

Training of Trainers (ToT) Module



COMMUNITY BASED DISASTER RISK MANAGEMENT



National Institute of Disaster Management
(Ministry of Home Affairs, Government of India)



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COMMUNITY BASED DISASTER RISK MANAGEMENT

By

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Resilient India : Disaster free India

National Institute of Disaster Management

(Ministry of Home Affairs, Government of India)

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COMMUNITY BASED DISASTER RISK MANGEMENT TRAINING OF TRAINERS (ToT) MODULE

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कार्यकारी निदेशक

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FOREWORD

The most vulnerable sections of society continue to bear the greatest burden of frequent disasters across the world, making the struggle against poverty even more challenging. In such crises, local communities are invariably the first responders, extending critical support where it is needed most. Being directly affected, many of these communities have also evolved innovative strategies to reduce the impact of disasters. This highlights the importance of actively involving communities in disaster preparedness, planning, and response. By leveraging their local resources, capacities, and traditional knowledge, we can build stronger and more sustainable disaster management systems.

At its core, **Community-Based Disaster Risk Management (CBDRM)** is about empowering communities to have a voice in disaster preparedness and response, drawing upon their own experiences and priorities. It is a participatory process that ensures inclusivity, enhances ownership and fosters resilience.

This module introduces participants to the fundamental concepts of CBDRM, emphasizing the value of inclusivity, participatory methods and local expertise. It will guide users through practical approaches to engage communities, build their understanding of risks and co-create sustainable strategies to mitigate these risks effectively.

I am confident that this **Training of Trainers (ToT) module** will serve as a valuable resource for development and disaster risk reduction practitioners, both within government and in civil society. It is designed to equip them with meaningful insights into community-based approaches and practical tools for risk management in disaster-

आपदा प्रबंधन महाविचार: पूरा भारत भागीदार

prone contexts. Ultimately, I hope this module contributes to strengthening grassroots capacities and supporting those who work at the cutting edge with vulnerable communities, thereby fostering a more resilient society.



(Safi Ahsan Rizvi, IPS)
ED, NIDM

ACKNOWLEDGEMENT

The completion of the Community Based Disaster Risk Management (CBDRM) Training of Trainers module symbolizes the culmination of cooperative efforts, motivated by consistent commitment and contributions from all stakeholders. The module incorporates the learnings from experience as well as the expertise of various experts working in the area. Their profound insights and expertise have significantly informed the content and structure of this module, enriching its academic and practical merit.

I am grateful to Shri Safi Ahsan Rizvi, IPS, Executive Director, NIDM not only for his useful inputs and suggestions but also for his support and encouragement in development of this module. I have learnt a lot from the discussions with my colleagues and got useful insights into the subject consequently. I would also like to express my gratitude to Ms. Sanchita Biswas and Ms. Annyesha Purkait who supported me in this endeavor.

I believe that this Training of Trainers module on “Community Based Disaster Risk Management” will be beneficial and provide disaster management professionals, trainers, academics, and other relevant stakeholders with a more comprehensive approach when implementing community-based interventions in pre and post-disaster scenarios, enhancing the capacity of the marginalized community and consequently empowering them. I welcome inputs from users on this ToT module in order to continue our efforts to increase its efficacy and relevance.



(Ajinder Walia)

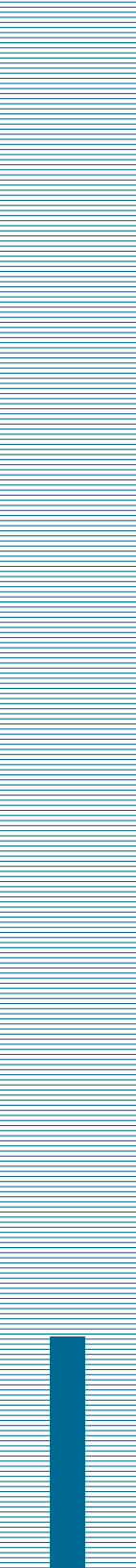


ACRONYMS

ADPC	Asian Disaster Preparedness Center
AED	Automated External Defibrillator
ASV	Anti- Snake Venom
BDO	Block Development Officer
CBDRM	Community Based Disaster Risk Management
CPR	Cardiopulmonary Resuscitation
DCH	Drop, Cover and Hold
DMT	Disaster Management Tool
DRM	Disaster Risk Management
ETC.	Et Cetera
LCD	Liquid Crystal Display
MHA	Ministry of Home Affairs
NGO	Non-Governmental Organisation
NIMHANS	National Institute of Mental Health and Neurosciences
PHC	Primary Health Centre
PRI	Panchayati Raj Institution
SADC	Southern African Development Community
ToT	Training of Trainers
UNDRO	United Nations Disaster Relief Organization
UNDP	United Nations Development Program

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ABOUT THE MODULE

The concept of Community Based Disaster Risk Management (CBDRM) is practiced under different names like Community Based Disaster Preparedness (CBDP), Community Based Disaster Management, Community Based Disaster Risk Reduction (CBDRR), Community Based Flood Mitigation Programme etc., but in reality, all these programs have the same purpose, which is to reduce the negative impact of disaster risks. The main understanding behind all such activities is to find ways and measures to prevent, mitigate or to reduce the impact and risks of disasters and empower the vulnerable communities, through participation and involvement of communities.

The rationale for involving communities in disaster preparedness and mitigation activities is based on the assumption that community is the real sufferer and the first responder and it has developed its own coping mechanisms and strategy to reduce the impact of disaster. It is imperative to appreciate this local knowledge and resources, and to build on them in order to improve the capacity of the people to withstand the impact of disasters. Moreover, ownership of disaster reduction should not be stripped from local people who would be left even more powerless in case external intervention does not occur. In fact, building local leadership and a chain of trained community cadres through participatory approach can help harness the resilience and resourcefulness of the community to cope up with exigencies. Involvement and participation of the communities will ensure a collective and coordinated action during emergencies. Hence, disaster reduction activities should be based on participatory approaches involving local communities as much as possible, considering them as proactive stakeholders and not passive targets for intervention. Furthermore, it is not only the “big” disasters that destroy life and livelihoods. Accumulated losses from small floods, droughts and landslides can exceed the losses from big disasters and contribute significantly to increased vulnerability at the local level. These disasters attract little media attention and communities are often left on their own to cope with the destruction. This provides another reason to invest in Community Based Disaster Risk Management.

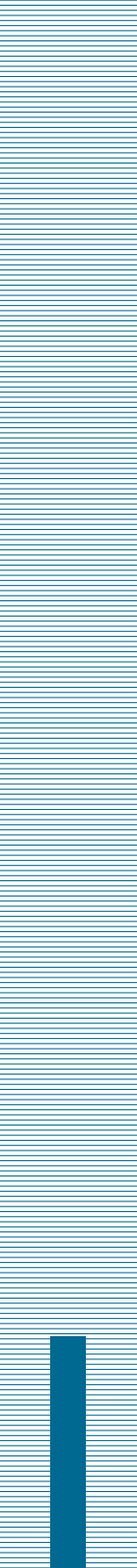
The CBDRM approach provides opportunities for the local community to evaluate their own situation based on their own experiences initially. Under this approach, the local community not only becomes part of creating plans and decisions, but also becomes a major player in its implementation. Although the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

Realizing the pivotal role played by the community, the National Institute of Disaster Management has developed this training module for five days training programme on “**Community Based Disaster Risk Management**”. The module is divided into five learning units. The aim of the programme is to develop skills among trainers to carry out CBDRM programmes in the country. The programme is intended to be used by trainers who will further have an interface with the community on the basis of this training.

ABOUT NIDM

The National Institute of Disaster Management (NIDM), is a statutory organization of the Government of India under Ministry of Home Affairs, established to function within the Policies & guidelines laid down under the Disaster Management Act, 2005, and to cater the needs of research, training, documentation and publication in the area of disaster management, including natural (geological, hydrological, climatic), and human made (chemical, industrial, nuclear, environmental) hazards. It is a premier national institute working for human resource development at the apex level in the area of disaster mitigation and management. The mandate of the institute is to gear up the national, state and district level administration to tackle natural and human made calamities. NIDM will also be coordinating research projects, training programmes, and will build a database on natural disasters with case studies. The mission of the institute is to work as a think tank for the government by providing policy advice and facilitating capacity building services including strategic learning, research, training, system development and expertise promotion for effective disaster preparedness and mitigation.

NIDM works to design, develop and implement training programmes, undertake and coordinate research, formulate and implement the human resource development plan, provide assistance in national policy formulation, collaborate with and promote other research and training institutes, State Governments and other organizations for successfully discharging their tasks, develop educational wares for dissemination among stakeholders in addition to undertake any other function as assigned to it by the Central Government. The institute also works towards the effective application of disaster risk mitigation and management in India as well as the region by providing technical assistance for capacity building and developing disaster management systems and Institutional framework in the sector.



MODULE

AIM OF THE MODULE

The main aim of the training module is to develop skills amongst the participants in implementing Community Based Disaster Risk Reduction and Management programmes in the vulnerable communities by empowering them.

DURATION OF THE MODULE

The duration of the training programme will be five days. Since, the training involves a number of discussions and interactive sessions, therefore, if need arises, the trainer may like limit or extend the duration of the module depending upon the interest and involvement of the participant group.

OBJECTIVES OF THE MODULE

The objectives of the training module are as follows:

1. To explain the conceptual framework of Disaster Risk Management and CBDRM.
2. To illustrate case studies highlighting the role of community in the pre-as well a post-disaster scenario.
3. To describe the process of development of community-based disaster management plans.
4. To demonstrate the various survival skills which have to be developed amongst the vulnerable community for responding to, as well, as mitigating disasters.
5. To develop skills for empowering vulnerable communities for risk reduction and management.
6. To promote an inclusive approach to Disaster Risk Management and mainstreaming Disaster Risk Reduction in development schemes.

LANGUAGE OF INSTRUCTION

The language of instruction will primarily be the local language.

WHO SHALL USE THIS MODULE

The training module can be used by trainers who are working in the area of disaster risk management & reduction, development practitioners and all those who are engaged in training the community for reducing and managing risks in the vulnerable areas. Since the training programme is based on brainstorming and interactions amongst the participants, the ideal number of participations per programme is 25-30.

HOW TO USE THE MODULE

The module is an interactive process-oriented module for trainers who are further training the community in the field of CBDRM. It is a learner-centered module where the trainer

would be facilitating all the information coming from the participants. The trainer should ideally apply the module in local language while interacting with the community members.

INAUGURATION, EVALUATION AND VALEDICTION

The trainer can inaugurate the training programme through introduction of the participants as well as the trainer followed by experience sharing in the field of disaster management. At the end of the programme, a formal evaluation should be done. The trainer can take feedback and suggestions from the participants through interaction as well as by asking the participants to fill in feedback forms.

COURSE EVALUATION

The course evaluation will be carried out during the last session of the course. The evaluation instrument is a questionnaire distributed among participants for their personal judgment of the quality and appropriateness of goals, inputs and outcomes of the course.

CERTIFICATE

The participants will be awarded certificates at the completion of the training programme.

STRUCTURE OF THE MODULE

The module has been divided into five learning units, which are further divided into specific sessions. The proposed structure of the module is as follows:

Learning Unit A: Conceptual Framework

S. No.	Topic	Duration	Methodology
1.	Welcome and Experience Sharing	60 minutes	Interaction
2.	Disasters and Development: Conceptual Framework	90 minutes	Discussion & Power Point Presentation
3.	Community based Disaster Risk Management: Conceptual Framework	90 minutes	Brainstorming, Discussion & Power Point Presentation
4.	CBDRM: Best Practices and Lessons Learnt	60 minutes	Discussion & Interaction & Handout 1

Learning Unit B: CBDRM Plan & Survival Skills

S. No.	Topic	Duration	Methodology
1.	Tools and Techniques for HRVC analysis	60 minutes	Discussion & Power Point Presentation
2.	Development of CBDRM Plan: Process and Framework	90 minutes	Brainstorming & Discussion
3.	Family Disaster Management Plan	30 minutes	Discussion & Interaction
4.	Search and Rescue in Disasters	90 minutes	Demonstration & Discussion
5.	Search and Rescue in Disasters	90 minutes	Demonstration & Discussion

Learning Unit C: Health in Disasters

S. No.	Topic	Duration	Methodology
1.	First Aid in Disasters	90 minutes	Demonstration, Discussion & Handout-2
2.	First Aid in Disasters	90 minutes	Demonstration, Discussion & Handout-2
3.	Psychosocial Care in Disasters	90 minutes	Discussion, Activity & Handout-3
4.	Psychosocial Care in Disasters	90 minutes	Discussion & Activity & Handout 3

Learning Unit D: Field Visit

S. No.	Topic	Duration	Methodology
1.	Briefing about the field visit	30 minutes	Discussion & Interaction
2.	Field Visit	150 minutes	Field Work
3.	Group Discussion	60 minutes	Group Discussion
4.	Group Presentation	60 minutes	Presentation & Discussion

Learning Unit E: Integrating Disaster Risk Management into Development Schemes

S. No.	Topic	Duration	Methodology
1.	Inclusive CBDRM programme: Leaving no one behind	90 minutes	Discussion, Presentation & Film
2.	Integrating Disaster Risk Reduction into Development Schemes	90 minutes	Presentation & Discussion
3.	Programme Evaluation Feedback from the Participants & Distribution of certificates	60 minutes	Discussions & Interaction

TRAINER'S GUIDE

The trainer or facilitator or the programme director may find the following tips useful for conducting the programme smoothly:

- During the inaugural session, the trainees should be asked to put their mobiles/cell phones in silent mode. In case of an urgent call, they should go out to receive the call and join back the session.
- All group activities (if possible & convenient) should be photographed and be shown after the training sessions are over every day.
- A group photograph should be taken on day 3 or 4, which is given to the trainees with the certificate on last day of the programme.
- Participants list with name, designation, address, contact numbers and e-mails should be circulated at least thrice during training before the final printout is brought out for circulating along with certificate and group photograph. One copy is to be circulated, so that all of them can make necessary corrections on that and give the same back to the trainer/programme director/coordinator.
- Make the sessions lively by engaging participants in the learning process. In fact, try to spend close to 80 percent of training time on group participation. Encourage everyone in the training session to speak freely and candidly, because learning occurs most readily when feelings are involved.
- Ask participants to share their experiences with the training topic. Many trainees are

experienced personnel who have valuable information to contribute. All trainees will get more out of sessions by hearing about other participant's experiences with the subject and not just the trainer's viewpoints.

- The training materials and equipment should be kept ready before the training.
- The trainees should be informed about the duration of lunch and tea/coffee break and other group activities clearly every time. They should also be informed about the time when the next day's activity starts.
- The trainees should be informed to share their problems during the training and also on logistic issues so that every possible care should be taken to make their stay comfortable.
- During the programme, the duration of each session specified in various learning units may vary from the actual duration of the session, depending upon the number of trainees participating in the programme. As most of the sessions are very much process oriented and trainee-centered, the duration would largely depend upon the size of the group.

The trainer can execute the training module keeping the above-mentioned points in mind.

Learning Unit A: Conceptual Framework

Session 1: Welcome and Experience Sharing

Learning Objectives

At the end of the session, the participants should be able to:

- Know the profile of other participants,
- Have an overview of the logistics related to the training programme,
- Share their experiences related to communities and disasters, and;
- Develop an informal bond with fellow participants and course coordinator.

Time Duration: 60 Minutes

Training Methodology: Interaction

The trainer can introduce himself/herself and formally welcome the participants to the training course. The participants can be asked to introduce themselves and share their experiences of facing disasters, if any. The lessons learnt from their experiences can also be put forward by the participants.

Technical Notes

The trainer can lay down the rules of training, which can include keeping mobiles on vibration mode. The participants should be encouraged to ask questions from the speakers and have constructive discussions around the theme of the session. The trainer should share information about the duration, timings and venue of tea and lunch breaks between sessions with the participants.

The trainer should highlight the aim and objectives of the training programme. He/she should also inform them that the program provides an interactive forum for them to share, explore and discuss concepts and issues related to community-based disaster risk management. Along with providing the participants with a good insight into the process of developing frameworks for developing and implementing CBDRM plans.

The trainer can end with the session by highlighting that the trainer is looking forward to a successful training program over the next five days. The participants should be strongly encouraged to become actively engaged in the various course sessions and discussions on Community Based Disaster Risk management.

Learning Unit A: Conceptual Framework

Session 2: Disasters and Development: Conceptual Framework

Learning Objectives

At the end of the session, you should be able to:

- Explain the meaning and terms used in Disaster Management,
- Describe the Disaster Management cycle and the various phases in the cycle,
- Discuss the relationship between Disasters and Development, and;
- Explain the paradigm shift in the management of Disasters

Materials Needed:

Flip Charts, Markers, LCD/Projector, chart/drawing of types of disaster and blackboard.

Time Duration: 90 minutes

Training Methodology: Discussion and Power Point Presentation

Introduce the module by explaining that in this session we will be looking at the different types of disasters that occur in our village or community. To begin with, ask the participants to share about any disaster they have experienced in their village or community. You may ask one participant to describe briefly his/her experience of the disaster. Later, the trainer can begin by asking the participants to give their own interpretation of the concept. Subsequently, the trainer can make value addition to the concept and present the final version of the concept to the participants. The methods used in the session will include brainstorming, discussion and power point presentation.

Key Concepts

- Meaning of hazard, risk, vulnerability and capacity, difference between a hazard and a disaster and relationship between hazard and vulnerability.
- Various phases of disaster management cycle, meaning of each phase in the cycle and integration of post disaster phase with the pre disaster phase.
- Relationship between disasters and development, effect of disasters on development and need for integrating disaster management with development.
- Paradigm shift in the management of disasters, shift from response and relief to mitigation and preparedness, top-down approach to bottom-up approach etc.

Technical Notes

Introduce the module by explaining that in this session we will be looking at the different types of disasters that occur in our communities. To begin, ask the participants to talk about any disaster they have experienced in their village. You may ask one participant to describe briefly his/her experience of the disaster. The key concepts, which will be introduced, are as follows:

- Meaning of hazard, risk, vulnerability and capacity, difference between a hazard and a disaster and relationship between hazard and vulnerability
- Various phases of disaster management cycle, meaning of each phase in the cycle and integration of post disaster phase with the pre-disaster phase
- Relationship between disasters and development, effect of disasters on development and need for integrating disaster management with development
- Paradigm shift in the management of disasters, shift from response and relief to mitigation and preparedness, top bottom approach to bottom-up approach etc.

Conceptual Framework of Disaster and its components

Disaster: As per the **Disaster Management Act, 2005** disaster is defined as a catastrophe, mishap, calamity or a grave occurrence in any area arising out of natural or man-made causes, or by accident or negligence, which results in substantial loss of life and human suffering or damage to, or destruction of, or degradation of environment, and is of such a nature, or magnitude as to be beyond, the coping capacity of the affected community of the affected area.

The term **Disaster Management** is a collective term referring to all aspects of planning and responding to disasters, including both pre and post disaster activities. It may refer to the management of both the risks and consequences of disasters. When a hazard is not managed properly, it turns into a disaster. Therefore, while ***hazards can be considered natural, disasters are generally man made.***

Disaster Risk

Disasters are sometimes considered external shocks, but disaster risk results from the complex interaction between development processes that generate conditions of exposure, vulnerability and hazard. Disaster risk is therefore considered as the combination of the severity and frequency of a hazard, the numbers of people and assets exposed to the hazard, and their vulnerability to damage. Intensive risk is disaster risk associated with low-probability, high-impact events, whereas extensive risk is associated with high-probability, low-impact events. Therefore, disaster risk is expressed as the likelihood of loss of life, injury or destruction and damage from a disaster in a given period.



Relationship between Hazard, Vulnerability and Disaster

Disaster Risk Management

Disaster Risk management is the application of disaster risk reduction policies and strategies to prevent new disaster risk, reduce existing disaster risk and manage residual risk, contributing to the strengthening of resilience and reduction of disaster losses (**UNDRR**). It involves being prepared for things like floods, earthquakes, or other emergencies, so that we can protect our communities, our things, and ourselves. This includes making plans, building strong and safe buildings, and having supplies ready in case something bad happens.

The components of Disaster Risk are:

Hazard

Hazards are defined as physical phenomena that pose a threat to the people, structures or economic assets and which may cause a disaster. Earthquake, floods, tsunami etc. are all hazards and we can prevent them from becoming disasters (**UNDRR**).

There are three types of hazards, namely:

- Natural – These are hazards caused by nature such as floods, droughts, earthquake cyclones, tsunami, landslides etc.
- Man - made – These are hazards that are caused by human beings either deliberately or by accident such as industrial and chemical accident, road and railway accidents, fire, building collapse, communal violence, bomb blasts etc.
- Some hazards are natural in nature but are exacerbated due to human activities

Discussion: Explain how earthquake is a natural phenomenon but poor implementation of building by-laws leads to construction of weak buildings, which ultimately kills people, and hence earthquake which was a natural hazard turns into a disaster. In the rural areas, the buildings and houses may not follow the building by -laws but the quality and the hazardous nature of structure can be discussed and explained.

such as flooding and drought. These can be caused due to deforestation, unplanned development, improper drainage system etc. **For example: Mumbai Flood of 2005.**

Vulnerability

It is the extent to which a community, structure, service or geographic area is likely to be damaged or disrupted by the impact of a particular hazard because of its nature, construction, and proximity to hazardous terrain or a disaster-prone area. It is the likely extent of damage due to a hazard (**UNDRR**).

Vulnerability can be of varied types like:

1. **Physical Vulnerability:** Depending on physical location of people and elements at risk and technical capacity of buildings, structures, and infrastructure. It varies according to construction techniques, materials used and location.
2. **Economic Vulnerability:** Poor people are considered more vulnerable as their houses are built of weak material and in dangerous areas. They do not have the essential safety nets to recover as the affluent population. They lose their essential tools and equipment of their livelihood as well.
3. **Social Vulnerability:** Some sections of the population are more vulnerable than the others like women, children, old aged physically and mentally challenged and those dependent on critical facilities.
4. **Other types of vulnerability:** Some other types of vulnerability have also been identified like environmental vulnerability, cultural vulnerability, educational vulnerability, attitudinal vulnerability and political vulnerability.

Exposure

Exposure states the situation of people, infrastructure, housing, production capacities and other tangible human assets located in hazard-prone areas (**UNDRR**). Exposure in disaster risk management means figuring out what and who might be affected by a disaster. It is about understanding what could be damaged if disaster strikes. This helps us plan and prepare to keep people and things safe.

Capacity

Capacity is knowledge, skills, resources, abilities and strength, present in individuals, households and the communities, which enable them to prevent, prepare for, stand against, survive and recover from a disaster (**UNDRR**).

Some examples of capacity are:

- Permanent houses
- Adequate food and income sources
- Fire stations
- Developed health infrastructure,
- Good Community Networks for support
- Local knowledge
- Strong community leadership and organizations

Explain in some details the examples given so that the participants can relate to them. You

may need to give examples of real-life situations where people use their abilities to plan, prepare for, stand against, recover, and survive from a disaster. For example, why is it important to consider the type of materials used to build houses in regions where cyclones frequently strike?

Relationship between hazard, vulnerability, and capacity

Four elements are essential in the formulation of risk:

- The probability of occurrence for a given threat – **hazard**;
- The degree of susceptibility of the element exposed to that source – **vulnerability**;
- In disaster risk, **exposure** refers to the people, assets, and systems that are susceptible to damage and hazards;
- The combination of all the strengths, attributes and resources available within an organization, community or society to manage and reduce disaster risks and strengthen resilience – **capacity**.

$$\text{Risk} = \frac{\text{Hazard (H)} \times \text{Vulnerability (V)}}{\text{Capacity (C)}}$$

Source: Asian Disaster Reduction Centre

Discussion Activity 1

Put the participants into groups so that they can discuss the following questions:

1. Would you regard a 'cyclone' as an example of a disaster? Give your reasons.

2. How is the vulnerability related to the capacity of the community? Explain with an example from your community?

Disaster Management Cycle/Phase: The disaster management cycle includes the following phases:

1. **Hazard:** A natural hazard strikes a vulnerable community, which does not have adequate capacity to deal with the hazard.
2. **Disaster:** The natural hazard is not managed well and hence it turns into a disaster.
3. **Search and Rescue:** It refers to the first 48-72 hours after a disaster strikes. It is also

called the golden period as maximum lives can be saved if SAR operations begin early. In this phase, the teams search for victims who are injured but alive. The community members, army and local administration carry out the operation. They should also be fully equipped to assist the more vulnerable population.

4. **Relief:** This phase deals with providing food, clothing and shelter to people according to local conditions to the affected population. Temporary shelters are set up for the affected populace. What needs to be understood is that Relief is an act of right of the affected community rather than an act of charity.
5. **Reconstruction, Rehabilitation & Recovery :** Reconstruction & Recovery in disaster risk management refers to the comprehensive process of restoring and revitalizing communities, infrastructure, and systems that have been adversely impacted by disasters. This involves not only the physical reconstruction of buildings, facilities, and public infrastructure but also the rehabilitation of social and economic structure of affected communities. Reconstruction and Rehabilitation are an integral component of the recovery process following a disaster. Successful recovery strives to fortify the afflicted areas against potential future calamities in addition to restoring and rehabilitating what was destroyed.

Hence, Recovery encompassed the following four components but is not limited to:

- **Physical Reconstruction:** Providing permanent shelters.
 - **Economic Rehabilitation:** Providing sustainable livelihood.
 - **Social Rehabilitation:** Establishing community networks and taking care of the more vulnerable groups.
 - **Psychosocial Rehabilitation:** Providing psychosocial care and ensuring good mental health of the disaster survivors.
6. **Mitigation:** It refers to measures taken after a disaster, which aims at reducing the impact of disasters on the community and the environment in future. It involves implementing the learnings from the past disaster and incorporating the learnings in present scenario. The aim of this phase is to build back better to reduce the impact future disasters. All the measures undertaken during rehabilitation and reconstruction should ensure that it addresses the mitigation of disaster as well. The link between rehabilitation and mitigation is a vital linkage for preventing future hazards from becoming major disasters.

Mitigation measures are of two types:

- **Structural Measures:** These include all technical measures like building multi-hazard resistant buildings & shelters, retrofitting, micro zonation for risk assessment, modernizing early warning system etc.
- **Non-Structural Measures:** These include all non-technical measures like awareness generation, training and capacity building, policy and regulations, mock drills & demonstrations, effective dissemination of early warning, development of state & district village plans etc.



*Technical Solutions
(Structural Measures)*



*Conducting Mock Drill
(Non-Structural Measures)*



*Drop Cover & Hold (DCH)
Exercise (Non-Structural Measures)*

Mitigation Measures

7. **Preparedness:** This phase refers to all steps undertaken to minimize the adverse effects of a hazard through effective precautionary actions and to ensure timely, appropriate and efficient organization and delivery of emergency response following the impact of disaster. For e.g. in case of floods, the preparedness measures would include building shelters, deposition of sand bags, making embankments, storing water for drinking purposes, setting of control room, repairing of flood machinery items, identification of NGO's, arrangements of kitchen items, flood preparedness meeting etc.

The cycle ends here. Next time a natural hazard strikes the affected community, it should not become a disaster but escape out from the vicious cycle.

Discussion Activity 2

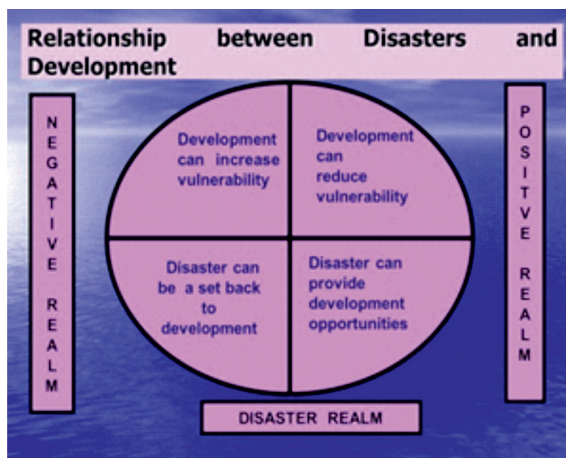
Give the participants a sheet of paper and ask them to answer the following questions.

1. List out three structural and three non-structural measures of mitigation of disasters.

2. Explain and describe the linkage between rehabilitation and mitigation in the disaster management cycle

Disasters and Development

Earlier, disasters and development were not linked together. Development programs were not assessed in the context of disasters, neither from the effect of the disaster on the development programs nor from the point of whether the development programs either increased the likelihood of a disaster or increased the potential damaging effects of a disaster. The growing body of knowledge however, accentuated the linkage and integration of disasters and development. Disasters are now considered unresolved problems of development. The relationship between the disasters and development can be summarized by the following figure:



Source: International Labour Organisation

The above figure reflects two facets of disaster and development namely; the negative and the positive realm. The former focuses on how unsafe development can lead to disasters and how disasters can be a setback to development. The positive realm focuses on how safe development can reduce disasters and how disasters can act as a window of opportunity for safe development.

The negative realm of the linkage between disasters and development raises the following questions:

1. How can development increase vulnerability?

Development projects implemented without considering existing environmental hazards may increase vulnerability to natural disasters. For example, projects designed to increase employment opportunities, and thus income, usually attract additional population growth. Low-income people may then have to seek housing in areas previously avoided, on vulnerable hillsides or in flood plains. Some types of development projects commence without fully assessing their impact on the environment. E.g. - Major increase in livestock development leads to overgrazing, which contributes to desertification and increases vulnerability to famine (UNDRO, 1992).

2. **How can disasters be a setback to development?**

Development resources are lost when a disaster wipes out the products of investment. It shortens the life of development investments. Disasters can result in impact on capital stock and inventory, loss of production and provision of services due to disruption and increased cost of goods and services. Disasters can also result in inflation, balance of payment problems, increase in fiscal expenditure, and decrease in monetary reserves. Some indirect losses include the increase in debt service burden as the country has fewer resources available to invest in productive enterprises. The outcome includes loss of economic growth, delays to development programs, cancellation of programmes, and disincentives to new investment. There may also be a shift in skilled human resources towards high visibility recovery activity, which is a diversion from long-term to short-term needs (**UNDRO, 1992**).

The positive realm of the linkage between disasters and development raises the following questions:

3. **How can development reduce vulnerability?**

Development programs can be designed to decrease the susceptibility to disasters and their repercussions. For example, housing projects constructed under building codes can be earthquake resistant and designed to withstand high winds resulting in less destruction in the event of an earthquake or during the next tropical storm (**UNDRO, 1992**).

4. **How can disasters provide development opportunities?**

Disasters often create a political and economic atmosphere wherein extensive changes can be made more rapidly than under normal circumstances. For example, in the aftermath of a disaster, there may be major opportunities to execute land reform programmes, to improve the overall housing stock, to create new jobs and job skills, and to expand and modernize the economic base of the community-opportunities that would not otherwise be possible. The collective will to act is an advantage that should not be wasted. Disasters can also highlight high-risk areas where action must be taken before another disaster strikes. The realization of vulnerability can motivate policy-makers and the public to participate in mitigation activities. Disasters may also serve to highlight the fact that the country is seriously under-developed. They can thus bring in funding and the attention of donor communities to apply to long-term development needs (**UNDRO, 1992**).

Paradigm Shift

Earlier, across the globe as well as in India, disaster management was always seen as a post disaster activity comprising of response, relief and rehabilitation. However, in the last decade, the focus of disaster management has shifted to pre-disaster planning, preparedness and mitigation leading to risk reduction. This has been understood as a paradigm shift in the approach of management of disasters. The shift can be summarized as under the following table:

S. No.	Earlier approach	Paradigm Shift
1	Disasters are an act of God	Disasters arise from hazards which may have a natural origin but it is exacerbated by human factors.
2	Disasters are isolated events or aberrations in the normal path of development	Disasters are unresolved problems arising from the very process of development.
3	Linkages with society during normal times were not analyzed in studying vulnerability and disasters.	Linkages with society are fundamental for understanding disasters. Relationships/structures determine why some people are more vulnerable than others.
4	Disasters can be managed effectively by technical solutions.	Disasters can be managed effectively by both structural as well as non-structural measures.
5	Top-down and inflexible approach were adopted in handling disasters. There was lesser participation of the community as it was considered a victim.	Bottom-up approach was adopted in handling disasters. There was a realization that the capacity of the community should be built to protect them from disasters. The affected community was treated as a survivor and a Partner.
6	The ultimate goal after a disaster was to return to the pre-existing normal situation before the disaster took place.	Disasters are seen as a window of opportunity to build back better by linking reconstruction and rehabilitation with mitigation.
7	The thrust area of the management of disaster was on response and relief.	The thrust area of the management of disaster was on mitigation and preparedness.

Discussion Activity 3

Give the participants a sheet of paper and ask them to answer the following questions.

1. Explain the negative and positive relationship between disasters and development.

2. What is the paradigm shift in the approach toward the management of disasters?

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Learning Unit A: Conceptual Framework

Session 3: Community Based Disaster Risk Management: Conceptual Framework

Learning Objectives

At the end of the session, the participants should be able to:

- Explain the meaning of Community
- Discuss the need and importance of CBDRM
- List out the various components of CBDRM.
- Illustrate case studies highlighting the role of community in the management of disaster

Materials Needed:

Flip Charts, Markers, LCD/Projector, charts and blackboard.

Time Duration: 90 minutes

Key Concepts

1. Meaning of the term community and community-based disaster management.
2. Reasons why community needs to be involved in disaster management and the benefit of involving community as a stakeholder in the process.
3. International and National case studies of various disasters highlighting the role of community in responding and mitigating a disaster.
4. Components of CBDRM.

Training Methodology: Brainstorming, Discussion and Power Point Presentation

Introduce the module by asking the participants to brainstorm about the concept of community. The discussion can lead to the experience sharing by the participants of how their community has responded in times of emergency. The trainer can also present some international and national case studies in the context. The methods used in the session will include brainstorming discussion and power point presentation. The trainer can start the session by asking the participants the meaning of a community.

Technical Notes

The trainer may start the session by asking the participants to reflect on their understanding of the term community.

Ask them what do they mean by community?

- Is Community homogenous?
- Is the community limited to only the affected people?
- Is one Gram Panchayat a community?
- Is one village a community?
- Is the most vulnerable section of the society Community?
- Neighborhoods, Suburbs, Towns, Local Government areas, Metropolitan areas, etc.

The term community is derived from the word “commune,” which refers to the coming together of a group of people. This group of people can come together based on common criteria. The criteria can be different for different communities. The criteria for defining a community can be a geographic area (**village community**), shared experiences (**disaster affected community**), professional groups (**corporate community**), language groups (**Tamil speaking community**), age groups (**youth community**) etc. The members of the community have a sense of belonging with each other. The members regulate the behavior its members through customs, norms and traditions.

- The community can come together because they reside in a common geographic area.
- It can range from the local neighborhood, suburb, village, town or city, region, nation or even the planet as a whole. For example, the village community, the urban community, the Indian community etc.
- A group of people can also come together as professional groups based on their common Professional interests. For e.g., the corporate community, Government Servants etc.
- A common language can also be the basis of coming together of people. For e.g., Tamil speaking community, Punjabi speaking community, Urdu speaking community etc.
- Age can be a criterion for classifying community for e.g., Youth community, Senior citizen community etc.
- When people come together based on a common experience, they can also be termed as a community. For e.g., Community which has experienced riots, a community which has been affected by an earthquake, cyclone, floods etc.

Let us now discuss the characteristics of a community:

- Although the members of a community come together based on a common criteria but they can vary in terms of age, sex, experiences, language etc. Hence, community is not a homogenous but a heterogeneous group of people.
- The members of the community are bonded to each other based on common criteria.

This common criterion acts as a unifying factor and hence members of the community have a sense of belonging with each other.

- The behavior of the members of the community is regulated through customs and traditions and not through any legal means. For example, in a village, if any member tries to grab his neighbor's land, all others members of the village will come together exert pressure on that person through informal means, so that he does not grab the land of his neighbor.
- For e.g., coastal community can be vulnerable to cyclones. In this context, a group of people which has a common experience

Community Based Disaster Risk Management

Let us apply the concept of community in disaster risk management.

The community in disaster risk management refers to a group of people staying together in an area, which is vulnerable to natural, or human made hazards. For e.g., coastal community can be vulnerable to cyclones. In this context, a group of people, which has a common experience of being affected by a natural hazard or human made disaster, can also be referred to as a community. For e.g., a group of people who have been victims of an earthquake as in Gujarat or a group of people who have been victim of a chemical leakage as in Bhopal.

“The contradiction of disaster management is that while the impact of disaster requires micro level decisions, the responses are often macro...”

Let us now understand the meaning of the word Community Based Disaster-Risk Management. It refers to the process of mobilizing, involving and enabling the participation of the community in the management of disaster covering all phases, which includes preparedness, mitigation, response, relief, reconstruction and rehabilitation and finally, recovery.

Need for CBDRM:

The rationale for involving communities in disaster preparedness and mitigation activities is based on the following assumptions:

1. Communities in disaster-affected areas are the real sufferers and are the first responders as well.
2. Communities in high-risk areas have often developed their own coping mechanisms and strategies to reduce the impact of disaster. It is important to appreciate this local knowledge and resources, and to build on them in order to improve the capacity of the people to withstand the impact of disasters.
3. Ownership of disaster reduction should not be stripped from local people who would be left even more powerless in case external intervention does not occur.
4. Disaster reduction activities should be based on participatory approaches involving local communities as much as possible, considering them as proactive stakeholders and not passive targets for intervention.

5. Involvement and participation of the communities will ensure a collective and coordinated action during emergencies.
6. Building community leadership and a chain of trained community cadres through participatory approach can help harness the resilience and resourcefulness of the community to cope.
7. Solution is sustainable if it comes from people themselves rather than thrusting upon them.
8. Furthermore, it is not only the “big” disasters that destroy life and livelihoods. Accumulated losses from small floods, droughts and landslides can exceed the losses from big disasters and contribute significantly to increased vulnerability at the local level. These disasters attract little media attention and communities are often left on their own to cope with the destruction. This provides another reason to invest in Community Based Disaster Preparedness.

Components of CBDRM:

Community Based Disaster Risk Management is a process for building the capacity and resistance of the community to equip them with skills so that management of various hazards becomes a way of life for them. The various components of CBDRM include:

1. Development of Disaster Management Plan by the community, which ensures ownership and reflects local conditions. The plan has to be prepared through a participatory approach based on facilitation provided by external resource persons. The plan should detail out the process of hazard, vulnerability, and risk and resource analysis along with listing out of contact details of important personnel involved in the management of disasters.
2. Disaster Management Committees and Teams have to be formed at the village level to facilitate the process of Community Based Disaster Preparedness. The disaster management committees can plan the process of disaster management in the village while teams may be constituted to carry out important tasks like issuance of warning, evacuation and response, first aid, damage assessment, water and sanitation, carcass disposal, shelter management, psychosocial counseling, relief management and rehabilitation. The Committees and Teams should have standard operating procedures of what needs to be done before a disaster as preparedness measures, what needs to be done during the disaster as response measures and what needs to be done after the disaster as relief and rehabilitation measures.
3. Mock Drills have to be conducted at regular intervals based on plan prepared by the community. The mock drills will be a form of rehearsal in which the response of the community and the efficacy of the administration will be tested. The mock drill will also test the applicability of the village disaster management plan.

4. Awareness has to be generated amongst the community through various mediums like televisions, radio and print media. These campaigns are carried out through rallies, street plays, competitions in schools, distribution of IEC materials, wall paintings on do's and don'ts for various hazards. Meetings with key persons of a village such as the village head, health worker, school teachers, elected representatives and members of the youth clubs and women also motivate the villagers to carry forward these plans for a safer living.
5. Training is an integral component of CBDRM. The important stakeholders like PRIs, Village volunteers, Disaster Management Committees, Disaster Management Teams have to be trained so that they can lead the process of disaster management in their community and make it as a way of their life.

Role of Community in Disaster Management

During a disaster: Community is the first responder to any disaster. The community can play a vital role in the following stages during a disaster:

- Search & Rescue
- Evacuation
- Medical First Response
- Building and locating place for temporary shelters
- Needs analysis of the affected community
- Relief Management and Distribution
- Identification of Vulnerable Groups'
- Coordination with authorities/ NGOs
- Reduces costs as it uses local material and wisdom

After a disaster: The community can also play an important role in the rehabilitation and recovery phase where existing local coping strategies can be used for the maximum benefit as it:

- Reduces costs as it uses local material and wisdom
- Serves in Long-term mitigation
- Helps in restoration of affected livelihoods and economy

Before a Disaster: The community can play a pivotal role in mitigation and preparedness of a disaster. Some of the activities in which the community can be roped in are as follows:

- Identification of the vulnerable areas
- Identification of the vulnerable population
- Aware of the past history
- Making Disaster Management Plans
- Local coping strategies
- Awareness Generation

There are various issues and concerns regarding implementation of Community Based Disaster Risk Management Programmes in the country. Most of the programmes look at disasters in isolation and do not imbibe in the life support strategy of the community. Disaster Risk Reduction has to be inculcation in livelihood of the community to make it sustainable and as a way of life for the community. Secondly, whenever a disaster strikes a particular area, it becomes the centre of attention for the media as well as the government. Many organizations initiate CBDRM programmes during this boom time, as the visibility is very high. As soon as the community starts recovering and the attention fades away from the site, the organizations lose their interest and their programmes burst. Thirdly, sometimes the CBDRM programmes are started by the organizations when the community is busy with their livelihood activities like reaping season, sowing season etc. This hinders the participation and involvement of the community in the programmes. Hence, timing of the CBDRM programme is very crucial for effective participation and involvement of the community.

Discussion Activity 1

Give the participants a sheet of paper and ask them to answer the following questions.

1. What do you understand by Community Based Disaster Management?

2. List out the components of Community Based Disaster Management?

Learning Unit A: Conceptual Framework

Session 4: CBDRM: Best Practices and Lessons Learnt

Learning Objectives

At the end of the session, the participants should be able to:

- Understand the role of community in a pre and post disaster scenario,
- Illustrate case studies highlighting the role of community in the management of disaster, and;
- Draw lessons from international and national case studies,

Materials Needed:

Flip Charts, Markers, LCD/Projector, charts and blackboard.

Time Duration: 90 minutes

Key Concepts

1. International and national case studies of communities responding in a post disaster scenario,
2. National case study of community responding in preparedness and mitigation of disaster, and;
3. Lessons drawn from case studies

Training Methodology: Discussion & Power Point Presentation

Introduce the session by asking the participants to share their own experiences where communities have responded in time of crisis. The participants can be encouraged to share their own experiences of water management, waste management, rainwater harvesting or any such community resilience activity, which has any direct or indirect link with disasters risk reduction. The trainer can bring out the best practices from the participants and link it with disaster risk reduction. The methods used in the session will include discussion and power point presentation.

Technical Notes: Some of the international and national case studies highlighting the role Of communities in management and mitigation of disasters are illustrated below:

International Case Study

Case Study 1: Cyclone Idai

Cyclone Idai struck in 2019, causing catastrophic damage with strong winds and extensive flooding in Mozambique, Malawi and Zimbabwe. It led to flash flooding, hundreds of deaths, and massive destruction of property and crops. The cyclone affected millions, leaving them homeless and without livelihoods. Tropical cyclones Idai and Kenneth, occurring within six weeks of each other, killed hundreds and left millions stranded with no homes or food. Almost one year on, more than 8.7 million people do not have enough food or water, and over 100,000 people in Mozambique are still living in temporary shelters. Oxfam launched a major humanitarian response to the storm. Despite logistical challenges, Oxfam teams, in coordination with local partners, helped 788,168 people across Mozambique, Malawi and Zimbabwe, including communities in some of the most remote areas. Elsa, a community activist helped in hygiene kit distribution in Mandruzi resettlement camp. Hygiene kits were being distributed because recent flooding had contaminated water and cause latrines to flood at the camp

National Case Studies

Case Study 1: Samiyarpettai: The first CBDM Plan in India, 2004

Samiyarpettai, a small village located in Tamil Nadu, experienced profound devastation due to the colossal waves of the December 2004 Tsunami. However, distinguishing itself from neighbouring villages, Samiyarpettai reported significantly fewer casualties. This outcome was attributed to the village's adept handling of the crisis, facilitated by the implementation of a meticulously crafted Community Based Disaster Management Plan. Following the 2004 Tsunami, it became evident that Samiyarpettai's proactive measures and organized response significantly mitigated the impact. The villagers' preparedness, honed through comprehensive training in search, rescue, evacuation, and first aid, played a pivotal role in their ability to respond promptly and effectively during the calamity. They credited this training and the coordinated response plan for their success in preserving lives amidst the tsunami's devastation.

Notably, sub-collector Shri Rajendra Ratnoo orchestrated a disaster management plan specifically for Samiyarpettai, which, when put to the test during the December 26 tsunami, yielded remarkable results. The efficacy of Shri Rajendra Ratnoo was evidenced by the survival of over a hundred individuals due to its successful implementation.

Case study 2: The Kerala Floods, 2018

After the onset of monsoon in the state Kerala, it experienced the worst floods in its history between 1st June and 19th August, 2018. It resulted in the loss of over 400 lives. All the districts in Kerala were affected. Several mass organizations participated in rescue efforts at local level. Thousands of volunteers worked in relief camps including doctors and paramedical staff. The '**Kerala Samajam**' a community of Kerala diaspora in the

Bahrain, Middle East came together and extended help to those hit by the devastating floods in the state. For the relief, they sent food items, clothes and napkins to NGOs in Kerala for distribution. Another community-based group **‘The Palakkad Malayalee group’** in Bahrain raised ₹ 2 lakh rupees for the victims. People from other areas like Oman and UAE had also raised funds liberally in the response of Kerala Floods. **Kudumbashree**, a poverty eradication and women empowerment programme implemented by the State Poverty Eradication Mission of the Government of Kerala also collected donations over 11 crores. The women in Kudumbashree responded to the floods by cleaning houses, providing psychosocial support to survivors, distribution of packed meals in the relief camps, making cloth bags for relief kits, imparting training skills at relief camps etc.

Case Study 3: Odisha: The ‘Tsunami Ready’ State

Odisha, located on India’s eastern coast by the Bay of Bengal, is prone to cyclones, floods, and occasional tsunamis, earning it the nickname **‘disaster capital’** of India. In 2020, two coastal villages, Venkatraipur in Ganjam district and Noliasahi in Jagatsingpur district, were recognized as **‘Tsunami Ready’** by UNESCO-Intergovernmental Oceanographic Commission. These areas have developed preparedness measures due to their high vulnerability and quick response as communities are typically the most affected. With government assistance, they have constructed versatile cyclone shelters containing communal kitchens and life-saving tools. These shelters provide all necessary emergency services and even have designated announcement vehicle

Case Study 4: The Kullu Floods, 2023

In Himachal Pradesh’s Kullu district on July 8, 2023, flash floods and landslides triggered by ongoing precipitation caused severe damage, including the destruction of bridges, vehicles, and other infrastructure. An estimated of 30 persons died and more than **60,000** people were affected. The **Singh Sabha Gurudwara** in Akhara Bazar, Kullu, provided social support for approximately 2000 persons who were impacted by the floods during this period. Three times a day, the langar was prepared, and 18 rooms were made available to visitors as well as given financial assistance.

Case Study 5: Covid-19 pandemic, case study from India

On January 30, 2020, WHO declared COVID-19 a global public health emergency? The pandemic affected over 220 nations. In India, due to lockdown and transportation issues, the NIMHANS hospital staff took the initiative to create PPE, masks, and face shields for healthcare workers. They repurposed a vocational unit for clients with psychological disorders into a tailoring unit with 14 machines to meet the safety gear demand.

Case Study 6: National Disaster Management Authority (NDMA) “Aapda Mitra Scheme”

The mandate of this NDMA’s scheme is to provide the community volunteers with the basic skills they will require for responding to their community’s immediate needs in the aftermath of a disaster. These trained volunteers assist in saving lives using the basic techniques of

disaster response, coordination and management. Based on the success of pilot scheme, the Aapda Mitra scheme is being up-scaled covering 350 districts of all States/UTs with a target of training of 100000 community volunteers for responding to disasters namely flood, landslide, cyclone and earthquake.

Community Based Initiatives: Methods and Practices

A community is a place where many initiatives, people, and social and urban challenges meet. The main objective of CBI is to facilitate the integration of health policies and programmes in national strategic development agendas. It aims at improving health and environmental conditions, reducing poverty and achieving better quality of life through the attainment of the millennium development goals.

Some of the best practices of community-based initiatives, which have an indirect link with Disaster Risk Reduction, are as follows:

Water Filtration Techniques: There are many ways to make water safe from harmful germs. **The methods used most are:**

- **Boiling:** Bring clear water to a rolling boil for 1 minute (at elevations above 6,500 feet, boil for 3 minutes). After boiling, allow the water to cool before use. Store the boiled water in clean, sanitized containers with tight covers
- **Chlorination:** Chlorination is a common chemical disinfection technique that involves adding a chlorine-based product (such as sodium hypochlorite, calcium hypochlorite, or household bleach) to water to kill bacteria and viruses. Other chemical disinfectants, such as iodine and chlorine dioxide, can also be effective for disinfecting water. Using or drinking water with small amounts of chlorine, iodine, or chlorine dioxide does not cause harmful health effects and provides protection against waterborne disease outbreaks.
- **Solar Disinfection:** Solar disinfection is a method of using heat and UV radiation to kill bacteria and parasites in water. Solar disinfection works by placing contaminated water in a transparent container and exposing it to strong sunlight for 6 to 8 hours if sunny, or 2 days (if cloudy). This method is most appropriate when water is clear and clean, transparent containers for treatment are available.
- **Slow Sand Filtration:** Slow sand filtration effectively removes turbidity (cloudiness) and microorganisms through various biological and physical processes in a single treatment step. A slow sand filter consists of vertically arranged layers of components. When constructed, the filter consists of a tank, a bed of fine sand, a layer of gravel to support the sand, a system of underdrains to collect the filtered water, and a flow regulator to control the filtration rate. No chemicals are added to aid in this filtration process.

Communities can also be sensitized on maintaining sanitation by making them aware about the hygienic way of washing hands. The participants can be distributed Handout 3 to raise awareness amongst the vulnerable communities.

Case study: Jivamritam: A community-based purified drinking water solution

Amrita Vishwa Vidyapeetham, a community based local organization registered on 10/08/2018 in Kerala, India developed a pathway for empowering the community to engage in developing cost-effective, inclusive and sustainable solutions using interventions such as community-level water quality classification. The Jivamritam technology is an all-season solution for drinking water in over 250 communities that are affected by water contamination in floods increasing the capacity of such communities to be resilient to water-borne diseases with minimal cost. Major stakeholder in the community related to drinking water such as the local panchayat governments, officials of water authority, doctors of local Public Health Centers, health workers, school teachers, etc. also are a part of decision-making.



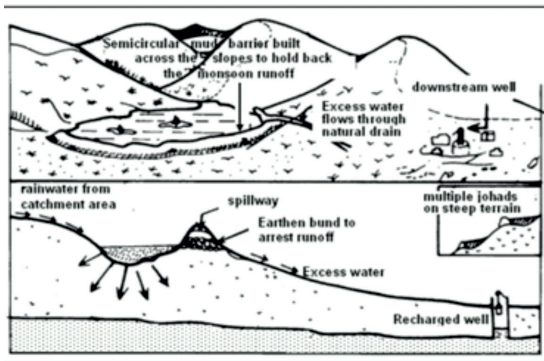
The design of Jivaritham Technology

Source: Amrita Vishwa Vidyapeetham

Rain Water Harvesting Technique: Water harvesting is a Climate Smart, Disaster Risk Reduction (DRR) initiative that can reduce the risk of disasters, such as floods and droughts. By collecting rainwater and controlling the flow of rainwater in order to reduce urban flooding, it lessens soil erosion and flood risks. Most structures with rainwater harvesting systems have an integrated catchment space on top of the roof that can hold huge amounts of water in the event of rainstorms. The traditional rainwater harvesting has been revived bringing much relief to households during time

Case study: Traditional Rainwater Harvesting, Alwar: Community owned Johads

Alwar constitutes one of the Rajasthan's water-scarce districts. The local community has begun building earthen percolation ponds to collect rainfall as a traditional approach for controlling water supply in response to the drought. These ponds are known locally as Johads. At the bottom point, where natural drainage is blocked and rainwater collection is most necessary, Johads are positioned strategically. Before the monsoon arrived, Johads were revitalized to capture the rainwater. Check dams were constructed either in low lying places or along the contours of hillsides to construct Johads. The embankment was constructed out of mud and debris on three sides to retain the water, leaving the fourth side uncovered. The Johads were successful in gathering after the monsoon.



The design of water Johads

Source: National Institute of Hydrology

Lessons Learnt

A two-pronged strategy can be adopted to achieve sustainability in various CBDRM programmes. The first strategy, which should be adopted by the organizations, is that they should plan their exit strategy in such a way that communities are not left alone but their capacities are built on the lines that they feel engaged and enthused. They should be able to maintain and upkeep the structures and mechanisms created through the programmes without external assistance and support. Secondly, traditional local communities have continued to rely heavily on indigenous knowledge to conserve the environment and deal with natural disasters. The communities, particularly those in hazard-prone areas, have generated a vast body of indigenous knowledge on disaster prevention and mitigation,

early warning, preparedness and response, and post-disaster recovery. This knowledge is the sum of facts that are known or learned from experience or acquired through observation and study and handed down from generation to generation. Communities identify themselves easily with indigenous knowledge systems which have enabled them to live in harmony with their environments for generations. The systems are important tools in disaster management. The organizations should thus respect this indigenous knowledge and identify local coping mechanisms and try to strengthen them in their initiative.

Discussion Activity 1

Put the participants into groups so that they can discuss the following questions:

1. Are communities important only in responding to disasters? Give your reasons.

2. What are the lessons drawn from various national and international case studies where communities have participated in pre and post disaster scenario?

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Learning Unit B: CBDRM Plan and Survival Skills

Session 1: Tools and Techniques for HRVC Analysis

Learning Objectives

At the end of the session, you should be able to:

- List out the various tools and techniques used for preparing CBDRM plan,
- Describe the various tools used for conducting HRVC analysis, and;
- To match the varied tools with the information needs.

Materials Needed:

Flip Charts, Markers, LCD/Projector, charts and blackboard.

Time Duration: 60 minutes

Key Concepts

- Concepts of hazard, vulnerability, capacity and risk analysis
- Usage of tools like **hazard mapping, Historical profile/ Timeline, Seasonal Calendar, Hazard Matrix, Transect walk, Problem Tree, Livelihood analysis, Vulnerability assessment, Social and Institutional Analysis, Chapatti diagram and Risk analysis.**
- Usage of varied tools to ensure that the information gathered is from the perspective of the community.

Training Methodology: Discussion & Power Point Presentation

Initiate the session by asking the participants about the tools they would use to gather the relevant information for the plan. Judge their level of knowledge about the tools and techniques and then start suggesting other tools. The trainer can initiate the session by asking the participants about the tools they would use to gather the relevant information for development of CBDRM plan. He/she can judge their level of knowledge about the tools and techniques for HRVC analysis and then start suggesting other tools.

Technical Notes

Tools for Hazard Analysis: A hazard is a physical phenomenon that poses a threat to people, structure, or economic assets and which may result in a disaster. It may be natural or human made. In a village setting a big boulder falling, mudflow, pest attack etc. may be hazard.

Exercise: Ask the participants to list out things that have caused damage in the village and link them with the above-mentioned examples.

The various tools for hazard analysis are as follows:

1. **Hazard Mapping:** It is a visual representation of the village by the community. It is a rough spatial overview and sketch of the area and specific locations which are vulnerable to various hazards. The main feature of hazard mapping is to facilitate discussion on issues pertinent to hazards. It is made by men and women, who know the area and are willing to share their experiences on large sheets (**Walia and Guleria, 2015**).



3D seismic hazard prediction map

Source: GIS-Based Seismic Hazard Prediction System for Urban Earthquake Disaster Prevention Planning, Research Gate

Points to be kept in mind while drawing the map:

- Decide about the kind of map that should be drawn
 - Choose a suitable place (ground, floor, paper) and medium (sticks, stones, seeds, pencils, chalk) for the map
 - Help the community to get started but let them draw the map by themselves.
2. **Historical Profile or Timeline:** This tool is used to gather information about what happened in the past. It helps in getting an insight in past hazards, changes in their nature, intensity and behavior. It helps to understand the present situation in the community and establish the link between hazards and vulnerabilities. The community may also become aware of the changes that have taken place over the past through historical profile or timeline (**Walia and Guleria, 2015**).



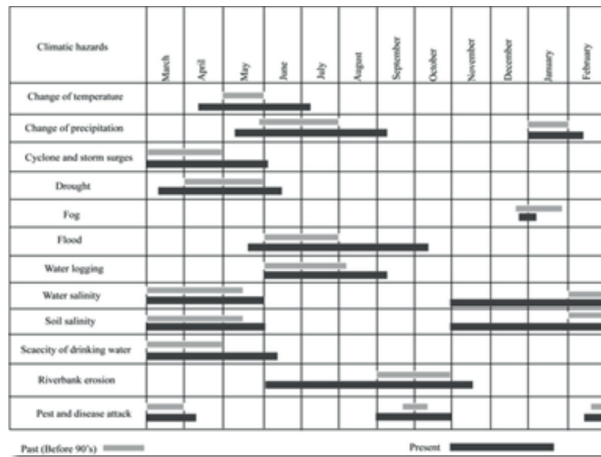
Then and now photos show how floods have devastated Kerala

Source: India Today

Points to be kept in mind while carrying out the historical profile:

- Plan a group discussion and ensure that key informants like old people, leaders and teachers are present.
 - Invite as many community members as possible, especially the young ones, for them to hear the history of the community.
 - Ask the community members if they can recall major events like hazards and its effects, changes in land use, changes in land tenure etc.
 - The facilitator can write stories on the blackboard or paper in a chronological order which depicts the history of the specified place. (Walia and Guleria, 2015).
3. **Seasonal Calendar:** Our country faces many seasonal hazards, including floods, cyclones, landslides, fires, droughts and diseases. The monsoon season (June-September) often experiences landslides, flooding, thunderstorms, disease (cholera, gastroenteritis, diarrhea, encephalitis, meningitis, typhoid, jaundice, malaria, Japanese encephalitis) and drought (when the monsoon rains fail). The dry season (March-June) often experiences fires, drought and heatwaves. Cyclonic seasons include months from May to August in southwest monsoon and October to November in north east monsoons. Festival seasons in October/November. Festivals can see mass gatherings of people.

It involves making a calendar showing different events primarily the time of occurrence of hazards throughout the annual cycle. It helps to identify the periods of stress and prepare for the specific stress in normal times before the threat of hazard looms large before the season. The facilitator can arrange sessions for the community members focusing on the issue (Walia and Guleria, 2015).



Seasonal calendar for climate-related hazards

Source: Insight and explore farming adaptation measures to support sustainable development goal 2 in the southwest coastal region of Bangladesh

Points to be kept in mind while carrying out the seasonal calendar

- Facilitator can arrange separate sessions for men and women members of the community.
- Make a chart of all possible hazards and an annual calendar.
- Make a chart stating hazards on y-axis (rows) and months on x-axis (columns).
- The periods of stress will also help in prioritizing the planning.

4. **Hazard Matrix:** This tool aims at gathering comprehensive information about the past hazards. It helps in having an insight about the future hazards on the basis of gaps and lacunae in the management of past hazards and disasters. (Walia and Guleria, 2015). The community members can be asked to dwell upon the changes they have observed in the duration, frequency, timing and intensity of hazards over time. This aspect will help to highlight the change in climate observed by the community over a period of time.

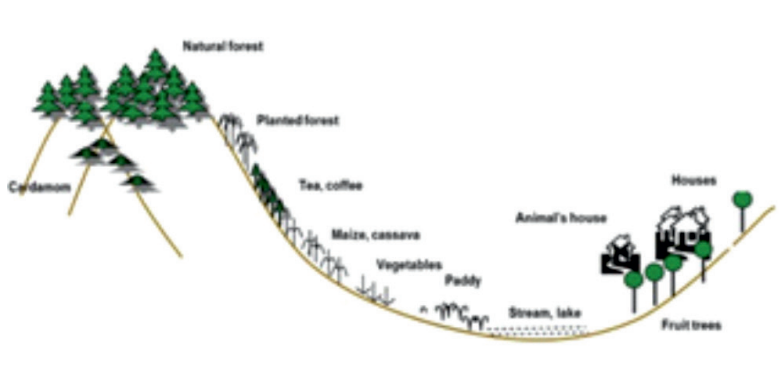
Hazard	Warning	Frequency	Intensity	Duration	Timing	Impact	Changes observed over time
Flood							
Earthquake							
Drought							
Industrial hazard							
Epidemic							
Any Other							

Tools for Vulnerability Analysis

Vulnerability is referred to as the extent to which a community, structure, service, or geographic area is likely to be damaged or disrupted by the impact of particular hazard, on account of their nature, construction and proximity to hazardous terrain or a disaster-prone area.

The various tools for vulnerability analysis are as follows:

1. **Transect Walk:** The process involves taking a systematic walk with key informants through the community to explore spatial differences, land use zones by observing, asking, listening, informal interviews and producing a transect diagram.



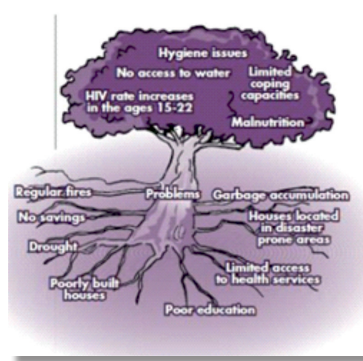
Taking a Walk: Community Action using Transect Mapping and Visual Action Plan

Source: American Indian Foundation

Points to be kept in mind while carrying out the transect walk:

- Team with 6-10 community members representing the cross section of the area.
- Identify danger zones, vulnerable areas, evacuation sites, local resources used during emergency, human activities contributing to vulnerability etc.
- During a walk, take time for brief and informal interviews at different places in the transect.

2. **Problem Tree:** The tool involves drawing a tree which shows relationship between different aspects of vulnerability. It involves identifying major problems and vulnerabilities as well as root causes and their effects. The trunk represents the problems, the root depicts the causes while the leaves signify the effects.

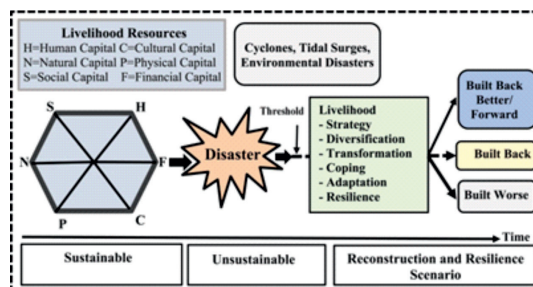


Problem Tree

Source: Red Cross Society

Points to be kept in mind while drawing the Problem tree:

- Give the community members small pieces of paper and ask them to write one major problem on each card, and put these on the wall.
 - Ask two/three volunteers to group the problems according to similarity or interrelationship.
 - Make the problem tree with the trunk as problem, root as causes of the problem and leaves as the effect of the problem.
 - Ask “But why” to arrive at the root causes.
 - To arrive at effects, ask for consequences of each problem.
3. **Livelihood Analysis:** The tool focuses on the studying the vulnerability of the livelihood of the community to various disasters. The tool analyzes the various livelihood activities that are spread over the year and the impact of hazards on the livelihood activities. It also focuses on understanding livelihood strategies, behaviour, decisions and perceptions of risk, capacities and vulnerabilities from different socioeconomic background (ADPC, 2000).



Livelihood Analysis

Source: Haque,etal, 2021

Points to be kept in mind while conducting the livelihood analysis:

- Decide beforehand which households you will interview and how many you will interview.
- Before conducting the interview; introduce yourself and reason for the interview.
- Start with getting to know the household members, composition, age, gender followed by questions about livelihood and coping strategies.
- Discuss on how household cope in periods of stress.

4. **Vulnerability Assessment:** The vulnerability assessment would focus on the vulnerable community and the vulnerable infrastructure. It assesses and maps the more vulnerable population and the assets in the village.

Points to be kept in mind while conducting the vulnerability assessment:

- Ask two simple questions to the community; 'Who' is more vulnerable and 'What' is vulnerable?
- Make a list of the more vulnerable community and the vulnerable assets.

More Vulnerable Population

- Women
- Old aged
- Children
- Physically handicapped
- Mentally challenged
- Dependent on life support systems, medicines
- Poor people living by the sea, kutchha houses etc.

Vulnerable Infrastructure

- Kutchha houses
- Low lying areas
- Livelihood assets such as boats, nets, etc.
- Documents,
- Houses and weak structure
- Crops and horticulture
- Drinking water resources
- Communication lines, road, telephone lines

Tools for Resource Assessment

Capacity refers to the resources and strengths which exist in the households and communities, and which help them to cope with, withstand, prepare for, prevent, mitigate, or quickly recover from a disaster. It helps in reducing vulnerability. The various tools for resource analysis include:

Social and Institutional Analysis: The tool focuses on identifying various government, non-government and private organizations working in the field of disaster management in the local as well as neighbouring area. Various other aspects can also be studied such as the role played by the institutions, their area of interest, their importance in the management of disasters, capabilities of such institutions and the perceptions people have about them (ADPC, 2000).

Points to be kept in mind while undertaking the Social and Institutional analysis:

- Become familiar in advance with the names of the organizations.
- Ask the community about the extent of linkage between the various organizations

and institutions.

- Draw circles to represent each organization or group; size of the circle would indicate the importance.
- Conduct focus group discussions on the history of the organizations, activities undertaken in the community, their performance, level of coordination, important organizations in the time of disasters etc.

Matrix for analysis of the institutions working in the field of disaster

List of Organizations	Ranking	Scope	Interest	Capability
Government				
Non-Government				
Private				

Tools for Risk Analysis

Risk is a measure of the expected losses due to a hazard event of a particular magnitude occurring in a given area over a specific time period. The tool used to determine risk is as follows:

Risk Analysis: The tool is based on determining the risk by analyzing the vulnerabilities and capacities of the community related to each hazard. On the basis of analysis, the risk is determined for a particular hazard in a ranking order (ADPC, 2000).

Points to be kept in mind while conducting the Risk Analysis:

- Determine the risk by ranking
- Ask the community about the hazard which poses the highest risk.
- Explore the reasons due to which a particular hazard poses the risk.
- Consider the vulnerability as well as capacity analysis



Risk Analysis

Source: Village Disaster Management Plan, NIDM

The trainer can accentuate at the end of the session that tools like mapping, observation, transect walk and interviews are generic tools and can be used for all i.e. hazard, vulnerability, and capacity and risk analysis.

Discussion Activity 1

1. What are some common tools which can be used for hazard, vulnerability and capacity analysis?

2. Explain the tool of “Problem Tree” for vulnerability analysis?

References:

1. Asian Disaster Preparedness Centre (2000), Training module on Community Based Disaster Preparedness, Bangkok, Thailand.
2. Walia, A. And Guleri, S. (2012), Village Disaster Management plan. National Institute of Disaster Management, New Delhi.
3. India Today. (2018, August 24). Then and now photos show how floods have devastated Kerala. India Today.
4. Dasgupta, S. (2022, May 17). Taking a walk: Community action using Transect mapping and visual action plan. AIF.
5. Akter, S., & Ahmed, K. R. (2020, May 23). Insight and explore farming adaptation measures to support sustainable development goal 2 in the southwest coastal region of Bangladesh - environment, Development and Sustainability. SpringerLink.

6. Problem tree. Global Disaster Preparedness Centre.
7. Uddin, M. S., Haque, C. E., Khan, M. N., Doberstein, B., & Cox, R. S. (2021). "Disasters threaten livelihoods, and people cope, adapt and make transformational changes": Community resilience and livelihoods reconstruction in coastal communities of Bangladesh. *International Journal of Disaster Risk Reduction*, 63, 102444. <https://doi.org/10.1016/j.ijdrr.2021.102444>

Learning Unit B: CBDRM Plan and Survival Skills

Session 2: Development of CBDRM Plan: Process and Framework

Learning Objectives

At the end of the session, you should be able to:

- Explain the need for developing community-based disaster risk management plan,
- Devise a framework for the development of the CBDRM plan,
- To list out the major contents of the plan, and;
- To explain the mechanism of creating Community Contingency Fund.

Materials Needed:

Flip Charts, Markers, LCD/Projector, charts and Blackboard.

Time Duration: 90 minutes

Key Concepts

- Need for developing CBDRM plan and its utility in implementing community-based disaster management initiatives,
- Components of CBDRM plan including profiling of the village, review and analysis of past disasters, vulnerability analysis, risk analysis and resource analysis,
- Framework for developing a CBDRM plan, and;
- Checklist for the Plan,

Training Methodology: Brainstorming & Discussion

The methodology used for the session will be largely brainstorming supported by a PowerPoint presentation.

Technical Notes

The trainer can start the session by asking the participants about the need for a Community Based Disaster Risk Management plan. He/ She can list out the responses on a flipchart and lead to further discussion on the subject culminating on the points listed below.

A CBDRM plan should consist of:

- List of activities, which a village agrees to follow to prevent loss of life, livelihoods and property.
- Actions to be taken by the individuals in the community to prevent hazards from becoming disasters.
- Effective coordination of human and material resources, which may facilitate a better response.

A CBDRM plan should be simple, have clear objectives and logical sequence of activities.

It should detail out clearly defined roles and responsibilities. It should also lay down the standards against which actual performance can be measured and reviewed. Finally, the plan should be able to integrate its activities, tasks and responsibilities. The steps involved in developing a plan include:

- 1) **Rapport Building:** The process of plan preparation should start with rapport building with the community. Some of the ways of rapport building include living with the community for some time, being transparent and open about who they are and what is being done, participating in daily life in the community, as well as community activities and cultural events, listening to local people about their life, issues and problems, learning new skills from local people and performing local tasks.
- 2) **Awareness Generation:** The facilitator should try to create awareness about disasters, hazards, risk and capacities in the community through various means. Some of the means are also explained in Learning Unit 1, Session 3 under “Components of CBDRM”.
- 3) **Constitution of Disaster Management Committees (DMC) and Disaster Management Teams (DMT):** There is a strong need for setting up DMCs in the community to carry out the following functions: The DMC is a think-tank for developing the CBDRM plan. It also takes community level decisions during disasters, coordinates activities of the Disaster management Teams, maintains the inventory of Community based Disaster preparedness materials and ensures a continuous monitoring of preparedness.

A suggested membership of the DMC at the village level is as follows:

External Ex-officio Members	No. of Persons	Reasons for being a member
BDO or his representative	1	To allow access to the govt. schemes and to act as an arbitrator if conflict arises amongst the members that cannot be settled by consensus.
Government Engineer	1	To give a technical knowhow backup to DMT's and to periodically verify the condition of the shelter and other structures.
Member Panchayati Raj institution	1	To allow access to the DMC to the facilities available
Member from a facilitating institute or NGO	1	To allow the community to communicate with the implementing agency and the required feedback.
Gram Mukhiya or Village head	1	Already enjoy a degree of respect and are usually a part of all decision-making processes
Mahila mandal and women's representative	1 or more	To specifically represent gender needs
Youth representatives like NYKS, NCC, NSS	1 or more	To present the needs and requirements of the youth
Self-help group	1 or more	Groups are already organized and have a large contributory role to the village processes.
Other groups	1 or more	Representation of backward class, or scheduled caste or scheduled group or other ethnic groups.
School committee member	1 or more	To participate in any decision regarding the usage of shelter and to spread awareness through school. Besides, the community usually respects teachers and school committees.
Village members	2 or more	Chosen by the communities to represent the needs of the community members.
DMT member	1	Representative of DMTs
Doctor/ Nurse, Civil Defense Volunteer/ retired defense personnel	1 each	To impart skill training to DMTs
Others	1 or more	Those who can help in imparting skills to DMTs

The roles and responsibilities of the Disaster Management committee will include effective coordination with Disaster Management Teams, detailing out, maintenance and replacement of rescue material and their periodic checking, register of usage of shelters, details of persons or groups using that infrastructure, planning Community Based Disaster Preparedness activities, training and drills and maintaining account books of Village Contingency Funds.

Disaster Management Teams: DMTs includes members and volunteers who will operationalize the plan. The trainer can ask the participants to brainstorm about the need for disaster management teams, why they are needed and what responsibilities they should discharge after a disaster. Based on the discussions, the trainer can list out the types and Standard Operating Procedures of DMTs.

The participants list from among themselves motivated and responsible men, women and youth volunteers who can implement and supervise the activities of the disaster management plan for e.g., members of the community youth clubs, women members of the community self-help group, literate youth of the community, school teachers, Auxiliary Nurse Midwife (ANM), ward members and so on. These individuals then form small action groups of 5 to 10 members each, depending on the convenience of the community. Each group is given a particular responsibility like, warning dissemination, rescue, and relief and so on. Each group will have distinct activities to carry out before, during and after a disaster.

Suggestive DMTs (type and number) can be as follows:

1. Warning Team
2. Evacuation and Response
3. First aid
4. Sanitation
5. Shelter management
6. Relief Management
7. Carcass disposal
8. Psychosocial Care
9. Damage Assessment
10. Reconstruction and Rehabilitation Team

The list can include or exclude the number of DMTs. It depends upon the local condition and requirements. The SOPs of the DMTs in various phases of disasters should be detailed out as a part of the plan.

After following three steps before development of the plan namely; rapport building with the community, creating awareness about hazards and disaster in the community and constitution of DMCs and DMTs the DMC can start writing down the plan. A suggested framework for developing the CBDRM plan is as follows:

Step 1: Situation Profile

Step 2: Hazard, Vulnerability, Capacity and Risk Analysis

Step 3: Response Plan

Step 4 : Mitigation and Preparedness Plan

Step 5 : Contact Details

- 1) **Situational Profile:** The community profile would include information like population, geographical area, temperature, rainfall, agricultural land, cropping pattern, education, economy, occupation, literacy rate, income, rivers, road, industries, hospitals, schools, temples, sex ratio, families below poverty line, livelihood pattern, drinking water sources, critical establishments and other critical infrastructure. The community may be asked to draw a map depicting the location of pukka and kutcha houses, livelihood of people, forests and trees, tanks and ponds, tube wells, public health services, drinking water facilities, telephone installations, road and railway infrastructure, post office, temples, schools, shelters etc.



Map of the village



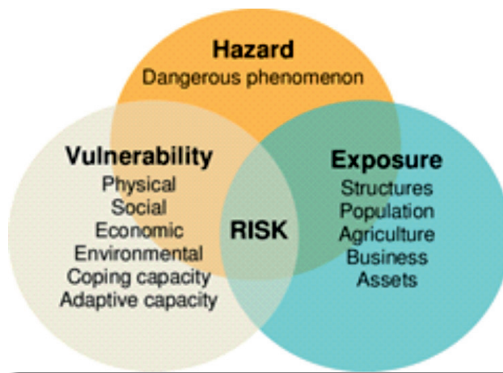
Map being drawn by the community

Source: Patrika News

- 2) **Hazard, Vulnerability, Capacity and Risk Analysis:** Hazard analysis refers to prioritizing disasters based on its frequency and analysis of the estimated losses. This can be carried out by taking the help of elderly people of the community. The community members analyze the losses that they had incurred during various disasters and learn the best practices carried out. This is an important activity as it forms the basis for preparedness and mitigation plans.

The community would be asked to review and analyze the occurrence of past disasters and hazards. Group discussions along with the elderly population, teachers and children can be held focusing on the disasters and hazards faced by the community for the past one year to past fifteen years, kind and nature of disasters and hazards faced, experience in the last hazard faced, warning issued, damage caused, response to the disaster, relief and rehabilitation process, traditional methods of coping of the community, gaps in management of the hazard, lessons learnt. It can be useful in understanding the nature, intensity and behavior of the past disasters and hazards. The elderly population can share vital information and experience about the past while the presence of children in the group discussion would ensure that the experience is passed on to the next generation.

The community may be asked to identify both natural as well as human made hazards. Natural hazards may include floods, drought, earthquake, cyclone, sandstorm, cloudburst etc., human made hazards for the community may include industrial and chemical accidents, road and railway accidents, fire, epidemic, building collapse, communal violence etc. A seasonal calendar may be developed by the community on the basis of the frequency and time of the occurrence of the hazard (**NIDM, 2012**).



Components of Risk

Source: Prioritization of flood vulnerability, coping capacity and exposure indicators through the Delphi technique: A case study in Taquari-Antas basin, Brazil

The vulnerability analysis involves asking the community two major questions namely;

- 1) **Who is vulnerable?**
- 2) **What is vulnerable?**

The community would be asked to identify the more vulnerable population, identify the location of women (pregnant, lactating, widows, single), children, old aged, physically challenged, mentally challenged, those dependent on life support systems & medicines, poor people living by the sea or kutcha houses, livestock and cattle etc. The community would also be asked to identify the vulnerable infrastructure like kutcha houses, low lying areas, areas near the water bodies such as the sea and river & direction of wind, livelihood assets such as boats & nets, documents, weak structures, drinking water resources, communication lines, roads, telephone lines etc. (NIDM, 2012)



More Vulnerable Group



Vulnerable Infrastructure

Source: NIDM

The focus is on identifying the resources that can be utilized for building the capacity for the community during and after disasters. The local community has a lot of inbuilt strength and capacity for handling the disasters. It is important to capture the capacity and strength of the community in resource analysis. Apart from infrastructure and funds, it could be individuals with specific skills, local institutions and people's knowledge as all these have the capacity to create awareness and bring about changes in the community. Resource analysis is therefore not limited to a map depicting the available resources but also plotting of the distribution, access and its use by taking into consideration prevailing sensitiveness within the village. Thus, assessment of resources would involve two components:

- **Human Resource Assessment**
- **Material Resource Assessment**

The process would involve identifying safe houses and buildings for shelter, strong buildings, elevated uplands and structures, safe evacuation routes, health, medical & sanitation facilities, swimmers, doctors, nurses, sources of funds to carry out preparedness activities, volunteers for task force etc. (NIDM, 2015).

Risk analysis is based on hazard, vulnerability and resource analysis, the community is asked to determine and rank the hazards posing the highest as well as the lowest risk. The

community also explores the reasons why a particular hazard poses the highest risk on the basis of the vulnerability and resource analysis **(NIDM, 2012)**.

- 3) **Response Plan:** The onset of an emergency creates the need for time sensitive actions to save life and property, reduce hardships and suffering, and restore essential life support and community systems. Effective response planning requires realistic identification of likely response functions, assignment of specific tasks to individual response teams and agencies, identification of equipment, supplies and personnel required by the response agencies for performing the assigned tasks. A response plan essentially outlines the strategy and resources needed for search and rescue, evacuation, etc. A response plan would include standard operating procedures/roles and responsibilities/functions of DMTs during and after a disaster **(NIDM, 2012)**.
- 4) **Mitigation and Preparedness Plan:** The mitigation and preparedness plan include the standard operating procedures/roles and responsibilities/functions of DMTs in a pre-disaster scenario. It would detail out the evacuation routes of communities during disasters along with proper signage. The plan would assess the structural and non-structural mitigation measures which exist in the community and those which are needed. Accordingly, the section would propose mitigation measures, which are needed to be undertaken by the community. This section would end with frequency and time of mock drills which would be carried out in the community.
- 5) **Contact Details:** At the end of the plan, contact details of personnel who are involved in the management of the disaster right from the community to officials should be listed out. The section should include contact details of all human resources who would possibly participate in the management of the disaster along with the contact details of the persons who are in charge of material resources required. One should list out alternate contact details of persons listed out in this section so that in case of a disaster if the primary contact details are not working then the other contact details can be used. Moreover, alternate human resources should also be listed out so that if one human resource is affected by the disaster in the community then the other human resource can be contacted.

After writing the plan, the plan has to be disseminated in the community for their comments. It should not be kept in the cupboard with a lock and key. Otherwise, there would be no use of the plan. After incorporating the comments and ensuring that each member of the community knows what has to be done during a disaster, the plan can be put into action through a mock drill. The mock drill would bring forward the functionality of the plan. It would highlight which part of the plan was up to date and which part of the plan did not work and needs improvement. After incorporating the lessons learnt from the mock drill, the CBDRM plan can be updated and revised regularly.

Checklist for the Plan:

Any Disaster Management Plan should be

- | | | |
|----------------|------------------|--------------------------------------|
| • Written | <i>Otherwise</i> | It will not be REMEMBERED |
| • Simple | <i>Otherwise</i> | It will not be UNDERSTOOD |
| • Disseminated | <i>Otherwise</i> | It will not REACH THE NEEDFUL |
| • Tested | <i>Otherwise</i> | It will not be PRACTICAL |
| • Revised | <i>Otherwise</i> | It will not be UP TO DATE |

Discussion Activity 1

Give the participants a sheet of paper and ask them to answer the following questions.

1. How will a CBDRM plan help the community in wake of a disaster?

2. List out the major components of a CBDRM plan.

Learning Unit B: CBDRM Plan and Survival Skills

Session 3: Family Disaster Management Plan

Learning Objectives

At the end of the session, you should be able to:

- Discuss the important components of family disaster management plan, and;
- List out the material required for preparing family disaster supplies kit.

Materials Needed:

Flip Charts, White Board and Markers

Time Duration: 30 minutes

Key Concepts

- Framework of Family Disaster Preparedness Plan
- Constituents of Family Disaster Supplies Kit

Training Methodology: Discussion and Interaction

The trainer can ask the participants what will happen if there is an earthquake in the afternoon in the village. Where will their family members be? Where would the children be? How would they feel? The trainer can connect the above questions by accentuating the need for preparing a family disaster preparedness plan. Each household in the village should prepare a family disaster preparedness plan.

Technical Notes

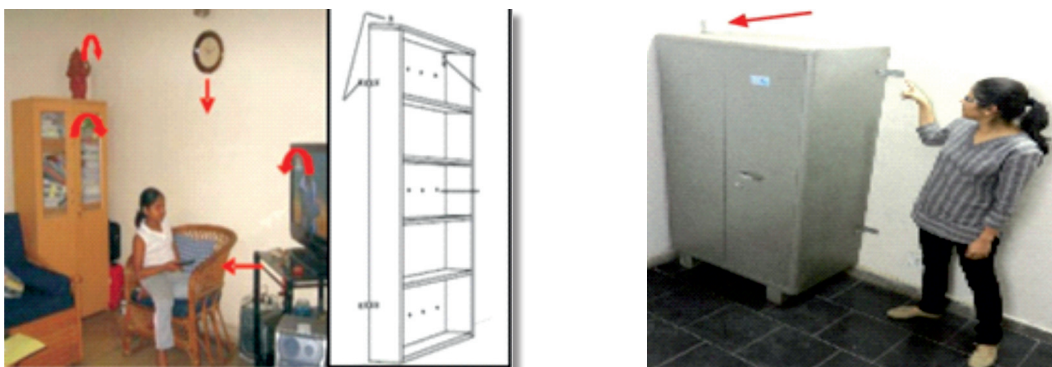
For making a family disaster preparedness plan, you have to conduct a hazard, vulnerability and capacity analysis of your home. You can carry out the following steps:

- Look at each room in your home from the perspective of disasters and from the level of the shortest member of your family.
- Take some time and sit in each room and think “If a major disaster struck right now, what could cause injuries? Identify and fix those hazards.
- To prevent injury and reduce damage, each room of your home should be carefully examined.
- This will be the starting point in the preparing your home disaster preparedness plan.

You can take a walk through some rooms of the house and ponder over the following points:

1. **Living rooms:** Ask them what hazards one normally finds in living rooms. (***Tell them how dangerous TVs can be for little children.***)
2. **Bedrooms:** We spend a lot of time in bedrooms, but this would be the place we will be caught in when there is a night time earthquake. So, take special care for things that can fall on us and those that can block our exit.
3. **Kitchens:** Kitchens are among the most hazardous rooms in the house – they contain a lot of glass, fire, cooking gas, etc. One needs to ensure safety here.

Install mechanical latches on cupboards. Tie gas cylinders so that they don't fall down and start a gas leak. Make it a habit to turn off the gas cylinder at night.



Potential underlying risk factors and ways to minimize it

Family preparedness planning should involve all members of the family sitting together and discussing the scenario of a disaster. If a damaging earthquake happens during the day-time, family members will be in different parts of the city. It is important that each person in the family discuss and decide on their roles and responsibilities in getting the family back together after such an event. Family disaster preparedness planning would involve the following steps:

- Take a few minutes with your family to discuss a home evacuation plan. Sketch a floor plan; walk through each room and discuss evacuation.
- Plan a second way to exit from each room or area, if possible.
- Prepare the Family Emergency Kit to sustain your family for 72 hours. Refurbish every 3 to 4 months.
- Make sure your neighbors do so too! (Or else be prepared to share your kit with them)
- Know where your emergency kits are located.
- Mark where the “**Main**” switches or valves are located so that they can be turned

off to prevent sparks that could cause an explosion if there is a gas leak, water to prevent flooding from broken pipes, gas (if you have piped in gas) to prevent fires and explosions.

- Indicate the location of your family's emergency outdoor meeting place:
 - Where and how
 - Plan responsibilities
 - External contact point
- Get trained in First Aid, as basic first aid is important because you can help yourselves and your neighbors if anyone has minor injuries. You can help ease the pressure on the hospitals and doctors by treating minor injuries yourself.
- Do a preparedness drill (everyone) and everyone should participate in preparedness drills, especially the very old, children, women and challenged populace. These people will be the most vulnerable during and after a disaster.
- The community is better prepared to deal with any disaster when every household in the community has a preparedness plan in place. The trainer can initiate a discussion about what are the constituents of a family disaster preparedness kit by asking the following questions:
 - Can you imagine you or your family members queuing for relief?
 - What is the earliest that you feel that relief will be distributed to everyone?

The trainer can list out the suggestions made by the participants on the flipchart or white board and provide technical inputs on the same. The most optimistic estimates are that it will take 72 hours. For your family to survive these 72 hours, it is important that you prepare a family emergency preparedness kit. A sample list of contents is given in the slide

- Non-perishable food to last 72 hours
- Water (10 lit/ day/person)
- First aid kit + prescription medicine+ sanitary items
- Torch +spare batteries
- Radio + batteries
- Emergency cash
- List of emergency telephones
- Copies of valuable documents
- Items such medicines and batteries should be checked for expiry date and the stock should be updated from time to time.

Discussion Activity 1

Give the participants a sheet of paper and ask them to answer the following questions.

1. What are the steps to make family disaster management plan?

2. List out five major items of a Family Disaster Preparedness Kit.

References:

1. Delhi Disaster Management Authority (2009), Brochure developed on Family Disaster Supplies Kit, Government of NCT of Delhi, and Delhi.
2. Geo Hazards International (2008), Instructor Guide for Teacher Sensitization sessions Training material for School Earthquake safety.
3. Walla, A. & Guleria, S. (2012), Village Disaster Management Plan. National Institute of Disaster management, New Delhi)

Learning Unit B: CBDRM Plan and Survival Skills

Sessions 4 & 5: Search and Rescue in Disasters

Learning Objectives

At the end of the sessions, you should be able to:

- Learn about various methods of search and rescue in disasters,
- Undertake immediate necessary actions, as necessary, for temporary support and protection to endangered communities, and;
- Raise awareness on how to use the local materials for self-rescue amongst the community people.

Materials Needed:

Flip Charts, Markers, LCD/Projector, charts and blackboard.

Time Duration: 180 minutes

Key Concepts

- Tools and resources for Search & Rescue
- Assessment of resources in times of exigency
- Safety considerations and procedures while undertaking search and rescue
- Varied methods of search and rescue

Training Methodology: Demonstration & Discussion

The sessions will be based on the methodology of demonstrations. The trainers can be from the field like National Defense Response Force, State Disaster Response Force, Civil Defense and other experts working in the area.

Technical Notes

Search and rescue is a technical activity rendered by a group of specially trained personnel, who rescue and attend to the casualties under adverse conditions, where life is at threat. Search and rescue is organized in close cooperation with the community and in a team approach. Experience has shown that immediately after almost every major disaster, the first response to trapped and injured victims is by spontaneous, untrained, and well-intentioned

persons paying little or no regard to personal safety. In some cases, further loss of life is avoided. More often than not, however, spontaneous rescue efforts result in serious injuries and compounded problems. To avoid the problems associated with spontaneous actions, rescue efforts should be planned and practiced in advance. The decision to attempt a rescue should be based on two factors:

- The risks involved.
- The overall goal of doing the greatest good for the greatest number of people

Resources for Search and Rescue

The various resources required for carrying out the task of search and rescue by the community are as follows:

Assessing Resources

For assessing the resources, the community members should be asking the following resource planning questions:

Personnel Resources

- Who lives and/or works in the area?
- During which hours are these people most likely to be available?
- What skills or hobbies do they have that might be useful in search and rescue operations?
- What might be the most effective means of mobilizing their efforts?

Equipment

- What is the equipment available locally that might be useful for search and rescue?
- Where is it located?
- How can it be accessed?
- On which structures (or types of structures) might it be most affected?

Tools

- What are the tools available that might be useful for lifting, moving, or cutting disaster debris?

Steps in carrying out Search and Rescue Procedure

- Step 1:** Gather facts;
- Step 2:** Assess situation;
- Step 3:** Identify your resources
- Step 4:** Establish the rescue priorities,
- Step 5:** Develop a rescue plan;
- Step 6:** Conduct the rescue;
- Step 7:** Evaluate your progress

Safety Considerations

In assessing your own situation and making decisions about search and rescue strategies, safety of the person who is undertaking the rescue must be the primary concern. The following are guidelines for safe search and rescue. **(SADC, 2001)**

- 1) **Buddy System:** Always work in pairs, with a third person acting as a runner.
- 2) **Hazards:** Be alert for hazards, such as sharp objects, dust, hazardous materials, power lines, leaking gas, high water, fire hazards, and unstable structures. If water is present, check the depth before entering. Never enter rising water without appropriate equipment and training.
- 3) **Safety Equipment:** Wear safety equipment and clothing appropriate to the task. In search and rescue operations, the equipment can include:
 - a) Helmet
 - b) Goggles
 - c) Whistle for signaling other rescue workers
 - d) Clothing appropriate for the weather (e.g., protection from cold or rain)
- 4) **Rotate Teams:** Have back-up teams available. Monitor the length of exposure of active teams. Be alert to signs of fatigue. Establish regular search and rescue shifts or rotate personnel (as a team) as needed. Have teams drink fluids and eat to maintain themselves.

Evacuation

Evacuation is the organized withdrawal from an area for purposes of protecting the safety of the area's inhabitants. In the event that evacuation becomes necessary, use the following steps as guidelines to ensure safety and organization:

Step	Action
Determine the need	Determine whether there is a need for total or partial evacuation
Identify a relocation area	Select an area that is free of hazards and easily accessible
Communicate	Communicate to everyone involved the need to evacuate and the locations of shelters
Pre designate routes	Designate routes from the area to be evacuated to the area of Relocation. Consider alternatives
Verify routes periodically during evacuation	Make sure that the evacuation is proceeding smoothly and that no bottlenecks are created along the evacuation route
Report the evacuation	Be sure to inform government emergency management personnel about the evacuation to avoid unnecessary duplication of efforts and risks

(SADC, 2001)

Follow Safety Procedures

Always protect yourself by wearing and/or using the safety equipment required for the situation and following established procedures, including:

- Working in pairs.
- Never entering an unstable structure.
- Following recommended procedures for lifting and carrying.

Lifting should always be done in a way that protects the rescuer's back from strain or other injury. To lift safely:

- Bend your knees and squat.
- Keep the load close to your body.
- Keep your back straight.
- Push up with your legs.

Proper body position for lifting is shown in the following figure:



Safe Lifting

Source: IGNOU eGyanKosh

Lifts and Drags

If a victim cannot get out on his or her own, size up the situation to determine the most appropriate means of removal. The extrication method selected depends on the number of rescuers available, the strength and ability of the rescuers, the condition of the victim, and the general stability of the immediate environment.

Unless there is a condition that threatens rescuer safety [**e.g., the building is on fire, or collapsing, or filling with water**], do not use these types of victim removal if you suspect a closed head, neck or spine injury. Victims with injuries to the head or spine should be stabilized on a backboard before removal (**SADC, 2001**).

- **One-Person Arm Carry:** If you are physically strong, you may be able to lift and carry a victim by yourself. Reach around the victim's back and under the knees, and lift. The victim may be able to assist by placing an arm around your shoulder.

- **One-Person Pack-Strap Carry:** Firstly, stand with your back to the victim. Secondly place the victim's arms over your shoulders and grab the hands in front of your chest. Finally, hoist the victim onto your back by bending forward slightly, so his or her feet just clear the floor (**SADC, 2001**).



One-person arm carry

One-person pack strap

Source: IGNOU eGyanKosh

- **Two-Person Lift:** In this kind of lift, there are two steps as follows:
- **Rescuer -1:** Squat at the victim's head and grasp the victim from behind around the midsection. Reach under the arms and grasp the victim's forearms.
- **Rescuer - 2:** Squat between the victim's knees, facing either toward or away from the victim. Grasp the outside of the victim's legs at the knees.



Two Person Lift

Source: IGNOU eGyanKosh

Using safe lifting procedures, rise to a standing position, lifting the victim. The victim can then be carried to safety (**SADC, 2001**).

Chair Carry: This technique requires two rescuers and the following steps:

- Place the victim in a straight-back chair (e.g., a wooden kitchen chair).
- **Rescuer-1:** Facing the back of the chair, grasp the back uprights.
- **Rescuer-2:** With your back to the victim's knees, reach back and grasp the two front legs of the chair.
- Tilt the chair back, lift, and walk out (**SADC, 2001**).



Chair Carry

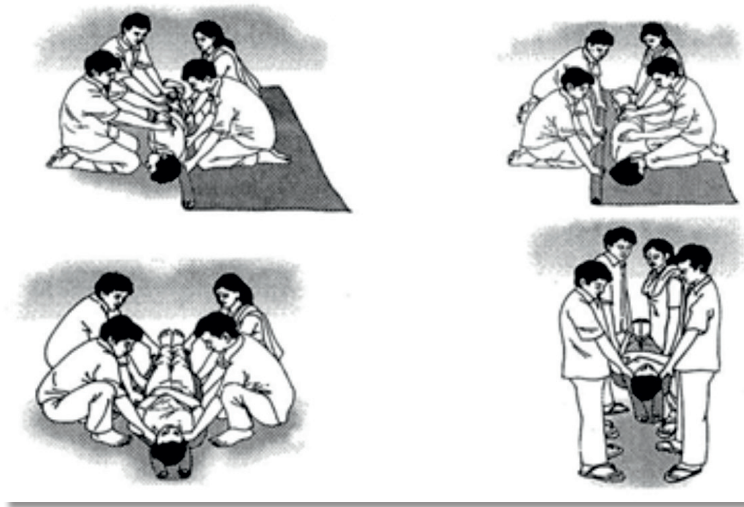
Source: IGNOU eGyanKosh

Blanket Carry: The blanket carry requires at least four rescuers to provide stability to the victim, with one person designated as the lead person. It involves the following steps:

- Lay a blanket next to the victim.
- Tuck the blanket under the victim, and roll the victim into the center of the blanket.
- Roll up the blanket edges toward the victim, to form tube-like handles on each side of the victim.

With two rescuers squatting on each side and grasping the “handle,” the lead person checks the team for even weight distribution and correct lifting position (SADC, 2001).

- The lead person calls out, “Ready to lift on the count of three: one, two, three, lift.”
- The team lifts and stands in unison, keeping the victim level, and carries away the victim feet first.
- To lower the victim, the lead person calls out, “Ready to lower on the count of three: one, two, and three, lower.”



Four Person Blanket Carry

Source: IGNOU eGyanKosh

Improved Stretchers: A variety of materials can be used as improvised stretchers, which can be carried by two rescuers. For e.g., you can make a stretcher from two poles and a blanket.



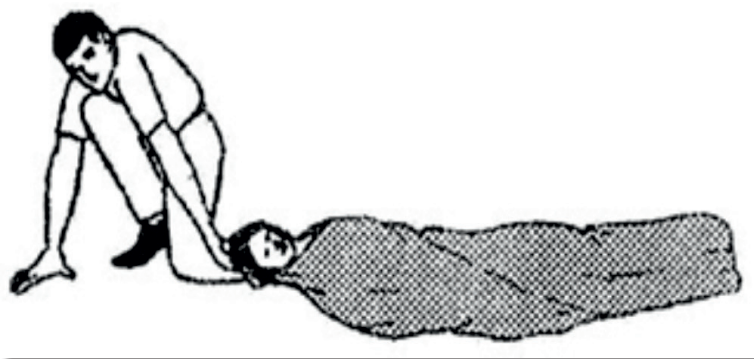
Stretcher making

Source: IGNOU eGyanKosh

Drag: Drag the injured person out of the confined area by grasping either under the arms or by the feet and pulling across the floor. Remember to use safe lifting procedures. One rescuer can also use the blanket drag by wrapping the injured person in a blanket, squatting down and grasping an edge of the blanket, and dragging the injured person across the floor (SADC, 2001).

Blanket drag involves the following steps:

- Wrap the injured person in blanket
- Squat down and grasp edge of the blanket
- Drag the injured person across the floor.

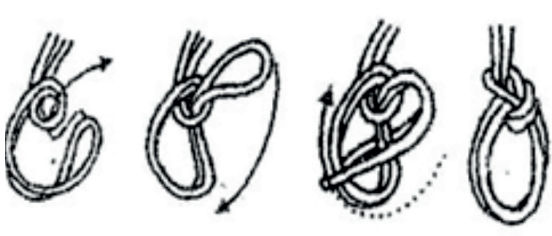


Blanket Drag

Source: IGNOU eGyanKosh

Ropes, Knots and Techniques

In a number of rescue situations, the community has to use ropes, tackle and poles to lower, raise or move casualties across an obstacle or a void. The illustrations below and on the following page show some of the knots used. These knots should be repeatedly practiced and should only be used if safety is ensured (**SADC, 2001**).

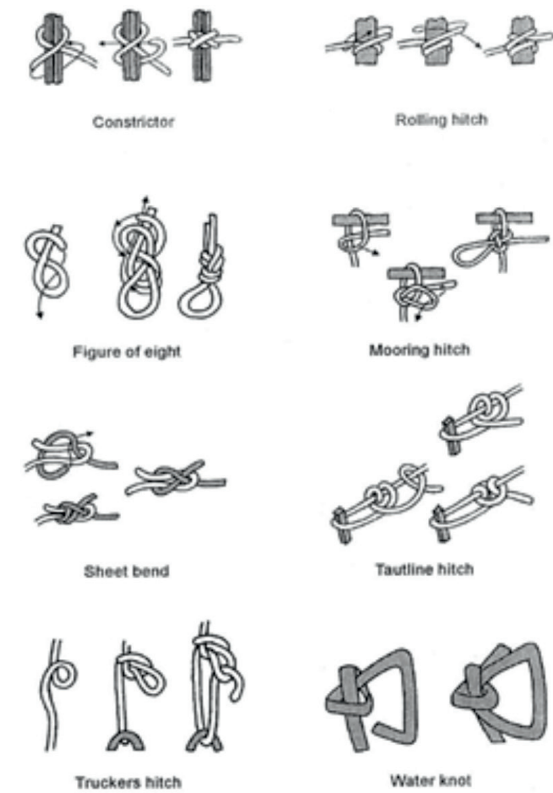
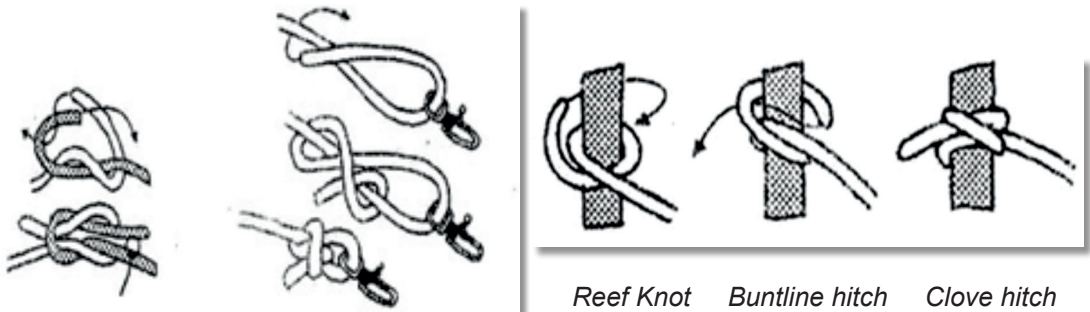


Bowline on a bight



Bowline

Source: IGNOU eGyanKosh



Different types of knot

Source: IGNOU eGyanKosh

Reference :

1. Swiss Agency for Development and Co-operation (2001). Community Based Disaster Preparedness: A Handbook of Concepts and Techniques, Lip scan, Bhubaneshwar

Learning Unit C: Health and Disasters

Session 1: First Aid in Disasters

Learning Objectives

At the end of the session, you should be able to:

- Learn about various methods of providing first-aid in disasters,
- Undertake immediate necessary actions, as necessary, for temporary support and protection to injured communities,
- Raise awareness on how to use the local materials for first-aid amongst the community people, and;
- Illustrate the method of triaging patients in disasters.

Materials Needed:

Flip Charts, Markers, LCD/Projector, charts and blackboard.

Time Duration: 180 minutes

Key Concepts

- Constituents of First-aid kit
- Different types of dressings and bandages
- Types of wounds and their treatment
- Types and treatment of fractures, sprains and dislocations
- First-aid for unconsciousness, epilepsy, poisoning and drowning
- First-aid for burns & scalds, dog bites and diarrhea
- Triage in Disasters

Training Methodology: Demonstration, Discussion & Handout 1

The sessions will be based on the methodology of demonstrations and discussion. The trainers can be a medical professional and other experts working in the area of first aid. However, theoretical and pictorial knowledge pertinent to the sessions is detailed out below. The trainer can initiate the session by asking the participants about what they understand about the meaning of giving first aid. The discussion can further lead to demonstration. The trainer can distribute Handout 1 after the session

Technical Notes

First aid is the first assistance or treatment given to a casualty for any injury or sudden illness before the arrival of an ambulance or qualified medical practitioners. The various aims of first aid are as follows:

- a) Preserve life.
- b) Prevent the worsening of the condition.
- c) Promote recovery

Who can give first aid?

First-aid treatment is given to a casualty to:

- One who has a sound knowledge of first-aid (mere enthusiasm and good intentions can be dangerous),
- One who has a desire to assist others in need,
- One who is a quick maker,
- One who can remain cool and calm under pressure

First-aid kit

- The first-aid kit should include:
- Roller bandages of different sizes
- Triangular bandages
- Gauze pieces -small and large
- Sterilized dressing
- A pack of cotton
- Small scissors
- Antiseptic solution (e.g., Dettol, Savlon)
- Antibiotic cream (e.g., Soframycin, Neomycin)
- Small and large splints made up of wood or bamboo sticks.
- Pain-killer tablets (e.g., Paracetamol, Ibuprofen)
- Oral re-hydration solution (ORS)
- Thermometer
- Any other useful material can be kept as per need.

Categories of First Aid Procedures

1. Dressing and Bandages

Dressing refers to a sterile pad or compress applied directly to a wound to promote healing and prevent infection. It absorbs blood and other fluids from the wound and creates a barrier against bacteria and contaminants.

Bandages

Bandages are materials used to secure dressings in place. They wrap around the dressing and the injured area, providing support, compression, and protection. Bandages come in

various forms, including adhesive bandages (plasters), gauze bandages, elastic bandages, and triangular bandages.

2. Cardiopulmonary Resuscitation (CPR)

a) CPR on Adults

Cardiopulmonary resuscitation (CPR) is a lifesaving technique that is useful in many emergencies, such as a heart attack or near drowning, in which someone is breathing or heartbeat has stopped. It is recommended to start CPR with hard and fast chest compressions. This hands-only CPR recommendation applies to both untrained bystanders and first responders.

Remember to spell C-A-B



Chest compressions



Open the airway



Rescue breathing

Source: Mayo Foundation for Medical Education & Research

The three letters C-A-B are used to help people remember the order to perform the steps of CPR.

- C: compressions
- A: airway
- B: breathing

Compressions: Restores blood flow

Compressions mean you use your hands to push down hard and fast in a specific way on the person's chest. Compressions are the most important step in CPR.

Airway: Open the airway

If you are trained in CPR and you have performed 30 chest compressions, open the person's airway using the head-tilt, chin-lift manoeuvre. Put your palm on the person's forehead and gently tilt the head back. Then with the other hand, gently lift the chin forward to open the airway.

Breathing: Breathe for the person

Rescue breathing can be mouth-to-mouth breathing or mouth-to-nose breathing if the mouth is seriously injured or cannot be opened. Current recommendations suggest performing rescue breathing using a bag-mask device with a high-efficiency particulate air (HEPA) filter.

b) CPR on Children

Children's resuscitation is conducted in accordance with the age. Trained personnel at the hospital should conduct infants' basic life support. Basic life support for children older than 8 years is the same like for adults.

Children over 1 year

- Open the child's airway by placing 1 hand on their forehead and gently tilting their head back and lifting the chin. Remove any visible obstructions from their mouth and nose.
- Pinch the child's nose. Seal your mouth over their mouth, and blow steadily and firmly into their mouth, checking that their chest rises. Give 5 initial rescue breaths.
- Place the heel of 1 hand on the centre of the child's chest and push down by 5cm (about 2 inches), which is approximately one-third of the chest diameter. The quality (depth) of chest compressions is very important. Use two hands if you cannot achieve a depth of 5cm using one hand.
- After every 30-chest compressions at a rate of 100 to 120 a minute, give two breaths.
- Continue with cycles of 30 chest compressions and two rescue breaths until the child begins to recover or emergency help arrives.

3. Heimlich Maneuver

The Heimlich Manoeuvre is a crucial first aid technique used to dislodge foreign objects from a choking person's airway. Steps for performing the Heimlich manoeuvre in disaster situations.

- **Assess the Situation:** Quickly determine if the person is choking and unable to breathe or speak.
- **Position Yourself :** Stand behind the choking person and wrap your arms around their waist.
- **Make a Fist :** Form a clenched fist with one hand and place it just above the person's navel (belly button).
- **Apply Abdominal Thrusts :** Use your other hand to grasp your fist and thrust inward and upward forcefully into the abdomen, aiming to expel the obstructing object.
- **Repeat if Necessary :** Continue delivering abdominal thrusts until the object is dislodged or the person becomes unconscious.
- **Seek Medical Help :** If the person becomes unconscious, lower them gently to the ground and immediately begin CPR. If conscious and the object is still lodged, seek medical assistance promptly.

The **Heimlich manoeuvre** can save lives in emergencies, making it a valuable skill for disaster first aid responders.



Source: Medinet.net

Emergency First Aid Instructions for the Following Scenarios:

1. Wound

Wounds are injuries that cause a break in the continuity of the body's skin or underlying tissues. They can occur due to various causes, including accidents, trauma, or medical conditions. Wounds can vary in severity, from minor cuts and scrapes to more serious injuries requiring medical attention. Proper wound care is essential to prevent infection, promote healing, and minimize complications.

Types of wounds:

- **Incised Wounds**
- **Contused Wounds**
- **Lacerated Wounds**
- **Punctured Wounds**
- **Gunshot wounds**



Incised Wounds



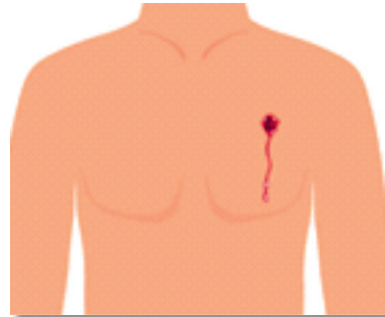
Incised Wounds



Incised Wounds



Incised Wounds



Incised Wounds

Source: A review of the current state of natural biomaterials in wound healing applications

Treatment of wounds

- Wash your hands thoroughly with soap and water. Do not wipe them dry.
- Clean the external wound with plenty of clean drinking water,
- Wipe gently the surrounding skin and remove dirt sticking to the wound,
- Pick away foreign material from the wound,
- Cover the wound with dry sterile gauze if available, or a fresh, clean, soft handkerchief.
- Apply a bandage to the wound.
- Immobilize the wound with splint.
- Make necessary arrangement for shifting the patient to the hospital.

2. Bleeding

If the bleeding is from the surface of the body, it is called external bleeding. If the bleeding is within the chest, skull, or abdomen and so on it is called internal bleeding. Internal bleeding is more dangerous.

Management of bleeding:

- Bring the sides of the wound together and press firmly.
- Place the casualty in a comfortable position and raise the injured part (if no bone fracture is suspected).
- Press on the pressure point firmly for 10 to 15 minutes.
- Apply a clean pad larger than the wound and press it firmly with the palm until bleeding becomes less and finally stops.
- If bleeding continues, do not take off the original dressing, but add more pads.
- Bandage firmly but not too tightly.
- Treat for shock.
- Transport the casualty to hospital as soon as possible.

3. Fractures and Sprains:

(a) A fracture is the partial or complete bend, crack or breakage of a bone.

Management of fractures:

- Immobilize the fractured part and give support to it. That will prevent any further injury and will reduce pain
- Treat bleeding of the wounds and other injuries
- Mobilize using bandages and splints
- Use anything which cannot be bent as a splint such as, a wooden piece, any fresh roll of newspaper or a ruler
- Sometimes another limb such as a lower limb can be used for resting the injured limb

Fracture of different part of the body and important notes for first-aid treatment:

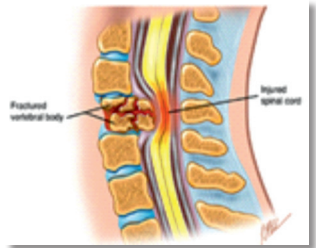
Fracture of the skull

A skull fracture is any break in the cranial bone (skull). Most heal without intervention, but if there is brain damage or surgery is needed, recovery can take weeks or months.



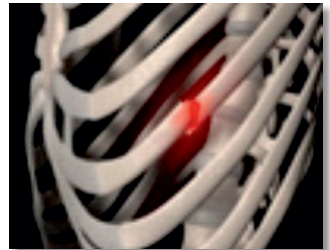
Spine Fracture

A spinal fracture is a dislocation or fracture of the vertebrae (backbone) and can occur anywhere along the spine. Most spinal fractures are caused from injury or trauma from car accidents, falls, sports or some sort of high velocity impact



Rib Fracture

Ribs get broken by direct force from a blow or fall upon the chest. The broken end may be driven inwards causing injury to the lungs, which then becomes a complicated fracture.



Fracture of the arm bone

Upper arm fractures usually result from a fall on an outstretched arm. Usually, the broken pieces of bone remain in place or close together and thus tend to heal on their own. These fracture cause pain and swelling in the shoulder and upper arm and limit movement of the arm.



Fracture of the lower end of the radius (one of the forearm bones)

Also known as Colles' fracture, this is very common and is due to indirect force caused by a fall on the outstretched hand.



Fractures of the hand and of the fingers

These are mostly due to direct injury. There may be severe bleeding in the palm.



Fracture of the Pelvis

This is mostly due to direct force. The bladder and urinary passages may also be injured producing grave complications.



Fracture of the thigh bone (femur)

This bone could break at any place along its length. The fracture of the neck of the femur is very common in aged patients. There is severe pain, and the patient may go into shock. There may be bleeding in the surrounding tissues and a shortening of the limb has been observed to happen.



Fracture of the Knee Cap

The kneecap can get broken by direct force but usually the fracture is due to muscular force causing it to snap across into two bits.



Fracture of Leg

One or both of the bones may break because of direct force.

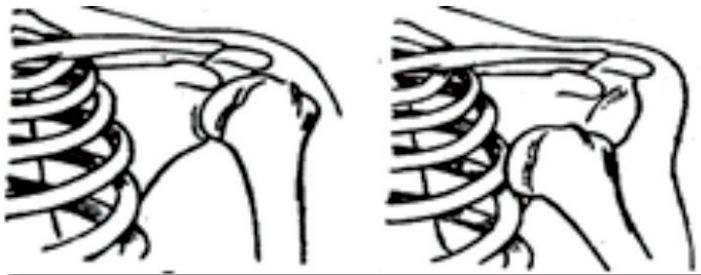


Fracture of the bones of the foot and toes

This is caused by direct injury like a crush injury or wheel passing over the foot. Suspect a fracture when there is pain, swelling and loss of power.

(b) Sprains

A sprain is the tearing of the ligaments of a joint and the tissues round the joint. It is caused by a sudden wrench or twist at the joint. A sprain of the ankle is quite common.



4. Other Medical Conditions

(a) Unconsciousness

Unconsciousness is a state in which the casualty becomes insensible because of an interruption in the normal functions of the brain. The most common causes of unconsciousness are head injury, heart attack, paralysis, asphyxia, epilepsy, shock, poisoning and diabetes.



(b) Asphyxia - Suffocation and respiratory obstruction

Asphyxia is a condition in which the lungs do not get sufficient supply of air for breathing. If this continues for minutes, breathing and heart action stops and death occurs.

Management:

- Remove the cause, if possible
- Loose the tight clothing
- Resuscitations

(c) Drowning

Drowning causes asphyxia by water weeds and mud entering the lungs or by causing the throat to go in to spasm so constricting the air passage. If water has gone into the lungs, then the face becomes swollen and the patient turns purple. There is froth in the mouth and eyes are red. If water has not gone into the lungs, then the face is pale, there is less froth in the mouth and the muscles of the face are loose.

What to do:

- Quickly remove any obstructions such as weeds from the casualty's mouth
- Remove water from the stomach and lungs. Lay the patient on his stomach; keep the mouth in one side, and give pressure on the back so that the water in the stomach and in the chest can be removed
- Provide warm clothing if required
- Give artificial respiration if required

Choking (asphyxia due to obstruction in the windpipe)

This is most common with children. A marble, a seed or button may be stuck in the air passage. In adults' food may go down the wrong way causes choking. The aim of first aid is to remove the foreign body or obstruction.

What to do:

If the victim is standing, the first-aid provider should stand behind the victim and wrap his arms around the waist. Grasp the fist with the other hand and place the thumb of the first against the abdomen, slightly above the navel and below the rib cage. Press the fist into the victim's abdomen with a quick upward thrust. Repeat several times if necessary.

(d) Burns and scalds

Burns are injuries that result from dry heat like fire, flames, and a piece of hot metal, the sun, and contact with wire carrying high-tension electric current or by lightning or friction. Scalds are caused by moist heat due to boiling water, steam, oil, hot tar, and so on. Chemical burns are caused by strong acids or by strong alkalis. The degree of burns indicates the damage to the tissues

- **First Degree:** - when the skin is only reddened
- **Second Degree:** - when there are blisters on the skin
- **Third Degree:** - when there is destruction of deeper tissues and charring

Management of serious burns and scalds:

- Keep the casualty quiet and reassure him/her
- If not required don't touch the burnt area
- Wash your hands before touching the patient and after touching the patient
- Do not remove particles of charred clothing sticking to the body
- Use plenty of water that will reduce the pain and internal damage caused by extreme heat
- Cover the burnt area with sterile or clean dressing and bandages
- Do not burst blisters
- Do not apply any oil, cream or scent on the burnt area
- Place the casualty in a comfortable position
- Treat the casualty for shock
- Transport the casualty to a hospital

5. Miscellaneous

(a) Ophthalmic injury

In an ophthalmic emergency there may be a foreign body in the eye, an ophthalmic injury, an infection, redness or watering from the eye.

What to do:

- Don't rub the eye
- If the foreign body or dust is present in the eye then place the patient in a comfortable position
- Try to clean the eye with clean water or use a clean cotton handkerchief to remove the foreign body



Ophthalmic injury

- If there is a chemical burn in eye or chemical in eye than clean the eye with plenty of fresh water
- If there is injury or some part of the eyeball has come out then keep a clean dressing over eyeball and shift the patient to the hospital

(b) Dog bite

If the dog is suffering from rabies, then it will be transmitted to the person. The dog should not be killed but it must be chained and kept under observation for 10 days. Infected cats monkeys and jackals also cause rabies.

What to do:

- All dog bites must be treated as potentially bitten by a rabid dog
- Wipe the saliva away from the wound
- Wash the wound with plenty of soap and water
- Cover the wound with dry sterile dressing
- Shift the patient to the hospital



Dog bite

Source: IGNOU eGyanKosh

(c) Diarrhea

Indigestion or contaminated food can cause diarrhea. Loss of water and electrolytes in watery loose motions is responsible for diarrhea related complications and death. Oral rehydration solution (ORS) can be useful. ORS packets are available in the market or at PHC.



Diarrhea

Source: IGNOU eGyanKosh

Diseases Arising out of Disasters

Water Borne Diseases

Water-Borne diseases are illnesses caused due to consumption of contaminated water, either directly or through food made with it. Water contamination can happen when food or water for consumption is contaminated by an infected person or through surface contamination, which results in infection. Such infection can be caused by harmful pathogens, including viruses and bacteria.

During disaster situation, fecal–oral diseases can proliferate rapidly, sometimes to epidemic proportions, when people in crowded conditions lack clean water for hygiene and sanitation. Among the agents involved are at least 20 viral, bacterial, and protozoan pathogens that cause diseases such as cholera, bacillary dysentery, and the relatively recently discovered hepatitis E. Disaster situations are prime settings for disease outbreaks: Limited water tends to go first to drinking and cooking, while hygiene gets short shrift, especially among people who are just being taught the connection between hygiene, sanitation, and health.

Management

- Ensure access to safe drinking water by using stored water, boiling or purifying water from uncertain sources, and utilizing water purification tablets.
- Practice good personal hygiene, including regular handwashing with soap and water, especially before eating and after using the toilet
- Maintain proper sanitation by disposing of waste appropriately and avoiding contamination of water sources with human waste
- Ensure food safety by washing fruits and vegetables with clean water, cooking food thoroughly, and avoiding consuming raw or undercooked food.

Vector Borne Diseases

Vector-borne diseases are caused by pathogens spread by living organisms known as vectors, including mosquitoes, ticks, flies, sandflies, fleas, triatomine bugs, and freshwater aquatic snails. Disasters, whether natural or human-made, can impact the insect population responsible for these diseases, potentially leading to widespread epidemics. Parasitic diseases like malaria, leishmaniosis, and arbovirus diseases such as dengue fever and West Nile encephalitis can proliferate during disasters, transmitted by mosquitoes and ticks. The occurrence of disasters can disrupt ecosystems, altering the distribution and abundance of disease vectors, and creating new foci for disease transmission. This increased risk underscores the importance of effective prevention and control measures to mitigate the impact of disasters on public health

Management

- Wear long-sleeved clothing, use insect repellents containing DEET, and sleep under insecticide-treated bed nets to prevent mosquito bites
- Eliminate stagnant water around homes to prevent mosquito breeding sites and reduce

the risk of diseases like dengue and malaria

- Maintain good hygiene, including proper waste disposal and keeping living spaces clean, to minimize the risk of exposure to vectors
- Seek medical attention promptly if experiencing symptoms of VBDs such as fever, body aches, or rash, especially during or after disasters

Triage in Disasters

The concept of triage will help the community to focus their energies on patients who are in critical condition. To assess the condition of disaster survivors and take a subsequent decision on who should be sent to hospital first, a system of triage has been developed by the medical community. Triage is the prioritization of patient care (or victims during a disaster) based on illness/injury, severity, prognosis, and resource availability. The purpose of triage is to identify patients needing immediate resuscitation; to assign patients to a predesignated patient care area, thereby prioritizing their care; and to initiate diagnostic/therapeutic measures as appropriate.

- Those with **EMERGENCY SIGNS** who require immediate emergency treatment.
- Those with **PRIORITY SIGNS** who should be given priority in the queue so they can be rapidly assessed and treated without delay.
- Those who have no emergency or priority signs and are **NON-URGENT** cases. These children can wait their turn in the queue for assessment and treatment. The majority of sick children will be non-urgent and will not require emergency treatment.



Source: Mediclinic

Discussion Activity 1

Give the participants a sheet of paper and ask them to answer the following questions.

1. List out the constituents of the First Aid kit.

2. How will you treat poisoning, which has been caused by a snakebite after the floods?

References:

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6. Mayo Foundation for Medical Education and Research. (2022, October 11). Choking

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Learning Unit C: Health in Disasters

Sessions 2 & 3: Psychosocial Care in Disasters

Learning Objectives

At the end of the session, you should be able to:

- Describe the tenets of emotional support,
- List out the dos and don'ts of psychosocial counseling for community level workers, and;
- Provide an overview of seven basic principles of psychosocial care.

Materials Needed:

Flip Charts, Markers, LCD/Projector, charts and Blackboard.

Time Duration: 180 minutes

Key Concepts

- Principles on which provision of emotional support to the disaster survivors should be based.
- Behavioural, physical and emotional reactions of disaster survivors.
- Role of community level workers in providing psychosocial care.
- Do's and Don'ts for Community level workers.
- Seven principles of psychosocial care namely; ventilation, empathy, active listening, externalization of interest, social support, relaxation and recreation and spirituality.

Training Methodology: Discussion, Activity & Handout 2

Introduce the module by asking the participants to brainstorm on the various types of impact on disasters. Focus on the psychological impact and ask the participants to describe the possible emotional reactions after the disaster. The trainer can distribute Handout 2 after the session.

Training Aid

Posters on Techniques of Psychosocial Care for Disaster Survivors (See Reference Material-3)

Technical Notes

There are a set of principles that are widely practiced nationally, as well as internationally for providing emotional support to disaster survivors, which are as follows:

- No one who experiences the event or witnesses the event is untouched by it.
- Disasters result in two types of trauma.
- Most people pull themselves together during and after a disaster. However, they function with less effectiveness.
- Disaster stress and grief reactions are normal responses to an abnormal situation.
- Many emotional reactions of the survivors stem from problems of daily living, as a result of the disaster.
- Disaster mental health service must be uniquely tailored to the communities they serve.
- Survivors respond to active interest and concern.
- Interventions must be appropriate to the phase of disaster.
- Support systems are crucial for recovery.

Reactions of the Disaster Survivors

Traumatic experiences cause a lot of stress, which is manifested through various reactions in behavior, emotions, physical conditions and all these lead to a change in the quality of interpersonal relationships. There is a need to understand that these reactions are normal reactions to an abnormal situation. There is also a need to identify the reactions of the survivors. Recognize the stage in which the person is, based on the reaction that the survivor is manifesting. The disaster survivors may exhibit varied reactions such as:

Behavioral Reactions

- Loss of interest in life
- Reduced activity, no energy
- Inability to rest (restlessness)
- Difficulty in concentration
- Sleep disturbances and related problem
- Flashbacks
- Taking intoxicants or drugs

Physical Reactions

- Headache
- Tiredness
- Tense muscles
- Palpitation/irregular heartbeat
- Poor appetite, pain in abdomen, vomiting sensation
- Unidentifiable pain in arms, leg, chest or all over the body

Emotional Reactions

- Anger and irritability
- Fear, vigilance and anxiety
- Helplessness, sadness and worthlessness
- Guilt

- Repetitive thoughts about the same thing
- Suicidal thoughts/attempts
- Forgetfulness
- Relational Changes
- Lack of trust
- Change in roles and responsibility
- Dependency in the survivors for decision making and support
- Lack of emotion
- Disagreement and argument, unpleasantness
- Assertiveness among the women survivors

Role of a Community Level Worker (CLW)

The foremost task of a CLW would be to meet and interact with the Tsunami survivors and their families. Interactions can be initiated among the families using culturally appropriate greetings and gestures. In subsequent interactions, the CLW would help them with:

1. Understanding the changes that they experience in their body and mind

When people face any traumatic event, they experience both emotional and physical reactions. Helping the survivors to understand that it is normal to feel this way is very important. It will make them feel more comfortable to deal with what they are experiencing. Knowledge that what they are experiencing currently is just a temporary phase and that over time they would be able to get back to their normal life, would benefit them.

2. Decreasing the physical and emotional effects by using the basic principles of psychosocial care

Here the CLW would use the basic principles to extend emotional support and establish a relationship with the survivors. This would help the survivors to relate what they have experienced, and share their feelings. By ventilating, the pent-up emotions within them would get lighter over a period.

3. Support and rebuild the shattered lives of the survivors in the areas of housing, work, health and community

After establishing rapport, facilitating reliving and encouraging grief resolution, the CLW would go on to observe or enquire about any specific help a person may need. This could be in the form of:

- Helping them to get the compensation money and guiding them as to how to use the same, assistance in paralegal work, house damage assessment.
- Rebuilding their houses.
- Practical help like getting forms/accompanying survivors to the offices or helping the individual open a bank account etc.

- Help them to get the livelihood support, so that the survivors can get back to their fishing at the earliest.
- Facilitating the survivors to get the relief materials as entitled.
- Enabling them to restart their livelihood.
- Mobilizing the community to provide help and support to the vulnerable groups like orphans, widows, aged and protect them from any kind of exploitation.
- Ensuring medical help, if necessary, especially going to hospitals.
- Networking and coordinating with other agencies are also important for strengthening various kinds of support.

This sort of holistic approach would be more substantial not only in terms of meeting varied needs of the survivor, but it would also provide more entry points for intervention (**NIMHANS, 2005**).

Tips towards being an effective CLW

Do's

- Visit families regularly.
- Accept food or drinks like tea, juices if offered. This facilitates in building rapport.
- Help the survivors to get medical care on the other hand, other help if needed.
- Help the survivors in contacting their relatives so that they can get support from them.
- Provide practical help in terms of handling the compensation issues, issues related to housing, education and other social security benefits, whenever necessary.
- Facilitate networking among the survivors.
- Encourage the local community to initiate and sustain the actions that they have already taken as a response to the disaster situation.
- Respect the socio-cultural norms.
- Be non-judgmental and neutral.

Don'ts

- Make false promises.
- Take decisions for the survivor himself or herself.
- Miss appointments.
- Get upset with the survivor's behaviour. Sometimes they might be angry, uncooperative with you or blame you for causing trouble to them by regular visits or at times, they might be very demanding.
- Overburden yourself with work.
- Take sides while working at a family level.

Source: NIMHANS, 2005

Seven basic principles of psychosocial care

There are seven basic principles, which can be used for providing psychosocial support to the disaster victims after any disaster situation. They are described below:

1. Ventilation

A survivor who has experienced trauma will have strong emotions, which will very often be suppressed. The danger is that if there is no space or appropriate stimulus for release of these emotions, then the stress/pressure will keep building until one day the person breaks down. Hence, it is extremely important for the CLW to meet the survivors, interact with them, help them talk about (ventilate) what they have experienced and share their feelings and emotions. It allows the survivors to release his/her pent-up emotions and thus get relieved. Once the survivor is able to talk about the loss and personal grief, they would feel better. It becomes easier to analyze his/her life and understand the feeling of a vacuum, emptiness created by the loss. This would facilitate in rebuilding his/her life. Hence, the more they release the pent-up feelings, the lighter they would feel.

For example,

In a pressure cooker, the safety valve is very important. It systematically and periodically takes the extra pressure out slowly and helps in getting the food cooked. The safety valve helps the extra pressure to be released or else the cooker could burst.



Safety valve releases pressure

Similarly, the role of a CLW would be to work like the safety valve by getting the survivor to slowly but consistently release his/her tensions, pain, grief and other emotions that have been suppressed. This is an extremely important role of a CLW. This process involves release of emotions and feelings. Things to be done to allow ventilation are as follows:

- Listen carefully and attentively
- Maintain eye contact.
- Acknowledge distress.

- Do not interrupt.
- Never ask them to stop crying.
- Do not be judgmental.
- Provide support by physical touch like holding hands, patting on the shoulders when someone cries. However, the cultural barriers of the community should be kept in mind in this regard.

2. Empathy

Often when we look at others, we do not see their distress and everything appears to be fine. It is very difficult to understand another person's feelings of loss and pain. However, if we attempt to perceive things from the other person's perspective it will give us a clear picture of what that person is going through. The same goes for the CLW. The idea of being able to feel and experience the pain as your own by trying to be in the other person's situation is the main idea of being able to empathize. Whenever a survivor is sharing his/her feelings and experiences, the CLW needs to listen to him/her patiently and try to realize what the survivor went through by keeping him/herself in the survivor's position. If the CLW is able to empathize with the survivor, then the latter will feel a great sense of relief of being truly understood.



The mirror represents self-reflection

Source: Psychology Today

3. Active listening

Good listening is an important skill to provide emotional support to the survivor. The community, which has experienced the disaster, will have lack of privacy in talking to people. There may be noise and distractions. It is important that as a CLW one should practice the following to promote active listening while working with individuals.

- **Maintain eye contact with the survivors when they are talking:** This shows that the CLW is interested in listening to him/her and is concerned about the person.
- **Respond occasionally while listening:** This makes the person who is expressing feel that they are taken seriously and that the CLW understands what they are saying. Sometimes it helps to paraphrase what has been said, often giving the speaker another viewpoint.
- **Avoid interruptions:** Allow the person to finish whatever they are saying. Do not interrupt unless there is confusion and the details are jumbled.
- **Be accepting:** Do not prejudge, moralize, condemn, or interrupt what the person is saying
- **Empathize:** Empathize with the person while they share their feelings/ experiences.

As a CLW, one needs to be sensitive and have the ability to recognize, what the other person is going through, his/her feelings or emotional experiences (NIMHANS, 2005).



Community discussions

4. Externalization of interest

This principle emphasizes on engaging the survivors in some kind of activities that interest them in order to give them a sense of being productive. This helps in their recovery process. When people are engaged in activities, their minds are occupied meaningfully. Similarly, any sort of physical activity energizes people and makes them feel better.



Women engaging in different activities

5. Social Support

Everyone feels very comfortable with a certain level of emotional support that comes from others around. Social support networks are extremely important for feeling comfortable and secure. In any disaster situation these support systems get disrupted. In any disaster situation the social support system gets disrupted, as the individual not only loses his/ her family members, personal belongings and property but also his/her support systems like friends, neighbors and the community people who otherwise constitute his/her helping hands during times of need (**NIMHANS, 2005**).



Supporting each other in the community

Social support is extremely important for feeling secure and comfortable. So, it is essential to put in efforts to provide some sort of support through a bonding by almost being like a family member. The involvement of external agencies and especially CLWs can play a great role in extending the emotional support.

6. Relaxation and recreation

Getting back to a routine is a great way to divert one's mind and dealing with the stress of emotional reactions. Relaxation and recreation are two very important components that can facilitate the recovery process. The more the survivors engage in recreational activities, the faster will be the normalization process. For example, CLWs can engage the survivors in several recreational activities like playing carom/Ludo, singing, listening to music, etc. in the relief camps. Engaging the survivors in relaxation/breathing exercises helps in the healing process. Encourage the survivors to undertake these exercises at least twice a day regularly. This would help to gain control over their anxiety.



Meditation

7. Spirituality

In our country, religious beliefs or belief in a higher power is an integral part of our being and gives us great relief and support during trying times. We may question this power at times to ask why we are suffering and why we have to go through pain. However, at the same time, we will again learn to rely on the same power to get through any crisis we are facing. Therefore, it is important to reinforce this spirituality in anyone we are working as it has tremendous power to heal pain and suffering. Thus, it is essential to encourage the survivors to practice their spiritual beliefs and rituals. Practicing spiritual beliefs helps in the recovery process (NIMHANS, 2005)



Religious Gathering

Working with the community

The following activities will help in rebuilding community life and setting up the social support systems, which are essential in the long-term rehabilitation process.

- Grief resolution should occur at the personal, family as well as the community levels. Group mourning is a process of mass grieving. It expresses solidarity of the grief-stricken community and facilitates unity and collective action. Such activities should be organized initially on a weekly basis, and gradually on a monthly basis, and later annually.

- Singing folk songs about the loss that has happened might help the survivors to gather in a common place and share their grief
- Organizing the survivors and engaging them in devotional songs and hymns might be helpful.
- Group participation for rebuilding activities like, building the houses, preparing food for others in the relief camp, preparing to resume fishing, putting up a hut as a school for the children, etc. All these actions would help the survivors to recognize that there are others around to help them and that they are not alone.



Community level activities

- Formation of Self-Help Groups (SHGs) for women, wherein as a group they would initiate activities that would help them in rebuilding their lives. For instance, after the super cyclone, women formed SHGs, started taking up livelihood activities, which made them feel good, and benefited others who needed help to come to terms with the loss.
- Organizing rallies to sensitize and create awareness among the survivors about issues related to schooling of their children, livelihood, housing etc., and bringing about a feeling of confidence and normalization among them **(NIMHANS, 2005)**.
- Encourage the survivors to discuss about local problems that have evolved subsequent to the disaster and initiate collective action to achieve it, like:
 1. **Rebuilding roads.**
 2. **Restarting the schools.**
 3. **Restoration of power/water.**
 4. **Rebuilding the boats and fishing nets that will facilitate in resumption of livelihood.**
 5. **Access to medical care.**
 6. **Working for getting the compensation on time.**

Discussion Activity 1

Give the participants a sheet of paper and ask them to answer the following questions.

1. What are the common emotional reactions exhibited by survivors after a disaster?

2. List out the seven principles of providing psychosocial care to the disaster survivors.

Reference:

1. National Institute of Mental Health and Neurosciences (2005), Tsunami Disaster: Psychosocial Care by Community Level Workers, Information Manual -2, Bangalore.

Learning Unit D: Field Visit

Sessions 1 & 2: Field Visit

Learning Objectives

At the end of the session, you should be able to:

- Understand various concepts of DRM through direct personal experience,
- Apply conceptual framework in the field,
- Get hands on experience in developing community-based disaster risk management plan,
- To devise a framework of disaster management plan for the community, and;
- To list out the learning from the process of development of CBDRM plan.

Materials Needed:

Flip Charts, Markers, LCD/Projector, Charts, Chalks and Blackboard.

Time Duration: 180 minutes

Training Methodology

Introduce the session by informing the participants that they would be undertaking a field visit in the day. The trainer should give an overall idea of when, what, where and how the fieldwork is going to happen. Field trip aims, objectives and learning outcomes need to be clarified at this step. Health and safety procedures which have to be observed in the field should be introduced to the participants.

Technical Notes

The trainer may acquaint the participants that the main objective of the field visit is to develop their skills in to make a CBDRM plan. Give them the following details about the visit:

1. **Venue:** It has to be a nearby village/urban community
2. **Duration:** Two hours and fifteen minutes approximately
3. **Purpose:** Undertake a HRVC analysis of the area
4. **Methodology:** The methodology used will be drawn from the tools and techniques described in learning Unit 2 Session 2. However, all groups are expected to use transect walk and maps for the analysis.
5. **Number of Groups:** There would be a total of four groups.
6. **Group Size:** Each group will have 6-7 members.

The participants should be asked to carry prepare an individual bag in which they must keep a notebook, pen, pencil, camera, to collect information along with a GPS enabled mobile phone to know directions and locate various places. They should also carry their identification card and a water bottle. The trip organizer should also carry a first aid box. Each group may be accompanied by a facilitator incase the participants are stuck up and need some help at any point of time in the field visit. Each group should also be asked to choose a group leader who will lead the team and make the final power point presentation of the group work.

The participants are expected to present their findings to all other groups and submit a written report supported by pictures and small case studies of their interactions. The reports would be handed over to the trainer who will be giving his/her feedback on the report. This would help the participants in consolidating their learnings from the field.

The first group can be asked to undertake a hazard hunt of the area. All potential hazards in the area can be identified. This can be done through pictures, interaction with the community members and taking notes. The group leader can assign the responsibility of interaction with community members, clicking photographs and taking notes to the respective group members.

The group can have discussions with older members of the community about the past disasters, their impacts and lessons learnt to add value to their learnings in the field. Transect walk, hazard mapping, interviews, observations and hazard matrix would be important tools which can be used by the group.



Tsunami



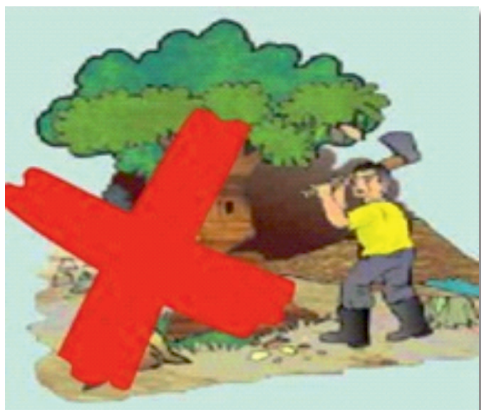
Flood



Earthquake

The second group on similar line is expected to undertake a vulnerability analysis of the area. The group would focus on the weak points in the area, which could convert a hazard into a disaster. They would have to look at physical, social, economic and environmental factors, which contribute towards vulnerability. For example: poor design and construction of buildings, inadequate protection of assets, lack of public information and awareness, high levels of poverty and education, limited official recognition of risks and preparedness

measures, disregard for wise environmental management or weak institutions, and governance etc. The group also has to focus on two questions; what is vulnerable and who is vulnerable. This would help in mapping the more vulnerable group like women, children, aged, disabled and those dependent upon critical facilities in vulnerability analysis. The analysis can be captured through clicking pictures, interaction with the community members and taking notes. The group leader can assign the responsibility of interaction with community members, clicking photographs and taking notes to the respective group members. Undertaking a transect walk of the area, vulnerability mapping, problem tree, seasonal calendar, observations and interviews can prove useful for this group. This analysis would help the participants in understanding problems of the area and their underlying causes.



Actions that may raise our vulnerability

Source: Practical Action

The third group has to undertake a capacity or resource analysis in the area. They have to focus on the strengths that exist in the area. The strengths can be physical, economic, social or environmental in nature. This resource would help the community in facing the hazard and prevent it from becoming a disaster. For example: network of local non-governmental organizations working on DRM, well-developed disaster plans and preparedness, resilient buildings and infrastructure that cope with and resist extreme hazard forces, secure livelihoods diversified agriculture and economy, creation of natural barriers to storm action (e.g., coral reefs), responsible natural resource management etc. This group can tap the two kinds of resources in the area; human resources like swimmers in a flood prone area and material resources like fire stations in the vulnerable area. The details of resource analysis can be captured through clicking pictures, interaction with the community members and taking notes. The group leader can assign the responsibility of interaction with community members, clicking photographs and taking notes to the respective group members.

Undertaking a transect walk of the area and resource mapping would be useful tool for this group.



Actions that may reduce risk

The last group has to identify the risk of the area they are visiting. Risk analysis would involve identifying all the above three analysis; hazard, vulnerabilities and resource analysis. After undertaking this combined analysis, the group would identify the risk, which is of utmost priority. Risks can be reduced or managed. If we are careful about how we treat the environment, and if we are aware of our weaknesses and vulnerabilities to existing hazards, then we can take measures to make sure that hazards do not turn into disasters. The group can also discuss with the community members the different ways to reduce risk and include it in their written report. Assessment of risk can be a tool for empowering and mobilizing vulnerable communities. Risk mapping and developing a risk matrix would be important tools, which can be used by the group.

Learning Unit D: Field Visit

Sessions 3 & 4: Group Activity and Group Presentation

Learning Objectives

At the end of the session, you should be able to:

1. Refine understanding through discussion and explanation of the CBDRM plan,
2. Share diverse perspectives on the subject of CBDRM
3. Give and receive feedback on their performance,
4. Develop stronger communication skills, and;
5. Plan and manage time

Materials Needed:

Flip Charts, Markers, LCD/Projector, Charts, Chalks and Blackboard.

Time duration: 120 minutes

Training Methodology: Field Visit, Group Work and Presentation

After returning from the field visit, the participants have to consolidate their findings and bring it out in the form of a report and a power point presentation. The trainer and other groups will give their feedback on their work.

Technical Notes

When the various groups make their presentations, ensure that the following points have been covered in their field visit.



Consolidating the findings in the report

- Description of hazards prevalent in the community, possible effects of each hazard and an assessment of the needs of the community before, during and after a disaster.
- Vulnerable areas in the village, location of the more vulnerable group and vulnerable assets in the village.
- The hazard posing the highest risk and the reasons for high risk.
- Identify the activities to be done and when they should be done
- Determine the resources including human resources, material resources and tools that will be required for the management of the disaster.
- Risk Matrix with the possibility of highest risk in the area and possible measures to reduce the risk.

Learning Unit E: Integrating Disaster Risk Reduction into Development Schemes

Session 1: Inclusive CBDRM programme: Leaving no one behind

Learning Objectives

At the end of the session, you should be able to:

- Describe the vulnerability of the special groups like women, children, aged, physically and mentally challenged and those dependent on critical facilities
- Discuss the issues faced by the special group during disasters, and;
- List out the measures, which should be kept in mind for reducing the vulnerability of the special groups

Materials Needed:

Flip Charts, Markers, LCD/Projector, charts and Blackboard.

Time Duration: 90 minutes

Training Methodology

Introduce the module by asking the participants to list out the problems faced & specific needs of by children, children, aged, physically and mentally challenged and those dependent on critical facilities during disasters.

Key Concepts

- Vulnerability of children, aged, physically and mentally challenged and those dependent on critical facilities in disasters.
- Impact of disasters on the special group.
- Measures that need to be undertaken to reduce the vulnerability of the children, aged, physically and mentally challenged and those dependent on critical facilities in disasters.

Technical Notes

We all know that particular groups based on age, gender and disability are at higher risk to

disasters. The special groups need extra support during disasters to access the services offered during disasters and get back to the road on recovery. Inclusive DRR is an effort to reduce vulnerabilities of the most excluded ones and to increase their capacities to reduce the risks.

A special group is defined as a group, which has some special needs in a disaster and cannot comfortably or safely access; and use the standard resources offered in disaster preparedness, relief and recovery. The special group has the following categories:

1. Women
2. Children
3. Old aged
4. Physically and mentally challenged
5. People with critical needs

Since we have already discussed the issues related to women in the earlier section, so we will be dealing with issues pertinent to children, old aged, physically and mentally challenged and those dependent on critical facilities in more detail in this particular section.

Women

Women are impacted differently than men in disasters. Performance of the household chores is primarily the responsibility of women. In the wake of a disaster, women still have to perform these tasks. In the scenario, where houses have collapsed and been destroyed, she continues to perform these tasks with inadequate facilities. Hence, she has to do more with less. Moreover, there is an increase in her responsibilities, as she has to take care of the sick and injured members of the family as well. Women being the manager of the food resources generally tend to feed other members of the family and compromises with her nutritional and health requirements as well.

In the relief camps, women are forced to live with known as well as unknown people with scant opportunity for privacy available. This situation is more taxing for pregnant, lactating and menstruating women. She has to compromise on sanitation and cleanliness in the packed relief camps. Toilets are poorly lit and located far away from the camps, thereby posing a threat to the security of the women. The distribution of relief also ignores the specific needs of women. The specific needs like sanitary material, gender sensitive clothing including undergarments and availability of contraceptives to prevent unwanted pregnancies are not included into structures relief items to be distributed to the affected populace.



Obligation on women to perform task in the wake of disasters

Domestic violence also increases in the post disaster scenario as men struggle to cope with the indignity and frustration of enforced inactivity and loss of authority and earning capacity. They are socialized not to express their emotions and hence the frustration comes out in the form of domestic violence. Women also withstand the worst of violence because of their sex. Although, India was fortunate in this context but numerous reports of sexual harassment and red trafficking in Indonesia and Sri Lanka were splashed in the newspapers after the recent tsunami tragedy. Many of the female survivors faced sexual harassment and were being forced into early marriages.

Children

It is a well-documented fact that children are vulnerable to the negative effects of a traumatic event. In case of a disaster, they witness close family members and friends dying. Due to lack of experience and maturity, they are unable to comprehend the events and express themselves. From the comfort and security of their homes and parents, they are forced to struggle for food, shelter and other amenities. They experience the loss of familiar environments and maybe their parents and hence face lack of emotional security. Moreover, with their schools suspended; they may sit idle with nothing else to do.



A child showing regressive behaviour

Impact on Children

- **Physical Health:** Lack of adequate food and nutrition during disasters may lead to malnutrition and undernourishment in children. Moreover, the strenuous condition of the disaster may lead to stress on the pregnant women. This may lead to increase in the cases of complications and premature delivery amongst women. Consequently, children born are also physically weak. After the child is born, stress may also interfere with the flow of milk in the lactating mothers thereby weakening the immune system of the child.
- **Mental Health:** Children may experience trauma and exhibit psychological reactions like fear, anxiety, childish or regressive behaviour, and difficulty in sleeping and concentrating.
- **Education:** The schools' buildings may be destroyed during disasters or they may be shut down because of the emergency. Sometimes the schools are also used as shelters. The education of the children is discontinued. The girl children may be forced to drop out to take care of the siblings at home or help in the household chores to deal with the emergency situation.
- **Social impact:** The social impact of disasters may also affect children. Some of the problems faced by the children are as follows:
 - The adoption of children whose parents have died in the disaster may lead to malpractices. The adopted children may be sodomized, raped or molested.
 - Children may be forced to work with their parents to strengthen the otherwise devastated livelihood of the household thereby leading to increase in the child labour.
 - A number of cases of child trafficking are reported after the disasters.
 - The strain on the household resources and loss of livelihood after the disaster may contribute to increase in domestic violence. The increase in domestic violence may have an adverse impact on the psyche of the child.
 - The child may also find it difficult to deal with the change in status with the loss of one parent or both the parents.
 - Increase in migration in search of livelihood activities by the parents may lead to loss of friends and loss of security of old environment for the child.

Aged Population

The aged population is physically weaker and may suffer from various kinds of chronic illness. They also tend to be excluded from development programmes, have limited opportunities to earn income and may have limited access to information and resources. The aged population tends to be less able to fight for what they need and may be very dependent on others. Health conditions and socio-economic circumstances, poor social support and health facilities all may affect the independence of older people.

The aged population faces physical as well as socioeconomic vulnerability in their everyday life. The natural aging process results in the following for the old persons:

- Impaired balance
- Decreased motor strength
- Poor exercise tolerance
- Deterioration of sight, hearing, smell, taste, and touch

Apart from the physical impairments, the aged population also faces some Socio-economic constraints in their life, which augment their vulnerability during disasters.

The Socio-economic impairments are as follows:

- Social support decreases with age
- Live with a spouse or live alone
- The older populations also face lack of insurance, have smaller financial cushion, and generally face lack of employment.



Impact on the aged

The impact of disasters on the older population is as follows:

- The elderly population, because of natural aging process has impaired balance, decreased motor strength, poor exercise tolerance, deterioration of sight, hearing, smell, taste, and touch may face difficulty in evacuation and locating avenues of escape.
- They may not be able to hear danger signals, alarms, etc.
- It can be more difficult for some of the elderly to understand the significance of what is taking place. Some could become easily confused or disoriented.
- Many elderly people do not want to evacuate even when ordered to do so. They would rather stay back and deal with the crisis at home they know and feel comfortable.
- The elderly people are attached to past memories. At the time of evacuation, they may resist going without their materialistic possessions to which some memories may be attached.
- Elders require more planning. They move slowly and with greater effort than younger people do. They are inclined to have more medicines, medical aides such as walkers, and other considerations, which require more advanced planning and preparation time to move.

- They may require special medical attention in shelters.
- Older persons are not able to stand for long periods waiting for relief or are unable to compete with younger persons in survival of the fittest. They may face difficulty in getting access to relief and compensation money.
- Washrooms in camps and barracks are not very accessible for older persons, especially at night, due to distance and limited lighting.
- They may face greater stress as they have to deal with the shock of losing all that they had attained in life such as home, family, security etc. Moreover, they may not have the enthusiasm to rebuild their lives at an elderly stage.

Physically and mentally challenged

There is a universal human tendency to avoid thinking about possible emergencies. This avoidance has greater consequences for people with disabilities than for people without disabilities. The physically and mentally challenged people can be categorized into the following:

- Visually challenged
- Hearing impaired
- Physically disabled
- Mentally challenged



A person with physical disability

Impact on the physically and mentally challenged

- Traditional emergency notifications are often inaccessible to those who are deaf, hard of hearing, blind, or have low vision.
- Evacuation challenges include mobility issues, navigation difficulties for the blind, and communication barriers for the deaf.
- Accessible transportation is frequently unavailable during emergencies.
- Many shelters lack accessible facilities, making it hard for individuals with disabilities to find safe refuge.
- Effective communication methods are needed for the deaf, hard of hearing, and those

with severe speech disabilities during disasters.

- The disabled population may be vulnerable to violence and unable to express their needs.
- Supportive infrastructure is necessary to sustain their lifestyle.
- Specific needs in relief camps must be addressed.
- Accessing relief materials can be difficult for individuals with disabilities.

People dependent on critical facilities

The population, which is dependent on life sustaining medications such as with HIV/AIDS, on dialysis, epileptic, diabetes, or is dependent on medications to control conditions and maintain quality of life such as pain medications, seizure control medications may find themselves at a greater risk during disasters etc. Their life is generally dependent upon health care facilities and health care professionals.

Impact on people dependent on critical facilities

In disasters, pre-existing medical conditions inhibit ability to function and are aggravated by loss of medical professionals, loss of health care venues (hospitals, dialysis centers, pharmacies) and loss of power to access home for nebulizers, oxygen therapy, suction devices, injections etc. The lack of medical professional and critical facilities aggravates the risk to the lives of such populace.

Measures to be undertaken for the Special Group

The following measures need to be undertaken to cater to the specific need of the special groups:

- **Warning design:** The warning should be designed in a varied and simple message format, which can be understood by the special group.
- **Transportation:** Special transportation facilities should be kept ready and made available to the people dependent on critical facilities during facilities.
- **Health care access:** Special provisions for catering to the health of the special group should be made accessible.
- **Aid Distribution:** The relief distribution team should be sensitized to make special efforts to make the relief available to the special group.
- **Awareness Generation:** Specially designed education and awareness programmes for the disabled should be initiated to quip them with the knowledge and skill to act quickly in disasters.
- Increase their participation in Disaster Risk Management Initiatives undertaken at the community level.
- Develop their capacities so that they can contribute towards Disaster Risk Management.

Discussion Activity 1

Give the participants a sheet of paper and ask them to answer the following questions.

1. Who are the members of the special group?

2. What are the measures that need to be undertaken for the special group in disasters?

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Learning Unit E: Integrating Disaster Risk Reduction into Development Schemes

Session 2: Integrating Disaster Risk Reduction into Developmental Schemes

Learning Objectives

At the end of the session, you should be able to:

- Explain the necessity of integrating disasters into development schemes,
- List out the development schemes where Disaster Risk Management can be integrated, and;
- Explore the space where this integration can take place.

Materials Needed:

Flip Charts, Markers, LCD/Projector, charts and Blackboard.

Time Duration: 90 minutes

Key Concepts

- Meaning of mainstreaming DRR into various development schemes
- Recent initiatives for mainstreaming DRR into development
- Different development schemes where DRR can be integrated
- Possible entry points for DRR in various development schemes of India

Training Methodology: Discussion and Power Point Presentation

Introduce the session by asking the participants to explain the linkage between disaster and development as outlined in Learning Unit 1, Session 2. The session can further be detailed into the various development schemes being implemented by the Government of India, which Disaster Risk Reduction can occupy in these schemes.

Technical Notes

We have already learnt the repercussions of failure to mainstream DRR into development in learning Unit 1 Session 2. The specified section clearly outlines the positive and negative relationship between disaster and development. Continuous efforts have been made in our country to mainstream Disaster Risk Reduction into development. Mainstreaming DRR into development means that all development projects should be able to withstand the impact of hazards and development should not create more hazards for the society.

Some of the significant developments in this context are:

1. Centrally Sponsored Schemes or national flagship schemes are ideal vehicles for mainstreaming/integrating Disaster Risk Reduction principles and measures. Since the CSS programmes span sectors such as housing, health, rural development and urban infrastructure aimed at creating opportunities for the poor and marginalized sections to enter the socio- economic space, investing them with DRR elements has the potential to create resilience among the poor and disadvantaged sections, both in the sense of being able to withstand disaster risk and move towards sustainable development (**MHA & UNDP, 2014**). A substantial proportion of CSS schemes can be used for disaster mitigation and restoration activities
2. There are sufficient projects being implemented or have already been implemented to take care of mitigation measures in different projects like National Cyclone Risk Mitigation project, National School Safety project etc.
3. As per the 15th Finance Commission, the government of India has set up the National Disaster Mitigation Fund. The Fifteenth Finance commission report has briefly outlined the current mechanism of Disaster Risk Management and has given 15 recommendations, which include – the setting up of mitigation funds; allocation of funds at the national and state levels; a new methodology to estimate Disaster Risk Mitigation (DRM) fund and the allocation of funds to various states to cover both mitigation and response (Finance Commission, 2019). National Disaster Risk Management Fund (NDRMF) and State Disaster Risk Management Fund (SDRMF) has been set up at the national and state corpus level. From NDRMF and SDRMF, 20 per cent has been earmarked for mitigation and the remaining 80 per cent for the response fund. The response fund is further divided into three windows - Response and Relief, Recovery and Reconstruction; and Capacity Building in the ratio of 50.0:37.5:12.5. The finance commission has clearly specified that mitigation funds should be used for those local level and community-based interventions, which reduce risks and promote environment-friendly settlements and livelihood practices. This is an important component, which strengthens the implementation of CBDRM in the country.

Below are some of the examples of development schemes, which can be used for integrating DRR in the country as follows:

1. **Indira Awaas Yojana (IAY):** Indira Awaas Yojana was launched by the Ministry of Rural Development. The main objective of the Indira Awaas Yojana is to provide a grant for the construction of houses to members of Scheduled Caste (SC)/Scheduled Tribes (ST), freed bonded labours and to non-SC/ST category below the poverty line. This development scheme can be used for DRR in the following ways:



Indira Awaas Yojana Scheme

Source: India Filings

- Design and popularize low-cost multi-hazard resistant housing designs;
- Construct low cost, multi-hazard resistant houses in all district and block headquarters to promote awareness;
- Use the flexi fund to incorporate risk reduction features;
- Coordinate IAY construction with NBA and rural drinking water programmes to ensure necessary amenities;
- Train masons on hazard-resistant construction practices;
- Establish hubs that supply material required for green houses; and;
- Identify NGOs that can train communities, volunteers and construction workers on aspects of DRR and Climate Change adaption **(MHA and UNDP, 2014)**

2. **Mahatma Gandhi National Rural Employment Guarantee Act (MNERGA):** National Rural Employment Guarantee Act 2005 or NREGA later renamed as the Mahatma Gandhi National Rural Employment Guarantee Act or MGNREGA in 2009, is a labour law and social security measure that aims to guarantee the 'right to work'. It aims to enhance livelihood security in rural areas by providing at least 100 days of wage employment in a financial year to at least one member of every household whose adult members volunteer to do unskilled manual work. Women are guaranteed one third of the jobs made available under the MGNREGA. Another aim of MGNREGA is to create durable assets (such as roads, canals, ponds and wells). Employment is to be provided within 5 km of an applicant's residence, and minimum wages are to be paid. This development scheme can be used for DRR in the following ways:

- Expand and strengthen drought and flood proofing activities;
- Implement effective flood proofing action including activities such as preparation of homesteads, connecting roads and water drainages;
- Prepare hazard-specific modules for integrating DRR and CCA in **MGNREGA**;
- Prepare modules to strengthen awareness among the beneficiaries;
- Establish a trigger mechanism to enhance the number of eligible working days in the event of a disaster; and
- Establish a separate list of actions such as construction of bunds and strengthening embankments, among others, that can be operationalized by the same trigger mechanism that is applicable for increasing the number of eligible working days in the event of a disaster **(MHA and UNDP, 2014)**.



Logo of MGNREGA

Source: Dainik Bhaskar

3. **Pradhan Mantri Gram Sadak Yojana:** The Pradhan Mantri Gram Sadak Yojana (PMGSY) was launched by the Govt. of India to provide connectivity to unconnected habitations as part of a poverty reduction strategy. Government of India is endeavoring to set high and uniform technical and management standards and facilitating policy development and planning at state level in order to ensure sustainable management of the rural roads network. This development scheme can be used for DRR in identification of habitations that tend to be cut off during heavy rains as a part of the village HRVA to prioritize build connecting roads to such habitations. The roads being built should be 'all weather roads' which can withstand the impact of disasters. Resilient roads can also help in ensuring relief material can reach remote areas in the wake of disasters.



Logo of Pradhan Mantri Gram Sadak Yojana

Source: The Statesman

4. **National Health Mission:** The National Health Mission (NHM) encompasses its two Sub-Missions, the National Rural Health Mission (NRHM) and the newly launched National Urban Health Mission (NUHM). The main programmatic components include Health System Strengthening in rural and urban areas - Reproductive-Maternal-Neonatal-Child and Adolescent Health (RMNCH+A), and Communicable and Non-Communicable Diseases. The NHM envisages achievement of universal access to equitable, affordable & quality health care services that are accountable and responsive to people's needs. The recent pandemic of Covid 19 has shown that the health of the citizens is closely related to the economy of the nation. We should incorporate the lessons learnt from the recent pandemic so that they are incorporated in the present so that the impact of pandemics in future can be

avoided. This development scheme can be used for Disaster Risk Reduction (DRR) in the following ways:



Logo of National Health Mission

Source: MyGov.in

- New hospitals being constructed should conform to hazard-resistant standards, incorporate applicable codes and also practice a green approach,
- Every hospital, be it in an urban or suburban location, should be prepared for any kind of unforeseen pandemic,
- Hospitals should develop their Disaster Risk reduction plans which should incorporate unexpected increase in demand for services,
- Health facilities should prepare themselves for transformation in the existing infrastructure and capacity for changing situations without affecting normal patient care,
- Provide mechanisms to support to health care workers in emergencies isolate different areas of hospitals with separate air filtration systems and ensure there are extra supplies than what is actually needed.

5. **Rastriya Krishi Vikas Yojana:** KVV scheme was initiated in 2007 as an umbrella scheme for ensuring holistic development of agriculture and allied sectors. The scheme has come a long way since its inception and has been implemented across two plan periods (11th and 12th). The scheme incentivizes states to increase public investment in Agriculture & allied sectors with broad objectives of making farming a remunerative economic activity through strengthening the farmer's effort, risk mitigation and promoting agri-business entrepreneurship. This development scheme can be used for DRR in the following ways:



Logo of Rastriya Krishi Vikas Yojana

Source: Adda 247

- Number of action research projects exploring varieties of flood and salinity-resistant seeds should be undertaken;
 - Farmers should be trained to track changes in weather patterns to anticipate their impact on agriculture so that the necessary adaptive practices can be adopted (**MHA and UNDP, 2014**);
 - Drought resistant varieties of seeds and plants should be incentivized and promoted for areas vulnerable to drought.
6. **Sarva Shiksha Abhiyan:** Sarva Shiksha Abhiyan (SSA) is Government of India's flagship programme for achievement of Universalization of Elementary Education (UEE) in a time bound manner, as mandated by 86th amendment to the Constitution of India making free and compulsory education to the Children of 6-14 years age group, a Fundamental Right. The programme seeks to open new schools in those habitations, which do not have schooling facilities and strengthen existing school infrastructure through provision of additional classrooms, toilets, drinking water, maintenance grant and school improvement grants. Existing schools with inadequate teacher strength are provided with additional teachers, while the capacity of existing teachers is being strengthened by extensive training, grants for developing teaching-learning materials and strengthening of the academic

Support structure at a cluster, block and district level. SSA seeks to provide quality elementary education including life skills. SSA has a special focus on girl's education and children with special needs. SSA also seeks to provide computer education to bridge the digital divide. This development scheme can be used for DRR in the following ways:

- New schools being built should be disaster resilient,
- Schools should be encouraged to develop Disaster Management plans,
- Lifesaving skills should be taught to children in the schools as it will provide them skills to save themselves in the wake of disaster,
- Innovative learning material should be developed for Disaster Risk Reduction, and;
- Capacity Building of Teachers and administrators should be undertaken to promote School Safety.



Logo of Sarva Shiksha Abhiyan

Source: education.gov.in

7. **Jal Jeevan Mission (JJM):** Jal Jeevan Mission, is envisioned to provide safe and adequate drinking water through individual household tap connections by 2024 to all households in rural India. The programme will also implement source sustainability measures as mandatory elements, such as recharge and reuse through grey water management, water conservation, rain water harvesting. The Jal Jeevan Mission will be based on a community approach to water and will include extensive Information, Education and communication as a key component of the mission. JJM looks to create a Jan Andolan for water, thereby making it everyone's priority (Ministry of Jal Shakti). This development scheme can be used for DRR in the following ways:



Logo of Jal Jeevan Mission

Source: Press Information Bureau

- Design bore wells that do not submerge during flood events and make it mandatory for flood-prone areas;
 - Promote water conservation techniques in areas vulnerable to drought,
 - Incentivize rain water harvesting structures in drought prone areas, and;
 - Raise awareness on methodologies to clean water in flood as well as drought prone areas amongst the communities.
8. **Swachh Bharat Mission (Grameen):** Government of India launched Swachh Bharat Mission (Grameen) on 2nd October, 2014 to accelerate efforts to achieve universal sanitation coverage, improve cleanliness and eliminate open defecation in India by 2nd October 2019. The nation-wide campaign was a Jan Andolan aimed at eliminating open defecation during the period 2014 to 2019 through mass scale behaviour change, construction of household-owned and community-owned toilets, and establishing an accountable mechanism for monitoring toilet use. Financial incentives are being given by the governed to take the mission forward. Under the mission, all villages, States/UTs of India declared themselves Open Defecation free (ODF) by 2 October 2019, the 150th birth anniversary of Mahatma Gandhi. (Swachh Bharat Mission-Grameen). It should be ensured that the infrastructure created under this mission is disaster resilient.
9. **Swachh Bharat Mission (Urban):** Swachh Bharat Mission (SBM), Swachh Bharat Abhiyan, or Clean India Mission is a countrywide campaign initiated by the Government of India in 2014 to eliminate open defecation and improve solid waste management. The aim of the mission was to achieve an “open-defecation free” (ODF) India by 2 October

2019, the 150th anniversary of the birth of Mahatma Gandhi [5] through construction of toilets. The objectives of the first phase of the mission also included eradication of manual scavenging, generating awareness and bringing about a behaviour change regarding sanitation practices, and augmentation of capacity at the local level. The first phase of the Swachh Bharat Mission lasted until October 2019. Phase 2 is being implemented between 2020–21 and 2024–25 to help cement the work of Phase 1. The second phase of the mission aims to sustain the open defecation free status and improve the management of solid and liquid waste, while also working to improve the lives of sanitation workers (Wiki, 2019). Just like Swachh Bharat Mission (Grameen), it can be ensured that all infrastructure development built under this mission can be disaster resilient. Moreover, focus on sanitation and cleanliness will help in the prevention of epidemics which can lead to a disaster.

Discussion Activity 1

Give the participants a sheet of paper and ask them to answer the following questions.

1. List out the various development schemes of the country where Disaster Risk Reduction can be integrated.

2. List out entry points for Disaster Risk Reduction in any three development schemes.

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Learning Unit E: Integrating Disaster Risk Management into Development Schemes

Session 3: Valedictory Session

Learning Objectives

At the end of the session, you should be able to:

- Provide written and oral feedback of the training programme,
- Discuss the possible improvements in the course schedule of the training programme,
- Obtain certificate for successfully attending the training programme, and;
- Bid farewell to the fellow participants

Time Duration: 60 minutes

Key Concepts

- Feedback about the training programme
- Improvement in the course structure of the programme
- Certification for successfully attending the training programme
- Farewell to the participants

Training Methodology: Discussion and Interaction

Introduce the session by telling the participants that the session is the last session of the training programme. Feedback evaluation performa can be distributed to the participants. The participants can fill the feedback performa and hand it over to the trainer. The trainer can welcome the Head of the organization and ask him to preside over the valedictory session.

Technical Notes

The trainer can invite Head of the organization (HOD) to preside over the valedictory session. The Head of the organization can glance through the written feedback submitted by the participants. He can then ask the participants to share their thoughts verbally over the contents and delivery of the programme. The discussion can lead to suggestions being made by the participants which can be noted down. The HOD can assure the participants that their suggestions will be looked into and incorporated while developing and implementing future training programmes. The participants can be also be asked to share things, which they have learnt outside the classroom. The HOD can ask the participants to keep in touch with the organizing institution for any help in future. The HOD can end the session by the distribution of certificates and bidding them goodbye.

HANDOUT No. 1



CPR Guide



HANDS-ONLY CPR VS. CPR WITH BREATHS

HANDS-ONLY CPR



CALL 911



PUSH HARD AND FAST IN
THE CENTER OF THE CHEST

Public awareness campaign to get more people to act when they encounter a cardiac arrest. Starting point to get more people to learn CPR.

Will not meet requirements if you need CPR for your job.

CPR TRAINING



COMPRESSIONS + BREATHS

Offered through online or in-person classes. Provides more in-depth training with an instructor, including CPR with breaths and choking relief.

Often necessary for people who need CPR training for work.

HOW DOES IT WORK?

Chest compressions are good for the first few minutes someone is in cardiac arrest pushing remaining oxygen through body to keep vital organs alive. Buys time until someone with more skills can provide help.

CPR with breaths combines chest compressions and breaths, providing additional oxygen to circulate throughout the body.

WHO CAN I USE IT ON?

Adult and teens.

Anyone who is in cardiac arrest, including: adults and teens, infants and children, pregnant women and any victims of drowning, drug overdose, collapse due to breathing problems or prolonged cardiac arrest.

HOW DO I LEARN?

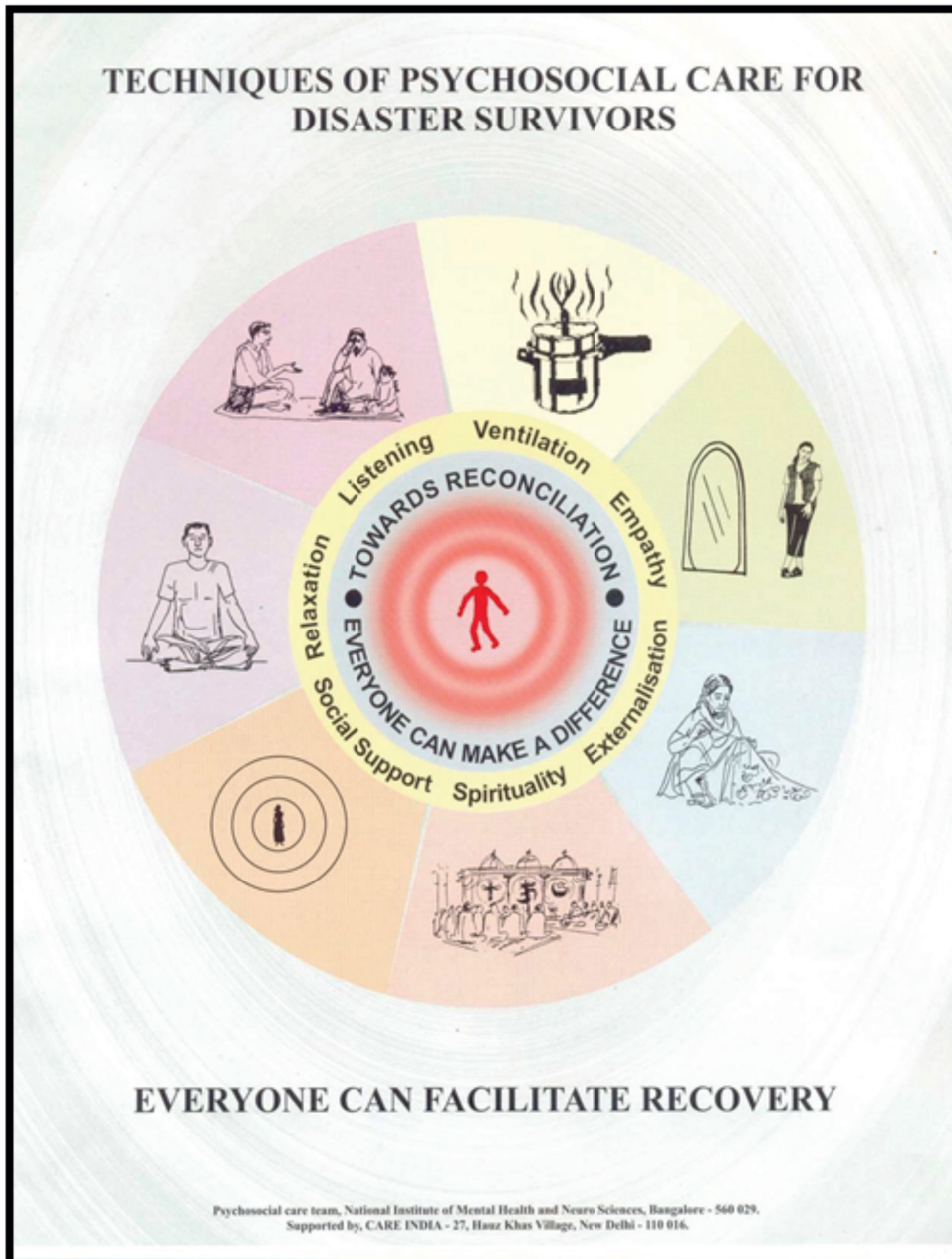
Go to heart.org/handsonlycpr to learn the steps of Hands-Only CPR.

Go to heart.org/cpr and click on FIND A COURSE to find a class online or near you.

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Source: American Heart Association

HANDOUT No. 2



Source: National Institute of Mental Health and Neurosciences, Bangalore

HANDOUT No. 3

HANDWASHING



1

UNDER RUNNING WATER
WET HANDS



2

APPLY SOAP AND RUB PALMS
TOGETHER TO ENSURE
COMPLETE COVERAGE



3

SPREAD THE LATHER
OVER THE BACK OF
THE HANDS



4

MAKE SURE THE SOAP
GETS IN BETWEEN THE
FINGERS



5

GRIP THE FINGERS
ON EACH HAND



6

PAY PARTICULAR ATTENTION
TO THE THUMBS



7

PRESS FINGERTIPS INTO
THE PALM OF EACH
HAND



8

DRY THOROUGHLY WITH
A CLEAN TOWEL

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About the institute

The National Institute of Disaster Management (NIDM) was constituted under an Act of Parliament with a vision to play the role of a premier institute for capacity development in India and the region. The efforts in this direction that began with the formation of the National Centre for Disaster Management (NCDM) in 1995 gained impetus with its redesignation as the National Institute of Disaster Management (NIDM) for training and capacity development. Under the Disaster Management Act 2005, NIDM has been assigned nodal responsibilities for human resource development, capacity building, training, research, documentation and policy advocacy in the field of disaster management.

NIDM is proud to have a multi-disciplinary core team of professionals working in various aspects of disaster management. In its endeavour to facilitate training and capacity development, the Institute has state-of-the-art facilities like class rooms, seminar hall and video-conferencing facilities etc. The Institute has a well-stocked library exclusively on the theme of disaster management and mitigation. The Institute provides training in face-to-face, on-line and self-learning mode as well as satellite based training. In-house and off-campus face-to-face training to the officials of the state governments is provided free of charge including modest boarding and lodging facilities.

NIDM provides Capacity Building support to various National and State level agencies in the field of Disaster Management & Disaster Risk Reduction. The Institute's vision is to create a Disaster Resilient India by building the capacity at all levels for disaster prevention and preparedness.



Resilient India : Disaster free India



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