made for vulnerable populations, ensuring safe and efficient transportation for the elderly, disabled, and children to designated shelters.

**Debris Management:** Clear debris and dispose of it at designated locations. Restoring water and sanitation services should be a priority. Additionally, establish temporary debris recycling sites to manage waste efficiently and explore options for using cleared debris in reconstruction efforts.

**Restoration of Communication Channels:** Quickly re-establish communication channels, such as radios or satellite phones, to ensure coordination between responders and higher authorities. Mobile communication units should be deployed to areas where networks have been disrupted, ensuring continuous flow of information and emergency alerts to the public.

**Damage and Needs Assessment:** Deploy teams to assess infrastructure damage and immediate needs such as food, medical care, and shelter. Work with central and state agencies to ensure updated norms are enforced and monitored. Develop a centralized database to log damage reports, enabling targeted and prioritized response efforts.

### 7.3.3 Recovery and Reconstruction

**Community-Led Recovery:** Engage communities in recovery planning, focusing on their needs and priorities. Create maps of affected areas and provide temporary shelters while permanent housing is reconstructed. Involve community members in decision-making processes to ensure the recovery reflects local knowledge, cultural practices, and long-term sustainability goals.

**Rebuilding Infrastructure:** Ensure that all reconstruction efforts follow earthquake-resistant building codes and standards. Restore essential services like water, electricity, and transportation networks, incorporating disaster-resilient designs. Additionally, use the reconstruction phase as an opportunity to upgrade infrastructure to more resilient and eco-friendly models that can better withstand future disasters.

**Housing Reconstruction:** Support community-led housing reconstruction efforts using disaster-resilient designs and materials. Facilitate access to technical expertise and financial assistance, ensuring that housing reconstruction includes provisions for vulnerable groups and adheres to sustainability principles to reduce future risks.

**Livelihood Restoration:** Provide training and resources to restore livelihoods, support small businesses, and offer economic recovery assistance. Implement programs like small loans and seed grants to help families restart their livelihoods. Partner with local businesses and vocational institutions to offer skill development programs that enhance income generation opportunities and improve long-term economic resilience.

**Monitoring and Evaluation:** Regularly monitor and evaluate recovery progress, making adjustments as needed to ensure effectiveness. Establish transparent reporting mechanisms and involve local communities in the evaluation process to ensure accountability and continuous improvement of recovery strategies.

### 7.3.4 Mitigation

**Hazard Identification and Risk Assessment:** Educate communities on earthquake risks and mitigation strategies. Conduct regular risk assessments and awareness campaigns. Involve local experts and community leaders in the assessment process to ensure that risk reduction measures are locally relevant, feasible, and aligned with traditional knowledge and practices.

**Enforcement of Building Codes:** Ensure all new constructions comply with earthquake-resistant standards. Regularly inspect buildings and implement retrofitting measures where necessary. Additionally, incentivize compliance through subsidies or financial assistance for retrofitting older structures, especially in high-risk areas, to improve community resilience.

**Strengthen Critical Infrastructure:** Retrofit schools, hospitals, bridges, and dams to withstand earthquakes. Establish local seismic monitoring stations to provide real-time data. Moreover, prioritize upgrading critical lifeline infrastructure such as power grids, water supply systems, and transportation networks to ensure continued service during and after seismic events.

**Zoning Regulations:** Implement zoning regulations to prevent construction in high-risk areas such as fault lines or unstable ground. Engage local communities in mapping areas at risk and take appropriate mitigation actions. Integrate zoning enforcement with community land-use planning and sustainable development practices to reduce long-term vulnerabilities.

**Non-Structural Measures:** Secure heavy furniture, appliances, and hazardous materials. Foster partnerships between communities, governments, and the private sector to leverage resources and expertise for risk mitigation. Launch public awareness campaigns focusing on low-cost non-structural measures households can implement, ensuring widespread adoption across various income groups.

By following these guidelines, communities can effectively reduce their vulnerability to earthquakes and promote resilient development.

## 7.4 Landslide

The community-Based Disaster Risk Reduction (CBDRR) approach helps to reduce landslide risks by enabling communities to understand, identify, and mitigate these hazards. Engaging local communities in monitoring terrain stability, mapping hazard zones, and developing early warning systems promotes self-reliance and resilience. The guidelines provided here are aimed at empowering communities to take proactive steps in managing landslide risks, ensuring reduced damage and casualties, and promoting sustainable recovery and development.

### 7.4.1 Preparedness

Preparedness involves both setting up early warning systems and educating communities to effectively respond to landslide risks. Local administrations play a critical role in facilitating this preparedness. Preparedness focuses on equipping communities with the knowledge and skills to respond effectively to landslide risks.

**Early Warning:** Early warning systems help communities receive timely alerts about potential landslide events, allowing them to take precautionary measures.

**Risk Assessment and Monitoring:** Assess the landslide risks based on rainfall patterns, soil stability, slope conditions, and historical data. Regularly monitor conditions in high-risk zones to detect changes that might indicate an increased risk of landslides.

**Installation of Sensors and Monitoring Tools:** Install rain gauges, soil moisture sensors, and other monitoring tools to track environmental changes. These systems collect real-time data on rainfall, soil movement, and slope conditions, which can help issue timely alerts.

**Community-based Early Warning Systems:** Establish community-based systems to disseminate early warnings. Ensure that alerts from monitoring tools are communicated promptly to at-risk communities through sirens, messaging systems, or other means.

**Rainfall and Soil Moisture Monitoring:** Regularly monitor rainfall and soil moisture levels to determine when landslide risks are elevated. Issue warnings when conditions reach critical thresholds that may lead to landslides.

**Public Awareness Campaigns:** Conduct regular community education programs focusing on landslide warning signs, such as soil movement and cracks in the ground. Promote awareness about actions to take when these signs appear, and ensure communities understand the risks and necessary responses.

**Emergency Preparedness Planning:** Develop community-level emergency plans, identifying safe zones and evacuation routes. Regularly conduct drills to ensure the community is prepared for quick evacuations in the event of a landslide.

**Training for First Responders:** Train local volunteers and community members in basic search and rescue techniques, first aid, and emergency shelter management. This training ensures a swift and effective community response following a landslide.

**Community Preparedness Teams:** Establish community-based preparedness teams to organize evacuation drills, ensure the functionality of early warning systems, and facilitate community response during emergencies.

### 7.4.2 Response

Effective response efforts can significantly reduce casualties and damage. Communities must be prepared to act immediately following a landslide event, ensuring swift coordination and the provision of essential services to those affected.

**Activate Emergency Operations Centres (EOCs):** Local authorities should immediately activate district-level EOCs to manage and coordinate all response actions. EOCs will serve as the hub for communication, ensuring that information flows smoothly between responding agencies, communities, and emergency services. Regular updates should be provided to all stakeholders, ensuring a coordinated effort.

**Search and Rescue Operations:** Trained local search and rescue teams should be deployed to affected areas without delay. These teams, supported by community volunteers, will work to locate survivors, provide first aid, and transport those in need of urgent care to medical facilities. Engaging volunteers can enhance the effectiveness of the response, particularly in remote or hard-to-reach areas.

**Emergency Medical Assistance:** Medical teams should be mobilized to provide immediate treatment to injured individuals. Triage centers need to be set up near affected areas to stabilize those with critical injuries before transferring them to hospitals. In addition, psychological first aid should be provided to help manage trauma among survivors.

**Emergency Shelter Management:** Temporary shelters should be established in safe zones, ensuring basic necessities such as food, water, and sanitation are provided. It is crucial to ensure that vulnerable groups, including women, children, the elderly, and persons with disabilities, are given special attention in terms of safety, privacy, and access to services. The provision of medical care at shelters should be prioritized to address any health issues among displaced persons.

**Restoring Access:** Local authorities, in coordination with public works and infrastructure teams, should prioritize the clearing of roads and restoration of access to isolated communities. This will enable the delivery of relief supplies, facilitate medical evacuations, and support ongoing rescue operations. Special focus should be placed on re-establishing access to medical facilities and other critical infrastructure.

### 7.4.3 Recovery and Reconstruction

Landslide recovery efforts should prioritize restoring normalcy and reducing the long-term impact on affected communities, while incorporating measures to build resilience against future disasters.

**Damage and Needs Assessment:** Conduct a thorough assessment of the landslide's impact on homes, infrastructure, and livelihoods. This should include consultations with affected communities to identify priority areas for rehabilitation and ensure that recovery plans address both immediate and long-term needs.

**Temporary Housing Solutions:** Provide temporary housing for those who have lost their homes. These shelters should be located in safe zones, away from landslide-prone areas, and designed to offer sufficient space, sanitation, and security, ensuring that displaced families can live in dignity while permanent solutions are developed.

**Livelihood Restoration Programs:** Offer financial assistance, agricultural recovery support, and job creation initiatives to help communities recover their livelihoods. Programs should focus on diversifying income sources and building local capacity, ensuring that communities are better equipped to withstand future economic disruptions.

**Rebuilding with Slope Stabilization Measures:** When reconstructing homes and infrastructure, implement effective slope stabilization techniques like retaining walls and slope terracing. Additionally, rebuilding efforts should be guided by risk assessments and land-use plans to ensure that new structures are situated in safe locations, minimizing exposure to future landslide risks.

### 7.4.4 Mitigation

Mitigation strategies aim to reduce landslide risks through long-term, proactive measures. These efforts involve hazard identification, risk-sensitive planning, and community-led interventions that enhance the resilience of vulnerable areas.

**Landslide Hazard Risk Assessment and Mapping:** Conduct detailed topographical and geological surveys to identify landslide-prone zones. These maps should be widely disseminated among communities, local governments, and planning authorities to ensure that high-risk areas are recognized and avoided. Incorporating hazard mapping into community awareness campaigns can empower residents to make safer decisions about land use and development.

**Land-use Zoning:** Enforce land-use regulations that prohibit construction, farming, and other high-risk activities on unstable slopes. Development plans must integrate landslide risk assessments to ensure that new structures and infrastructure are sited in safe locations, reducing future exposure to hazards. Ongoing enforcement of these regulations is critical to safeguarding communities from preventable disasters.

**Slope Stabilization Projects:** Invest in engineering interventions such as retaining walls, slope terracing, and vegetation planting to stabilize erosion-prone areas. These projects should be designed in collaboration with local communities to promote sustainable land-use practices

and enhance environmental resilience. Involving local residents in maintenance ensures long-term success of stabilization efforts.

**Drainage Improvement:** Implement and maintain proper drainage systems to control water flow and prevent accumulation near slopes, which can trigger landslides. Regular clearing of drainage channels and designing drainage systems that account for seasonal variations in rainfall will reduce the risk of soil saturation and slope instability.

**Community-Based Monitoring of Risk Areas:** Establish local monitoring teams to observe high-risk areas and identify early warning signs of potential landslides, such as cracks in the ground or leaning trees. Promptly reporting these signs to local authorities enables swift action, potentially preventing a disaster. Engaging communities in monitoring efforts fosters ownership and vigilance, ensuring ongoing risk reduction.

## 7.5 Drought

Community-Based Disaster Risk Reduction (CBDRR) plays a vital role in drought management by engaging communities in proactive measures. It equips them to anticipate better, respond to, and recover from droughts. Through localized monitoring, water management, and sustainable farming, CBDRR helps reduce vulnerability. Community-led initiatives such as water harvesting, conservation agriculture, and livelihood diversification strengthen resilience against drought impacts. By encouraging self-reliance, innovation, and collective action, CBDRR minimizes the impacts on agriculture, livestock, and human well-being while also addressing the root causes of vulnerability to ensure sustainable development and food security.

These guidelines aim to empower communities to manage drought risks, enhancing resilience and reducing losses.

### 7.5.1 Preparedness

Drought Early Warning Systems: Establish a robust system for real-time monitoring of rainfall, soil moisture, and water levels in reservoirs. Collaborate with the India Meteorological Department (IMD) and its regional offices to provide timely drought forecasts and ensure the dissemination of warnings through local channels like village councils, media, and mobile alerts.

**Local-Level Drought Monitoring:** Enhance drought monitoring at the grassroots by involving community members and local authorities in tracking critical drought indicators. Install community rain gauges to record local rainfall patterns. Regular data collection helps identify deviations from normal rainfall. Monitor the progress of crop sowing and germination rates. Early detection of delays or failures in sowing can indicate emerging drought conditions.

**Assessing Water Levels:** Regularly assess water levels in local tanks, ponds, wells, and other traditional water bodies. This provides immediate insight into water availability for irrigation and domestic use. Utilize simple soil moisture measurement techniques to evaluate the water content in the soil, which affects crop health.

**Community Awareness and Education:** Conduct regular awareness campaigns to educate communities about drought risks and mitigation strategies. Use workshops, pamphlets, and local radio or television to emphasize water conservation, resource management, and climate change adaptation practices.

**Water Conservation Infrastructure:** Construct water harvesting systems, including check dams, ponds, and rainwater catchment systems. Promote efficient groundwater recharge techniques like percolation tanks, especially in vulnerable, drought-prone areas.

**Drought-Resilient Agriculture Training:** Offer targeted training programs on drought-resilient farming practices, such as crop rotation, the use of drought-tolerant crop varieties, and micro-irrigation methods (e.g., drip and sprinkler systems). This empowers farmers to sustain productivity with limited water resources.

**Stockpiling Essential Resources:** Ensure buffer stocks of food grains, fodder, and water are available. These resources should be centrally located and easily accessible, supported by coordinated logistics to aid timely distribution during emergencies.

### 7.5.2 Response

Activation of Drought Response Committees: Promptly activate district-level committees upon the declaration of a drought. These committees should oversee relief measures, coordinate with various agencies, and ensure that interventions are community-driven and context-sensitive. They should include representatives from local communities to ensure the needs of vulnerable populations are addressed.

**Emergency Water Supply Management:** Deploy emergency water distribution through tankers or establish community water points. Prioritize areas with critical water shortages and ensure safe drinking water and sanitation are available to avoid secondary health crises, especially among vulnerable groups such as children, pregnant women, and the elderly.

**Food and Fodder Distribution:** Leverage the Public Distribution System (PDS) to provide essential food relief. Set up fodder banks to prevent livestock losses due to starvation. Closely monitor the distribution of food and fodder to ensure it reaches the most affected areas, avoiding wastage and ensuring equitable access.

**Employment and Income Support Programmes:** Expand employment opportunities through schemes like MGNREGA to support livelihoods affected by crop failure. Focus on drought-related infrastructure projects, such as building water conservation structures, which enhance long-term resilience and reduce future drought risks.

**Health Monitoring and Assistance:** Set up mobile health clinics to monitor and treat malnutrition and waterborne diseases, with a special focus on vulnerable populations. Ensure that children, pregnant women, and the elderly receive timely medical assistance.

**Nutrition for Women and Children:** Address the increased risk of malnutrition during droughts, especially among women and children. Implement supplementary nutrition programs to provide fortified food and essential nutrients to pregnant and lactating women and children under five. Collaborate with local health workers to distribute ready-to-eat meals, therapeutic food, and supplements to meet nutritional needs, preventing long-term health impacts. Special care should be taken to provide meals at schools and community centres to ensure children do not face hunger during drought emergencies.

### 7.5.3 Recovery

**Agricultural Recovery:** Provide farmers with seeds, fertilizers, and other inputs for the next planting season, ensuring they have the resources to resume cultivation as soon as conditions improve. Offer financial assistance through existing relief schemes, such as low-interest loans and direct grants, to help farmers recover their lost income, rebuild their assets, and sustain their livelihoods during the recovery phase. Special focus should be given to marginal and small farmers, who are often the most vulnerable during droughts.

**Rejuvenation of Water Sources:** Restore and improve critical water infrastructure such as wells, irrigation canals, and reservoirs that may have been depleted or damaged during the drought. Prioritize projects that enhance groundwater recharge through the construction of check dams, percolation tanks, and rainwater harvesting systems, ensuring a more reliable and sustainable water supply for agricultural and domestic use in the long term. Engaging local communities in these efforts can ensure better maintenance and sustainability of these resources.

**Rebuilding Agricultural Systems:** Promote the adoption of drought-resilient crops, such as millets and pulses, which require less water and are more resilient to climate variability. Encourage the use of sustainable farming techniques, including crop rotation, soil moisture retention, and agroforestry, to improve long-term resilience to droughts. Provide technical support through agricultural extension services, and offer subsidies or low-interest loans to make these practices financially viable for farmers, particularly in drought-prone areas.

**Rehabilitation of Grazing Lands:** Collaborate with local communities to rehabilitate degraded grazing lands by planting drought-tolerant grass species and adopting soil conservation measures to restore pasture health. Promote rotational grazing, where livestock are moved between pastures, allowing overgrazed areas time to recover. This helps ensure sustainable livestock management and improves the productivity of grazing lands, contributing to long-term livestock recovery and resilience.

### 7.5.4 Mitigation

**Sustainable Water Management:** Implement long-term water management strategies that focus on large-scale rainwater harvesting, creating ponds, check dams, and tanks to capture runoff and store it for use during dry periods. Promote groundwater recharge techniques such as constructing percolation pits, underground reservoirs, and restoring traditional water bodies. Ensure reservoirs are optimally utilized by controlling water release based on crop cycles and drinking water needs. Introduce community-led water auditing to monitor

consumption patterns, ensuring that water use is efficient and equitable. Such audits encourage transparency and foster collective responsibility for sustainable water management at the village and district levels.

**Drought-Resilient Crop Planning:** Promote the cultivation of less water-intensive crops such as millets, pulses, and drought-tolerant varieties of traditional crops to reduce agricultural water demand while maintaining soil fertility and ensuring food security. Agroforestry systems, which integrate trees with crops and livestock, should be encouraged to reduce evaporation from the soil, increase biodiversity, and enhance resilience. Encourage crop diversification, where farmers plant a mix of short and long-duration crops, to minimize economic losses during droughts. This diversification provides a safety net for farmers by reducing dependency on a single crop and spreading risk.

**Afforestation and Soil Conservation:** Implement large-scale afforestation programs in drought-prone areas to stabilize the soil, reduce erosion, and increase its water retention capacity. Reforestation and agroforestry practices should focus on planting native tree species that are well-adapted to the local climate and require less water. Build community nurseries that encourage local participation in tree planting, ensuring a consistent supply of saplings. These nurseries not only create green jobs but also foster a sense of ownership within the community. Alongside afforestation, promote soil conservation techniques such as contour bunding, mulching, and cover cropping to enhance soil structure and prevent moisture loss.

**Capacity Building for Drought Risk Reduction:** Train local officials, farmers, and community leaders in modern drought risk management techniques, including the use of technology for better forecasting and early warning systems. Organize workshops and training programs focused on sustainable agricultural practices, water conservation methods, and community mobilization. Encourage the use of mobile applications, GIS mapping, and satellite data to improve drought prediction and monitoring at the grassroots level. Capacity-building initiatives should also include training communities in financial literacy, ensuring they understand how to access drought insurance schemes or government relief programs during periods of drought.

**Drought Risk Mapping and Zoning:** Conduct detailed vulnerability assessments at the district and village levels by analyzing historical rainfall patterns, water availability, soil conditions, and cropping patterns to identify areas most at risk of drought. Develop zoning regulations that classify regions based on their drought risk, guiding land use, water management, and agricultural activities. Integrate climate projections into these assessments to anticipate future drought risks under changing climate conditions. These zoning regulations should inform local planning authorities to restrict water-intensive activities in high-risk areas and encourage investments in drought-resilient infrastructure and farming practices.

## 7.6 Chemical (Industrial) Risk Management

Community-Based Disaster Risk Reduction (CBDRR) plays a crucial role in managing chemical (industrial) disasters. By involving local communities in identifying potential risks, developing emergency response plans, and conducting regular drills, CBDRR minimizes the impact of chemical disasters on human health and the environment. This approach also promotes community-led initiatives like awareness campaigns, emergency alert

systems, and environmental monitoring, reducing the risk of chemical accidents. CBDRR encourages collaboration between communities, industries, and authorities, ensuring a shared responsibility in preventing and mitigating chemical disasters. Moreover, it empowers communities to hold industries accountable for safety practices, creating a culture of transparency and accountability.

These guidelines aim to empower communities and local authorities to actively manage chemical (industrial) risks, ensuring resilience and minimizing losses.

### 7.6.1 Preparedness

**Hazard Mapping and Risk Assessment:** Conduct comprehensive hazard mapping of industrial areas that store or use hazardous chemicals. Assess the proximity of these areas to vulnerable populations like schools and hospitals and identify potential exposure risks. Involve local communities in understanding these risks and implementing local safety measures.

**Public Awareness Campaigns:** Raise awareness about the risks associated with industrial chemicals and educate nearby communities, workers, and local leaders on how to respond during emergencies. Collaborate with schools, local organizations, and civil society groups to spread information and ensure widespread community engagement.

**Emergency Response Training:** Train local first responders, including fire services, police, and medical personnel, in chemical disaster management. This training should include hazardous material (HAZMAT) protocols, the use of personal protective equipment (PPE), and decontamination procedures. Organize joint exercises with agencies like NDRF, SDRF, and Civil Defense to improve coordination.

**NGO and Community Capacity Building:** Build the capacity of local NGOs and community representatives to recognize chemical hazards and report unsafe practices. These groups should participate in Local Crisis Groups (LCGs) and help disseminate warnings and assist authorities in response efforts during an incident.

**Community Evacuation Drills:** Conduct regular evacuation drills in industrial zones to ensure that communities understand evacuation routes, assembly points, and procedures for avoiding chemical exposure. These drills should be inclusive, considering the needs of vulnerable populations like the elderly and disabled.

**Stockpiling Emergency Equipment and Medical Supplies:** Ensure district health centers are stocked with essential supplies such as decontamination agents, antidotes for specific chemicals, respiratory masks, and PPE. This preparation will enhance the local community's ability to respond effectively in case of a chemical incident.

**Corporate-Led Initiatives:** Utilize corporate initiatives like Corporate Social Responsibility (CSR) programs to strengthen local preparedness. Chemical industries should collaborate with nearby communities to improve safety awareness and preparedness measures, enhancing overall disaster risk management.

### 7.6.2 Response

**Immediate Evacuation and Shelter Management:** Implement rapid evacuation procedures for communities in the event of a chemical accident. Ensure that shelters have sealed rooms, food, and medical supplies to protect evacuees from chemical exposure.

**Activation of Incident Command Systems (ICS):** Activate local ICS to coordinate response efforts between fire services, police, health officials, and industry representatives. This unified command structure ensures quick decision-making and effective resource deployment.

**Hazardous Material Containment and Decontamination:** Deploy HAZMAT teams to contain chemical spills and initiate decontamination processes. Use specialized equipment and techniques to neutralize chemicals and prevent further spread, with support from NDRF and SDRF if necessary.

**Medical Treatment and Triage:** Set up emergency medical camps near affected areas to provide immediate treatment for chemical exposure. Hospitals should be equipped to handle chemical-related injuries and provide specialized care, including antidotes for toxic substances.

**Public Information and Communication:** Use real-time communication channels such as social media, local radio, and public address systems to inform the public about evacuation routes, shelters, and safety instructions. Clear and timely communication can reduce panic and improve community response.

### 7.6.3 Recovery and Reconstruction

**Damage and Environmental Impact Assessment:** Conduct detailed assessments of the physical damage and environmental impact of the chemical disaster. Use advanced technologies like drones and GIS to evaluate contamination in air, water, and soil, and develop long-term remediation strategies.

**Rehabilitation of Contaminated Areas:** Work with environmental experts to clean up contaminated areas. This may include soil remediation, water treatment, and the safe disposal of hazardous materials to prevent further exposure risks for the community.

**Restoration of Livelihoods:** Implement programs to help those affected by the disaster, particularly workers in the impacted industry and nearby communities. Provide financial aid, job training, and employment opportunities to facilitate economic recovery.

**Medical and Psychological Support:** Establish long-term health monitoring and provide medical care to those exposed to harmful chemicals. Offer psychological support and trauma counselling to help individuals cope with the aftermath of the disaster.

**Rebuilding Infrastructure and Housing:** Rebuild damaged infrastructure, including roads, public buildings, and homes, with an emphasis on safety. Consider relocating vulnerable populations away from high-risk industrial zones to reduce future risks.

### 7.6.4 Mitigation

Strict Enforcement of Safety Regulations: Ensure that industrial facilities comply with safety standards through regular inspections and equipment upgrades. Enforce zoning regulations to maintain safe distances between residential areas and industrial sites.

**Development of Early Warning Systems:** Implement early warning systems to detect chemical accidents in real-time. Equip nearby communities with alarms and automated systems that can alert them quickly to potential hazards.

**Capacity Building for Industrial Workers:** Provide continuous training for industrial workers on safe chemical handling, emergency response, and spill prevention. Promote a safety-first culture within industrial operations.

**Promoting Safer Technologies:** Encourage the adoption of cleaner, safer technologies in industrial processes. Support investments in automation, leak detection systems, and less toxic alternatives to hazardous chemicals.

**Risk Reduction through Land-Use Planning:** Integrate risk reduction measures into land-use planning. Create buffer zones between industrial areas and communities to minimize the impact of potential chemical disasters.

**Sustainability through Multi-Stakeholder Partnerships:** Establish partnerships among local communities, NGOs, industry, and government agencies to promote long-term chemical disaster risk management. These partnerships should focus on preparedness, response coordination, and ensuring transparency and accountability from all stakeholders.

## 7.7 Epidemic

Community-Based Disaster Risk Reduction (CBDRR) plays a key role in managing epidemic risks. It helps communities detect, respond to, and recover from outbreaks efficiently. By involving local communities in activities like disease surveillance, contact tracing, and health education, CBDRR strengthens a community's ability to manage epidemics. Local involvement is crucial for reducing disease spread and minimizing the epidemic's impact. Moreover, CBDRR encourages initiatives such as vaccination programmes and social distancing, which are vital for building resilience against epidemics. Engaging communities in these efforts builds trust, cooperation, and collective action, which saves lives and reduces social and economic harm. These guidelines empower communities to actively manage epidemic risks, ensuring their preparedness and minimizing losses.

### 7.7.1 Preparedness

Preparedness focuses on actions that anticipate and prevent epidemic outbreaks, aiming to minimize their impact. Key activities include:

**Surveillance Systems for Early Detection:** Set up community-based health surveillance to monitor and report any signs of disease. Train community health workers to recognize unusual patterns of illness and report them promptly.

**Community Health Education:** Run awareness campaigns on hygiene, sanitation, vaccination, and disease prevention. Educate people about how diseases spread, the early symptoms, and when to seek medical help.

**Vaccination and Immunization Programs:** Ensure that high-risk populations are vaccinated. Mobilize vaccination drives in coordination with local health authorities and follow routine immunization schedules. Establish mobile vaccination units can help reach remote and underserved populations more effectively.

**Training of Health and Emergency Response Teams:** Train local health workers, volunteers, and officials on epidemic preparedness and response protocols. This training focuses on isolation measures, proper hygiene, and emergency medical care.

**Stockpiling Medical Supplies and Equipment:** Build a stockpile of essential medical supplies like protective gear, disinfectants, and medicines. Ensure that local health centres have the resources to handle an outbreak. Regularly updating and rotating stockpiles ensures that supplies remain practical and ready for immediate use.

### 7.7.2 Response

A quick and coordinated response is critical once an epidemic occurs. Key response actions include:

**Activation of Emergency Health Committees:** Immediately activate local health committees to mobilize healthcare resources and coordinate with higher health authorities. Local governments must be represented in setting up health committees.

**Isolation and Quarantine Measures:** Implement isolation and quarantine protocols to prevent further disease spread. Prepare community-based facilities for quarantine or organize home quarantine strategies. Seek the help of local governments, NGOs, and the private sector to set up these facilities.

**Rapid Testing and Diagnosis:** Set up local testing and diagnostic centres to identify cases quickly and coordinate with district labs to ensure fast sample processing. Mobile testing units can be deployed to remote or high-risk areas to ensure widespread and timely access to diagnostic services.

**Community Hygiene and Sanitation:** Promote good hygiene practices like regular hand washing, disinfecting public spaces, and safely disposing of medical waste. Public awareness campaigns about the importance of hygiene and sanitation should be coupled with providing necessary resources, such as hand washing stations and waste disposal units in high-traffic areas.

**Medical and Psychological Support:** Deploy mobile health units to care for the infected. Provide psychological support to help communities manage stress and anxiety during the outbreak. Establishing hotlines or telemedicine services for mental health support can ensure continuous access to psychological care, especially in isolated or quarantined areas.

### 7.7.3 Recovery and Reconstruction

Post-epidemic recovery focuses on rebuilding health systems and restoring community well-being. Key activities include:

**Rehabilitation of Health Systems:** Strengthen local healthcare infrastructure, ensuring that clinics and hospitals are better equipped for future epidemics. Investment in telemedicine infrastructure and digital health records can improve the efficiency of healthcare delivery, particularly in underserved or remote areas.

**Rebuilding Livelihoods:** Provide livelihood support to those affected economically by the epidemic, particularly those who lost jobs or income during quarantine. Establishing skill development and job retraining programs can help individuals transition into new economic opportunities and increase resilience against future disruptions.

**Mental Health and Counselling Programs:** Offer mental health services at the community level to help individuals cope with emotional and psychological impacts. Provide support to families that have experienced loss or trauma. Community-based mental health programs should integrate culturally sensitive approaches and peer support networks to ensure they are accessible and effective.

**Capacity Building for Health Workers:** Train health workers on lessons learned from the epidemic and how to improve future responses. Provide continuous medical education for frontline workers. Incorporating digital tools and remote learning platforms can ensure that health workers in rural areas receive timely and up-to-date training.

**Restoration of Education and Social Services:** Reopen schools and ensure students who missed out on education during the epidemic can catch up. Work with social services to support vulnerable populations, including orphans and the elderly. Developing blended learning models that combine in-person and online education can provide a flexible and resilient approach to continuity of education.

### 7.7.4 Mitigation

Mitigation involves long-term measures to reduce the risk and impact of future epidemics. Key activities include:

**Strengthening Public Health Infrastructure:** Build or improve health facilities, especially in rural and remote areas, to better detect and treat infectious diseases.

**Water, Sanitation, and Hygiene (WASH) Initiatives:** Improve access to clean water, sanitation, and hygiene in vulnerable communities to reduce disease transmission.

**Health Education Campaigns:** Launch long-term campaigns to promote healthy behaviours such as regular hand-washing, vaccination, good nutrition, and disease prevention.

**Strengthening Disease Surveillance:** Expand disease surveillance networks at local, district, and state levels. Train health workers and community leaders to detect and report early signs of outbreaks.

**Research and Development for Epidemic Prevention:** Encourage collaboration between local authorities and research centres to improve understanding of diseases and develop new treatments or vaccines for common illnesses.

## 8. A Common Point:

**8.1** As the essence of effective CBDRR practice, the importance of the active participation of the local population needs to be widely recognized and so also the efforts made to strengthen local capacities for disaster preparedness and response. It is heartening to note that reducing disaster risks through systematic efforts by the communities is now becoming a reality. The causal factors of disasters are undergoing constant analysis and measures are being undertaken for reduced exposure to hazards, lessening of vulnerability of people and property, efficient management of land, environment, and better preparedness to face adverse events.

**8.2** It is imperative that CBDRR must take into the account the diversities in the community, including the vulnerabilities and capacities of the residents and acknowledge the wealth of knowledge that each member of the community can provide in terms of past disasters. Communities are the key partners in risk management; governments and NGOs can help target limited resources, define gaps and build on the strengths of each community to help build greater resilience.

**8.3** To sum up, CBDRR planning emphasizes community participation, inclusivity, and ownership throughout all phases, ensuring that the needs and capacities of local communities are taken into account. The foregoing paragraphs depict CBDRR action points with respect to all the four functions of disaster management pertaining to some of the hazard risks that our country is vulnerable to. The actions points are simply indicative and not all-inclusive, summarised for the sake of brevity. For detailed and elaborate action points, Guidelines issued by NDMA for that specific hazard, may be referred to.

# Chapter 8

# CONCLUSION

Community-Based Disaster Risk Reduction (CBDRR) is a dynamic and evolving process that plays an important role in building resilient communities capable of effectively responding to and recovering from disasters. These guidelines are designed to assist local governments, NGOs, and communities in developing interventions that can reduce disaster risks across different hazards and geographies. The guidelines provide a comprehensive framework, but they are broad and must be adapted to local risk scenarios and needs.

## 8.1 Key Aspects of Adaptation and Flexibility

**8.1.1 Local Context and Vulnerability Consideration:** Each community is unique, with its own vulnerabilities, resources, and capacities. While these guidelines offer a structured approach, it is crucial that practitioners adapt strategies to the specific geographical, socio-economic, and cultural context of the community. Adapting interventions ensures that they are practical and effective. Additionally, the funds for many of these activities could be accessed from the State Disaster Mitigation Funds, though other funding sources, such as local governments, NGOs, and private sector contributions, should also be explored.

**8.1.2 Integration of Local Knowledge and Practices:** Communities possess invaluable traditional knowledge and coping mechanisms that have been honed over generations. Incorporating this local wisdom into disaster risk reduction strategies not only enriches the CBDRR process but also fosters community ownership and long-term sustainability of the initiatives. Interventions should be designed and implemented to empower communities, equipping them with skills and resources for self-reliance.

**8.1.3 Urban and Rural Adaptations:** The risk profiles and challenges of urban and rural settings often differ significantly. Urban areas may face complex risks such as industrial accidents, infrastructural failures, and high population density, while rural communities might be more vulnerable to natural hazards like floods, droughts, or landslides. Therefore, these guidelines should be adapted to address the specific hazards, vulnerabilities, and needs of each context. Locally adapted and nature-based solutions must be implemented to make communities more resilient to disasters.

**8.1.4 Continuous Review and Modification:** Disaster risk reduction is not a static process. The guidelines should be periodically reviewed and updated based on emerging risks, lessons learned from past experiences, and evolving community needs. Flexibility in planning and execution will enable stakeholders to respond effectively to new challenges such as climate change. Identifying climate hot spots and implementing measures to reduce the impact of climate change on these areas is essential.

**8.1.5 Inclusivity and Participation:** Effective CBDRR relies on the active participation of all community members, including vulnerable groups such as women, children, the elderly, and persons with disabilities. An inclusive approach ensures every voice is heard, and the needs of the most vulnerable are prioritized in disaster preparedness, response, and recovery efforts. Empowering communities with the necessary skills and resources to manage their risks is essential to building resilience.

**8.1.6 Capacity Building and Empowerment:** The ultimate goal of CBDRR is to empower communities to take charge of their safety and resilience. Capacity-building initiatives should provide communities with the skills, knowledge, and resources necessary to manage risks proactively. Continuous training and awareness programs are key to sustaining these efforts. . Documenting successful cases of community-based disaster risk reduction and organizing training programs around them can strengthen these efforts.

**8.1.7 Leveraging Technology and Innovation:** The integration of technology, such as early warning systems and digital communication tools, can significantly enhance the effectiveness of CBDRR strategies. Furthermore, technology should be leveraged to improve early warning, forecasting, and hazard monitoring systems. For example, the installation of lightning arresters can reduce lightning impacts, and bio-engineering measures can help mitigate landslides.

## 8.2 Final Thoughts

In conclusion, these guidelines serve as a strategic pathway for communities, practitioners, and policymakers to work together toward a safer and more resilient future. While the guidelines outline essential principles and practices, their true effectiveness lies in adapting them to the unique circumstances of each community. Stakeholders should innovate and continuously refine their approaches based on local insights and emerging challenges.

By fostering a culture of preparedness and mitigation, inclusivity, and continuous learning, we can collectively strengthen our communities, mitigate the impacts of disasters, and build resilience that withstands the test of time.

# Appendix I

# ROLE OF COMMUNITY FOR ANIMAL SAFETY DURING DISASTERS

## Introduction

Natural and human-originated disasters take a variety of forms, but all of them can severely affect people's livelihoods through loss of assets, including livestock, which form an integral part of the household economy and playing an important sociocultural role, in many communities.

### Care of Animals during Disasters

In emergencies, animal interventions typically cover provision of animal health services, emergency feeding/ water supplies, shelter provision, destocking and restocking. The need for a particular intervention depends on the nature of the emergency, the local context and the phase of the emergency (i.e. ongoing, immediate aftermath, recovery or rehabilitation).

In emergencies or disasters, the modus operandi for taking care of animals can be as under.

### Awareness Generation and Sensitization

a. The community should form a Local Emergency Management Committee.

b. A safe shelter for farm animals and a disaster plan to protect property, facilities and animals, should be planned in conjunction with the local community at fairgrounds, farms in safe areas etc.

c. Farmers should be made aware of simple but effective steps they can take to mitigate the effects of disasters, eg. Untethering animals at the first sign of a storm or any other disaster.

d. The community should have arrangements for appropriate transport for each species. On notification of an imminent disaster, all animals including stranded ones who have no wherewithal for survival should be transported/evacuated to a shelter.

e. A farm disaster kit /First Aid Kit should be prepared in advance and centrally located and regularly replenished, so that fresh supplies are readily available in the event of a disaster.

## Medicine, Feed & fodder distribution for animals

a. Proper supply of veterinary vaccines and medicines to various stakeholders should be made.

b. Provision of veterinary care, mass vaccination, diagnostic facilities s and treatment should be made.

c. Specific guidelines should be issued for prevention and control of zoonotic diseases.

d. Strong livestock disease surveillance systems should be developed for searching, reporting, and mapping diseases. This should include the use of Community Animal Health Workers (CAHWs).

e. Mapping and analysis of veterinary service providers should be done to define the type of service providers available, their activities, and coverage is needed to define their strategy for service delivery, including planned geographical coverage and access to vulnerable groups.

f. Adequate provisions should be made for continuing supply of feed resource and water. Feed camps should be planned and established with potential beneficiaries, taking into account key issues such as accessibility, security, and cost implications for both beneficiaries and supporting agencies.

## Training

a. Community should be trained to ensure the health and welfare of animals before, during, and after a disaster and their roles in implementation of the animal disaster plan.

b. Awareness should raised among community regarding needs of animals during disasters.

# Appendix II

## STEPS FOR PARTICIPATORY RISK ASSESSMENT

Participatory Risk Assessment help community members to understand disaster risk in order to plan for concrete actions. The process needs to be conducted by the community with the support of community leaders and experts. It is an attempt to analyze vulnerability and hazards by fostering active participation of community that pave the way to holistic disaster risk reduction strategies. Following steps may be utilized for Participatory Risk Assessment:

**Step I:** Understanding of Current Situation: The first step of risk assessment is to understand the local context for the nature of risks that it faces. It can be done both quantitatively and qualitatively i.e. by using a systematic inventory and evaluation of existing risk assessment studies or available data, or by discussing the nature of risks with community members as noted in experience, history or storytelling.

**Step II:** Hazard Assessment: A hazard is a potential threat or event that may cause loss of life, injuries or damage to property and livelihoods. However, not all hazards turn into disaster. Therefore, it is important to select a hazard that can cause maximum damage to plan for CBDRR activities. The community can list a number of hazards that it may have experienced in the past or has fear that they can occur in the future. The next steps are to plot the frequency, seasonality, magnitude, intensity, spatial extent of hazards. For example, the seasonality of hazards can be plotted against varied hazards that a community is exposed (Table 8).

| Hazards | Months | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sept | Oct | Nov | Dec |
| Flood | | | | | | | | | | | | |
| Fire | | | | | | | | | | | | |
| Earthquake | | | | | | | | | | | | |
| Heatwave / drought like conditions | | | | | | | | | | | | |
| Field Fire | | | | | | | | | | | | |
| Priority Endemic disease or health hazards | | | | | | | | | | | | |
| | | | | | | | | | | | | |

**Table 8: The seasonal character of hazards at a place**

Similarly, manmade hazards such as due to gas leaks, chemical spills etc. from industrial units in close vicinity and that may impact community safety and well-being may be considered in the hazard assessment exercise.

Likewise, the frequency of hazards can be plotted against their intensity at a place in Matrix-1. Based on frequency and intensity of hazards, it may be assess on the basis of low frequency – high intensity or high frequency- low intensity hazards. The purpose of creating these matrixes is to identify the most critical hazards to be planned for.

The matrix represents that catastrophic, critical, serious hazards with high frequency, high probability and occasional frequency is not acceptable to community hence DRR activities must be planned for these events.

## Matrix 1: Hazard Assessment Matrix

| Frequency of Occurrence | **Hazard Assessment Matrix** | | | |
|---|---|---|---|---|
| | Hazard Categories | | | |
| | Catastrophic | Critical | Serious | Minor |
| Frequent | | | | |
| Probable | | | | |
| Occasional | | | | |
| Remote | | | | |
| Improbable | | | | |

| | |
|---|---|
| | Unacceptable |
| | High |
| | Medium |
| | Low |

Similarly, we may also measure impact of various hazards viz; earthquake, landslide, floods in view of frequency and intensity in various districts or any geographical area as represented in Matrix 2:

## Matrix 2: Hazard and Impact Analysis Matrix

| HAZARD VULNERABILITY OF XXX State | | | | | | | |
|---|---|---|---|---|---|---|---|
| DIST TS. | EQ | LANDSLIDE | FLOODS | AVALANCHE | INDUSTRY | CONST. TYPE& DENSITY | OVERALL VULNERABILITY |
| A | VH | M | L | ---- | M | VH | H |
| B | H | H | H | M | M | H | VH |
| C | VH | L | L | ---- | ----- | H | M |
| D | VH | M | M | ----- | M | H | H |
| E | H | H | H | | H | H | VH |
| F | H | M | L | --- | M | VH | M |
| G | M | L | H | ---- | H | M | H |
| H | M | M | L | ----- | H | M | M |
| I | L | L | L | | H | M | M |
| J | H | H | H | VH | H | M | VH |
| K | L | M | L | VH | ---- | M | H |
| L | L | M | L | ----- | H | M | H |

| | |
|---|---|
| VH | Very High Vulnerability |
| H | High Vulnerability |
| M | Moderate |
| L | Low |

**Step III:** Vulnerability Assessment: A hazard cannot do damage without vulnerability, and hence it is critical to assess vulnerability. Vulnerability represents the weakness of the community which can be attributed to its exposure by being located at a certain place to its various demographic, social and economic characteristics that enhance its likelihood to experience damage. It is also understood as the lack of capacity to withstand the given hazards. Vulnerability assessment can be done again both qualitatively and quantitatively. Various characteristics of vulnerability can again be compared on matrix to identify the risk. For example, to identify vulnerable population of different age group by using following matrix:

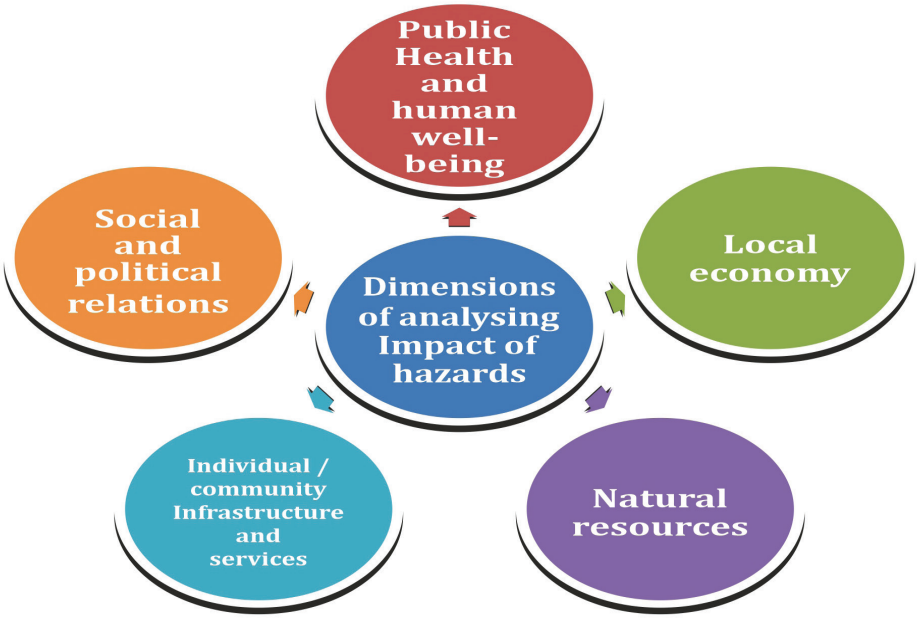
## Matrix: 3 - Vulnerability Assessment Matrix

| Age | Income | | | |
|---|---|---|---|---|
| | Below Poverty line | Low income | Medium | Very high |
| 0-14 | | | | |
| 14-30 | | | | |
| 30- 45 | | | | |
| 45-60 | | | | |
| 60 and above | | | | |

| | Level of vulnerability |
|---|---|
| | Unacceptable |
| | High |
| | Medium |
| | Low |

**Step IV:** Potential Loss or Impact Analysis: It is done to estimate potential losses or impact on the exposed population, property, services, livelihoods, society and environment in case of the disaster. It can be measured in term of direct disaster losses e.g. the number of people likely to be killed, economic value of potential damage to buildings, fragile infrastructure etc. In direct disaster losses include declines in productivity, output or revenue, and impact on wellbeing of people and generally arises from disruptions of the flow of goods and services as a result of a disaster. Impact analysis may be conducted for the various dimensions of possible impacts as illustrated in the diagram below:

## Figure 2: Potential loss and impact analysis



Likelihood and impact analyses for the various dimensions may be assessed as a combination to estimate potential losses due to each priority hazard as under:

## Matrix 4: Potential Loss and Impact Analysis Matrix

| Likelihood/Impact | Nearly No | Minor | Moderate | Major | Disaster |
|---|---|---|---|---|---|
| Will happen | | | | | |
| Most likely | | | | | |
| Possibly | | | | | |
| Unlikely | | | | | |
| Rare | | | | | |

**Step V:** Risk Profiling and Evaluation. It is done to identify the most critical risks that need to be prioritized for planning. The risks are, therefore, broadly classified into the following categories:

- **Acceptable risks:** These are risks that are accepted by the community and have tend to little or no much effect on the regular function of the community or are rare in occurrence. For example, a river protection that is build to withstand 100 years flooding implies that the risk is acceptable to the community for events exceeding that magnitude.
- **Tolerable risks:** These risks affect the community but can be managed without much loss. For example: household fires
- **Undesirable risks:** They have serious impacts on community and its course of action. For example: excessive use of pesticides
- **Intolerable risks:** They cause disasters leading to substantial or total breakdown of the community systems, e.g. earthquake or flooding of very high magnitude (Source: BCPR, UNDP, 2010).

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