CERTIFICATE PROGRAMME IN
DISASTER AND EMERGENCY MANAGEMENT

CDEM 03

PLANNING IN DISASTER MANAGEMENT

GPD School of Interdisciplinary and Vocational Studies
KRISHNA KANTA HANDIQUI STATE OPEN UNIVERSITY

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CONTENTS **Pages**

UNIT 1 : Importance of Disaster Management Planning **5 - 14**
Disaster Management Plan; National Disaster Management Plan.

UNIT 2 : Community-based Disaster Preparedness **15 - 38**
Vulnerability at Community Level; Community Perception towards Disaster; Empowering Community; Community-based Disaster Risk Management.

UNIT 3 : Role of Information and Communication in Disaster Management **39 - 47**
Information, Education and Communication (IEC); Application of Information and Communication Technology in Disaster Management.

UNIT 4 : Capacity Building in Disaster Management **48 - 61**
Training: Class room, Web-based, Field Training, Training on Specialized Equipment; Specialized Training for People with Disability.

UNIT 5 : Awareness Campaign **62 - 71**
Importance of Awareness; Ways and Means of Campaigning.

COURSE INTRODUCTION:

“This course on "Planning in Disaster Management" is the 3rd course of the Certificate in Disaster and Emergency Management Programme. Disaster management planning is a vital aspect of effectively responding to hazards and mitigating the impact of disasters. Planning in disaster management involves various activities and considerations aimed at minimizing the impact of disasters on communities, ensuring preparedness, support to response effort and facilitating recovery, relief and rehabilitation. It is an ongoing process that requires continuous monitoring, assessment and adaptation to ensure optimal preparedness and response to disaster.

This course will help in understanding the importance of disaster management planning and various aspects of the planning process.

There are five units in the course.

The **first unit** explains the importance of Disaster Management Plan and National Disaster Management Plan.

The **second unit** focusses the vulnerability at Community Level and Community Perception towards Disaster, Empowering Community and Community-based Disaster Risk Management.

The **third unit** aims to explain Information, Education and Communication (IEC) and applications of Information and Communication Technology in Disaster Management.

The **fourth unit** deals with the Training of Class room based, Web-based, Field Training, Training on Specialized Equipment and Specialized Training for People with Disability

The **fifth unit** focuses on the importance of Awareness; Ways and Means of Campaigning

While going through a unit, you will notice some boxes, containing such information as would help you to understand some of the difficult, unfamiliar terms. You will find an item called "ACTIVITY' where you will apply your knowledge and thoughts in some questions pertaining to the relevant topic. Again, we have included some relevant concepts in "LET US KNOW" along with the text. And, at the end of each section, you will get "CHECK YOUR PROGRESS" questions. These have been designed to self-check your progress of study. It will be better if you solve the problems put in these boxes immediately after you go through the sections of the units and then match your answers with "ANSWERS TO CHECK YOUR PROGRESS" given at the end of each unit.

UNIT- 1 : IMPORTANCE OF DISASTER MANAGEMENT PLANNING

UNIT STRUCTURE

1.1 Learning Objectives

1.2 Introduction

1.3 Disaster Management Plan

- 1.3.1 Disaster and its common elements
- 1.3.2 Meaning of Disaster management plan
- 1.3.3 Role and Importance of disaster management planning

1.4 National Disaster Management Plan

1.5 Let us Sum up

1.6 Further Reading

1.7 Answers to Check Your Progress

1.8 Model Questions

1.1 LEARNING OBJECTIVES

After reading this unit, you will be able to-

- explain disasters and its common elements
- understand the concept of disaster management plan
- discuss the role of disaster management plan
- understand the national disaster management plan

1.2 INTRODUCTION

This is the first unit of the third course where we will discuss the concept and importance of disaster management plan. Creating a disaster management plan is crucial for understanding and mitigating catastrophes under all circumstances. The aim of disaster management planning is to

reduce the impact of disasters on communities and facilitate effective response and recovery. In this unit we will also discuss the National Disaster Management Plan (NDMP), which is prepared and implemented by National Disaster Management Authority (NDMA).

1.3 DISASTER MANAGEMENT PLAN

Disaster is a human-induced or natural event, sudden or progressive, that has the potential of causing widespread human, material or environmental losses. It may exceed the ability of the affected area to cope using its own resources.

1.3.1 Disaster and its Common Elements

The common elements of disaster are *hazard, vulnerability, capacity* and *people*. A disaster, often triggered by a hazard, is directly related to vulnerability and may exceed the capacity of a household, group of people, or community to cope, thereby affecting those individuals. A *hazard* is a physical or human-induced event that can potentially trigger a disaster but need not necessarily result in disaster. *Vulnerability* is the condition determined by physical (material), social, economic and environmental factors which increase the susceptibility of a community to the impact of hazards. Vulnerable aspects of society are high population density, poverty, lack of skills and social services, a fragile ecosystem, gender inequalities, weak social and economic institutions, unsustainable developmental activities, environmental degradation, lack of public awareness etc. *Capacities* are those positive conditions or capabilities which increase a community's ability to deal with hazards.

Disasters are always associated with risks and disaster risks depend on hazard, exposure and vulnerability. In essence, disasters are the realisation of risk. The term exposure is closely associated with vulnerability and it implies the situation of people, infrastructure, housing, production capacities and other tangible human assets located in hazard-

prone areas. If a hazard occurs in an area of no exposure, then there is minimum risk.

1.3.2 Meaning of Disaster management plan

A disaster management plan is a mechanism of predefined strategies coordinated by central, state, or local authorities. Its aim is to reduce the toll of disasters and minimise vulnerability through participatory activities. Disaster management planning consists of interrelated and interdependent activities intended to achieve specific goal within stipulated period of time. Disaster planning has three steps viz. preparation, implementation, monitoring and evaluation.

Disaster management plan is a complex phenomenon as disaster is associated with risk. It covers all the common elements of disaster viz. hazard, vulnerability, capacity and people. So, it differs in form and scope depending on the various socio-economic, geographical and environmental situations. In simple language, the basic aim of disaster planning is to foster development by reducing the toll of disasters.

Disaster management plan focuses on both pre-disaster and post-disaster strategies. Post- management planning focuses on the needs of the people of the disaster affected area and it covers activities like response and relief, rehabilitation and reconstruction. It is basically related to crisis management. Response and relief implies all those efforts and actions taken directly before, during or immediately after a disaster. Such efforts try to save lives, reduce health impacts, ensure public safety and meet the basic subsistence. Rehabilitation implies the restoration of basic services and facilities for the functioning of a community or a society affected by a disaster. Reconstruction implies the medium and long- term rebuilding and sustainable restoration activities related to critical infrastructures, services, housing, facilities and livelihoods. Such kind of activities are required for full functioning of a community affected by a disaster, aligning with the principles of SD and 'build back better' to avoid or reduce future disaster risk.

On the other hand, pre-disaster management plan focuses on managing disaster risk and covers activities like prevention, mitigation and preparedness. Prevention activities are designed to provide permanent protection from disaster as for example embankments to eliminate flood risk. Mitigation involves measures taken before a disaster to reduce its impact on society and the environment, such as engineering techniques and hazard-resistant construction. Preparedness is the ability to predict, respond to, and cope with the effects of a disaster.

1.3.3 Role and Importance of disaster management planning

The role and importance of disaster management plan are discussed below:

- A disaster management plan strengthens the institutional mechanisms and capacities of government.
- Disaster management is not solely the responsibility of the Disaster Management Department; it requires the collaboration of all departments. The plan aims to involve all stakeholders, including individuals, communities, regulatory authorities, institutions, voluntary and community-based organizations, as well as national and international institutions and agencies, at every stage and in each process.
- The disaster management plan addresses the social, economic, political, technological, and psychological aspects related to disasters. Emphasis should be placed on a top-down approach, specifically focusing on community-based disaster preparedness.
- Information, Education and Communication (IEC) are of vital significance in a disaster management plan.
- Disaster management plan emphasizes the role of Science and Technology in Disaster Preparedness (Information Collection (GIS), Analysis and Diagnosis, Disaster Prediction, Transmission of Warning, Disaster Monitoring, Rescue and Relief, Post-disaster Recovery, Reconstruction).

- Disaster management plan strengthens hazard and vulnerability assessments.
- Disaster management plan support Sustainable Development strategies.
- Disaster management plan tries to build a strong and sustainable techno-legal regime for all construction related activities.
- The disaster management plan enhances training and capacity-building measures for individuals involved in disaster management.
- Disaster management plan empowers local community regarding disaster related activities.
- Disaster management plan emphasizes the role of Research and Development in the field of disaster.
- The disaster management plan emphasizes knowledge management, aiming to enhance the knowledge and competencies of all stakeholders, including individuals, communities, and systems involved in the field of disaster management.
- The disaster management plan strengthens disaster resilience by promoting adaptability, flexibility, and continuous learning among stakeholders.
- Disaster management plan strengthens indigenous knowledge system.
- The disaster management plan is tailored to the needs and capacities of the local community and resources, ensuring optimal resource utilization.



CHECK YOUR PROGRESS

Q.1: State the meaning and common elements of disaster.

.....

Q.2: Define disaster management plan.

.....

.....

1.4 NATIONAL DISASTER MANAGEMENT PLAN

India follows a four tier system disaster planning system as outlined in the Disaster Management Act (DMA), 2005. The DMA Act 2005 has enabled a paradigm shift from a relief-centric approach to a more democratic, proactive, holistic, integrated and participatory approach. At the central level, there is National Disaster Management Authority (NDMA) which is the central authority to prepare, implement and monitor the National Disaster Management Plan (NDMP). In each state there is State Disaster Management Authority (SDMA) to prepare, implement and monitor the State Disaster Management Plan (SDMP). At the district level, there are District Disaster Management Authorities (DDMAs) which prepare, implement and monitor the District Disaster Management Plan (DDMP). At the local level, there is Local Authority to prepare, implement and monitor the Local Disaster Management Plan. As the name indicates, National Disaster Management Authority (NDMA) is the central authority to cooperate, control and monitor the State Disaster Management Authority (SDMA), District Disaster Management Authorities (DDMAs) and Local Authority. In this unit we will discuss only about the National Disaster Management Plan (NDMP).

As mentioned earlier, the National Disaster Management Authority (NDMA) prepares, implements and monitors the National Disaster Management Plan (NDMP). Normally, NDMP provides a framework and direction to the government agencies associated with all phases of disaster management cycle. In true sense, NDMP is a dynamic document as it will be improved periodically keeping up with the local needs and emerging global best practices and knowledge base in disaster management. It is prepared in accordance with the Disaster Management Act, 2005, the guidelines of the National Policy on Disaster Management, 2009 (NPDM), and established national practices.

The NDMP aims to minimize or eliminate ambiguity in the responsibility framework by clearly specifying the roles of different stakeholders at various stages of disaster management. The NDMP is designed to be ready for activation at all times, enabling an immediate

response to emergencies anywhere in the country. Its flexible and scalable design allows it to be implemented as needed across all phases of disaster management: mitigation, preparedness, response, and recovery. (The meaning of mitigation, preparedness, response and recovery are discussed in section 1.3).

The NDMP is prepared in alignment with global approaches promoted by the United Nations, specifically following the guidelines of the Sendai Framework for Disaster Risk Reduction 2015-2030. It is a non-binding agreement, which the signatory nations attempt to comply with on a voluntary basis. India is expected to make all efforts to contribute to the realization of the global targets by improving the entire disaster management cycle following the recommendations of Sendai Framework and by adopting globally accepted best practices. The four priorities for action under the Sendai Framework are:

1. Understanding disaster risk
2. Strengthening disaster risk governance to manage disaster risk
3. Investing in disaster risk reduction for resilience
4. Enhancing disaster preparedness for effective response and to "Build Back Better" in recovery, rehabilitation and reconstruction.

The NDMP incorporates substantively the approach enunciated in the Sendai Framework and will help the country to meet the goals set in the framework. By 2030, the Sendai Framework aims to achieve substantial reduction of disaster risk and losses in lives, livelihoods, and health and in the economic, physical, social, cultural, and environmental assets of persons, businesses, communities, and countries. Based on global practices and national experiences, the NDMP is expected to incorporate changes based on periodic reviews and updates.



CHECK YOUR PROGRESS

Q.3: Who prepare the National Disaster Management Plan?

.....

.....

Q.4: Mention the four priorities for action under the Sendai Framework.

.....

.....



1.5 LET US SUM UP

- Disaster is a human-induced or natural event, sudden or progressive, causing wide spread human, material and environmental losses; and often exceeds the ability of the affected area to cope using its own resources.
- The common elements of disaster are *hazard, vulnerability, capacity* and *people*.
- Disaster is always associated with risk and disaster risk depends on hazard, exposure and vulnerability.
- Disaster management planning consists of interrelated and interdependent activities intended to achieve specific goals within a stipulated period of time.
- Disaster planning has three steps viz. preparation, implementation, monitoring and evaluation.
- Disaster management plan focuses on pre-disaster and post-disaster strategies.
- Post-management planning focuses on the needs of the people of the disaster affected area and it covers activities like response and relief, rehabilitation and reconstruction.
- pre-disaster management plan focuses on managing disaster risk and it covers activities like prevention, mitigation and preparedness.
- To shift from a traditionally relief-centric approach to a more democratic, proactive, holistic, integrated and participatory strategy, India employs a four-tier disaster planning system as outlined in the Disaster Management Act, 2005.
- The NDMP recognizes the need to minimize, if not eliminate,

any ambiguity in the responsibility framework.

- The NDMP specifies who is responsible for what at different stages of managing disasters.
- The NDMP is consistent with the approaches promoted globally by the United Nations, in particular the Sendai Framework for Disaster Risk Reduction 2015-2030.



1.6 FURTHER READING

1. The Asia Foundation, *India's Disaster Risk Reduction Journey - Opportunities for Strengthening Partnerships in the Indo-Pacific. The Asia Foundation*: New Delhi. Available at https://asiafoundation.org/wp-content/uploads/2022/10/Indias-Disaster-Risk-Reduction-Journey_TRIDEP_EN.pdf (2022).
2. World Bank, *"Disaster Risk Management Overview"*, available at https://www.worldbank.org/en/topic/disasterriskmanagement/overview
3. Dhar Chakrabarti, P. G. *"Challenges of disaster management in India: implications for the economic, political, and security environments." Nontraditional security challenges in India Human Security and Disaster Management. Seattle:* The National Bureau of Indian Research (2011).
4. Pal, Indrajit, and Rajib Shaw, eds. *Disaster risk governance in India and cross cutting issues*. Springer Singapore, 2018.
5. Ogra, A., et al. *"Exploring the gap between policy and action in Disaster Risk Reduction: A case study from India."* International Journal of Disaster Risk Reduction 63 (2021): 102428.
6. Ha, Huong, R. Lalitha S. Fernando, and Amir Mahmood, eds. *Strategic disaster risk management in Asia*. Springer India, 2015.



1.7 ANSWERS TO CHECK YOUR PROGRESS

Ans to Q.No. 1: : Disaster is a human-induced or natural event, sudden or progressive which causing wide spread human, material or environmental losses and exceeds the ability of the affected area to cope using its own resources.

The common elements of disaster are hazard, vulnerability, capacity and people.

Ans to Q.No. 2: Disaster management plan is a mechanism of some predefined strategy coordinated by central state or local authority in order to reduce the toll of disasters and to minimise the vulnerability through participatory activities.

Ans to Q.No. 3: National Disaster Management Authority (NDMA) prepares, implement and monitor the National Disaster Management Plan (NDMP).

Ans to Q.No. 4: Four priorities for action under the Sendai Framework are

1.Understanding disaster risk,

2. Strengthening disaster risk governance to manage disaster risk,

3.Investing in disaster risk reduction for resilience and

4. Enhancing disaster preparedness for effective response and to "Build Back Better" in recovery, rehabilitation and reconstruction.



1.8 MODEL QUESTIONS

Short Questions (Answer each question in about 150 words)

Q1: Write a short note on Disasters.

Q2: Distinguish between pre and post disaster management planning.

Q3: Briefly discuss about the disaster management planning.

Long Questions (Answer each question in about 300-500 words)

Q1: Explain the importance of disaster management planning.

Q2: Discuss the importance of NDMA in disaster management planning.

Q3: Discuss the National Disaster Management Planning for India.

*** *** ***

UNIT- 2: COMMUNITY-BASED DISASTER PREPAREDNESS

UNIT STRUCTURE

2.1 Learning Objectives

2.2 Introduction

2.3 Vulnerability in Communities

- 2.3.1 Meaning of Vulnerability
- 2.3.2 Understanding Community Vulnerability
- 2.3.3 Factors Determining Community Vulnerability

2.4 Community Perception Towards Disaster

- 2.4.1 Adaptation and Coping
- 2.4.2 Community Resilience

2.5 Empowering Community

- 2.5.1 Key aspects of Community Empowerment
- 2.5.2 Approaches to Community Empowerment

2.6 Community-Based Disaster Risk Management (CBDRM)

- 2.6.1 Key Features of CBDRM
- 2.6.2 Significances CBDRM

2.7 Let us Sum up

2.8 Further Reading

2.9 Answers to Check Your Progress

2.10 Model Questions

2.1 LEARNING OBJECTIVES

After going through this unit, you will be able to-

- identify the range of vulnerabilities within a community and their underlying factors

- comprehend the community perception towards disaster and preparedness towards facing them
- describe the ways of empowering community to deal with the diverse kinds of vulnerabilities
- find out approches and strategies towards managing disaster risks through the community involvement and participation

2.2 INTRODUCTION

In the previous unit we have learnt about the importance of the planning for disaster management. Appropriate and adequate disaster planning can mitigate disaster risk as well as minimise the damages and loss of human lives and property when disaster occurs. Moreover, with the technological advances, disaster forecasting has become more precise facilitating better disaster risk reduction coupled with appropriate disaster planning. At the same time, we have also witnessed that both the frequency and intensity of disasters have increased in recent years. Scientists and researchers tend to relate the rising instances of disaster in the recent times with the phenomena of climate change and global warming. This is suggestive of rising vulnerabilities towards disasters, which are prevalent at the individual, household and even at the community levels.

In this unit we shall focus on the community level vulnerabilities and how such vulnerabilities can be overcome with the community participation. Clearly, community level vulnerabilities affect overall well-being and functionality of people. This unit will highlight the common vulnerabilities that communities may encounter. Community perception towards disaster will also be discussed in this unit. This unit will also provide the ways to empower a community for addressing the vulnerabilities and challenges it faces. Community-based disaster risk management will also be discussed at the end of this unit.

2.3 MEANING OF VULNERABILITY

Disaster preparedness needs identification of disaster risks at the first place and then trying to minimise it. The notion of vulnerability is one of the defining components of disaster risk.

2.3.1 Meaning of vulnerability

Vulnerability is not only limited to the likelihood of getting exposed to a disaster; rather it extends much beyond the exposure. More specifically, the term vulnerability, besides implying the probability of getting exposed, includes the susceptibility or propensity to the consequences and impacts of disasters or hazards.

In simple words, exposure means being in a situation where you could encounter a disaster or a hazard (like living in an earthquake-prone area). Susceptibility, on the other hand, is about how likely you are to suffer harm when exposed to that disaster or hazard. Therefore, vulnerability refers to how easily someone or something can be harmed or affected by certain situations or events. It's like being more fragile or sensitive to negative impacts. People often use different terms to describe vulnerability, such as "predisposition," "fragility," "weakness," "deficiency," or "lack of capacity."

While understanding disaster risk the distinct emphasis placed on the aspects of vulnerability needs to be underlined. It must be understood that the disaster risk is not just about the severity of disaster or the probability of people and assets getting exposed to a disaster, but it is more about the aspects of vulnerability, where vulnerability reflects how susceptible people and economic assets are to loss and damage due to the disaster. Note that you can be exposed to a disaster without being susceptible to it. For example, living in an earthquake-prone region doesn't automatically mean you're vulnerable if your home is well-built and you're prepared. Clearly therefore, vulnerability involves both exposure and susceptibility, but they are distinct elements.

It may also be noted that sometimes, even non-extreme disasters can lead to severe impacts and distress, while extreme events may not. The vulnerable groups, especially those who struggle to rebuild their lives after a disaster, always face higher risk. Hence, to reduce overall disaster risk, we need to focus on reducing vulnerability.

2.3.2 Understanding Community Vulnerability

A community can become vulnerable when everyone or a section of people living in a particular physical and social surrounding is exposed to increased likelihood of experiencing disaster compared to the others, and also tend to suffer more when a disaster happens. Consider, for example, a community living close to a river. Naturally, the community is expected to be more vulnerable to flood compared to the other communities who inhabit far away from the river both in terms of the exposure and intensity of the impact. Obviously, this is due to the physical proximity of the community to the river - floodwater will strike them first and the hardest. Again, a community living in hills can be more vulnerable to disasters related to landslide and flash-flood compared to those living in the plains. Similarly, a community residing in a high seismic zone may be more vulnerable to earthquakes provided they are not well-prepared for it. As has been mentioned earlier, mere physical proximity may not be the only characteristic determining the extent of community vulnerability.

In simple terms community vulnerability refers to all those characteristics which make a community collectively more susceptible to the impact of disasters. It is all about understanding why some people or communities are more prone to sufferings when disasters occur while some others are not. Here, by community we mean a social group of any size who lives together, shares common social and political identity and feels connected through shared cultural and historical heritages. It may, however, be noted that with time, community vulnerabilities may also undergo changes.

Community vulnerability is shaped by historical, political, cultural, and institutional factors and processes. These factors and processes influence people's living conditions, health, livelihood opportunities and even preparedness to disasters. For example, living in disaster-prone areas, inadequate housing, ill-health, or lack of local institutions can greatly increase vulnerability. In fact, there can be several factors which may go on to amplify community vulnerability towards range of disasters - natural or otherwise, where many of them may not be so obvious, and may remain rather obscured and nuanced. Let us discuss some of the factors that can potentially contribute to greater community vulnerability.

2.3.3 Factors Determining Community Vulnerability

Several factors can affect and determine the level of community vulnerability. Identification of such factors is critical for disaster preparedness and effective disaster planning. Further, it is important to understand the linkages between such factors and community vulnerability. It is also essential to note that there can be interdependence among the various factors i.e. one set of factors may also influence other sets of factors. In preparing disaster planning, therefore, all such interactions are to be considered. Below we discuss some important factors which can affect and determine community vulnerability.

Physical or Natural Environment

As we have already noticed, the first factor which can directly influence community vulnerability is the physical or natural environment in which the community inhabits. Besides, the direct and apparent influences as have been mentioned above, the physical or natural environment also affect access to food, shelter and livelihood opportunities. Not all foods can be grown in every kind of environment. Likewise, not all environments can provide similar scope and opportunities for livelihood to all people. We can easily find that there are particular environments that limit the scope and opportunities for food, shelter and livelihood to a community, and thereby make them more vulnerable. For instance, in the

high altitude areas settled cultivation of crops may not be feasible affecting the type and production of foods to the people living in those areas. When such a community faces disruptions in the crop production due to disasters of any kind they are expected to suffer more compared to others. Besides, the environment can also restrict the extent and level of communication and connectivity. Consider for example the Char areas of Assam. During flood, connectivity and communication to these Chars become extremely difficult. All these aspects may contribute to increased community vulnerability.

Existence and Accessibility of Basic Services

Every community needs certain basic services like access to education, healthcare, drinking water, sanitation, police, financial services for money transfer and savings etc. Existence of these facilities and access to their services are required not for day to day functioning of the community but they can substantially contribute in mitigating and reducing vulnerabilities. On the contrary, lack of these basic services may enhance the community vulnerability. This is because at the time of disaster the communities without these services or access to these services will find it difficult to withstand disruptions caused by the disasters and consequently, they will face greater damages. Recall the situations that we witnessed during the period of COVID 19. Communities without adequate healthcare facilities were the worst sufferers during the pandemic. Therefore, community vulnerability will depend on whether these important services are sufficiently and equitably available to the various segments of the community; and to what extent they can access these services.

Social Networks

A community which is living in social isolation may be more vulnerable compared to the ones having better social networks and opportunities for civic engagements. The social isolation can also be within the community. For example, there may be some groups within the community who are mostly excluded from the usual social life and community activities. There are instances when people from specific

caste, ethnicity or religion are not allowed to take part in social activities, and they have to live in a situation of social isolation. We also see situations where women or people belonging to the third gender are socially excluded and isolated. All instances of such exclusion and isolation can enhance vulnerability to those who are excluded and isolated. On the other hand, if a community has greater and wide ranging social networks, it can collectively withstand any disaster; easily reach out to various stakeholders at the time of disaster seeking help and cooperation, which may help reducing its vulnerability. In short, social networks provide scope and opportunities for organising and coming together to address community concerns and issues, and lack of such scope and opportunities usually tend to be associated with greater vulnerability.

Community beliefs and practices

There are several community beliefs, practices and expectations which have distinct relations to community vulnerability. Those may be related to certain section of people of the community as well as to the events, episodes and incidents that occur at various points of time. For example, many communities believe that disasters are caused by the will of God. Therefore, they popularly believe that disasters can't be intervened, let alone be mitigated. Some believe that disasters are, in fact, the consequences of sins committed by the community or at least someone within the community in the past. Consequently, the community has to face the disasters as unavoidable punishments unleashed upon them by the God. People, under such beliefs, tend to prefer prayers and offerings rather than disaster preparedness and planning. These kinds of beliefs and practices make the community more vulnerable since they remain mostly unprepared, and they tend to live in a situation of rather hopelessness - completely resigned to their destiny and acts committed in their past lives. Disaster planning, thus, requires an objective and detail assessment of popularity of such beliefs and practices in a community, analysis of those beliefs and practices and understanding their linkages with the community vulnerability.

Resources and Livelihood Opportunities

It is not difficult to observe that, more often, the poor are most vulnerable to any kinds of disaster. In a similar way, the communities which lack resources tend to be more vulnerable. This is due to the fact that when a community is poor in resources, it becomes increasingly hard to overcome the damages and comeback to the original condition. Lack of resources also inhibits adequate disaster preparedness and planning. The incidents and episodes of disaster make them even poorer and/or completely dispossessed, and at times, displaced. The community's ability to face and withstand disasters as well as to come back from the disruptions and devastations caused by disasters is closely connected to the livelihood options and opportunities available to the community. Availability of more and improved options and opportunities render a community better equipped to face the consequences of disaster. Under such situations, people will be left with several alternatives for gainful engagements even if one or few options are adversely impacted by any disaster. Therefore, a detail mapping of available resources and livelihood opportunities is an integral part of disaster planning.

Prevalence of Crime, Violence and Conflict

Disasters commonly disrupt the normal activities and functioning of community life and bring about hardships through loss of lives and property. In these conditions propensity to commit crime and violence may rise in a community. Moreover, conflicts may also erupt occasionally. The incidences and occurrences of crime, violence and conflict further worsen the consequences. If a community is already marked by high prevalence of crime, violence and conflict, then they are, naturally, considered as more vulnerable than the ones who are relatively peaceful and harmonious. Disaster preparedness and planning, thus, need to identify what are possibilities of crime, violence and conflict in a community and how they are linked to community vulnerability.

Apart from the above factors, institutional factors and processes also matter in determining community vulnerability. These include existence and provisions of various institutions - government as well as

non-government, community based organisations as well as their policies and programmes for social protection. A community with strong institutions of governance including the grassroots organisations and adequate policies of social protection are less vulnerable compared to those without such institutions and policies.



CHECK YOUR PROGRESS

Q.1: Why should we focus on vulnerability for reducing risk of disaster?

.....

Q.2: How does a community remain less vulnerable even it continues to be highly exposed to a disaster?

.....

2.4 COMMUNITY PERCEPTION TOWERDS DISASTER

We have, so far, recognised that understanding community vulnerability and identification of various factors that determine the extent of community vulnerability are two important components of disaster risk reduction. Another important component of disaster risk reduction is the community perceptions towards disaster.

Community perception towards disaster implies awareness and attitude towards disaster i.e. how a community anticipates, deals with, tries to avoid, copes with and adapts to disasters. These perceptions usually relate to three periods - periods before the occurrence of the actual disaster, during the period of the disaster and the aftermath of the disaster. Prior to the occurrence of the disaster the community usually have perceptions regarding the possibilities of different types of disaster, potential causes of such disasters and what role it can play in mitigating those disasters and limit their impacts. In disaster literature these are commonly identified as

community risk perceptions. Community risk perceptions are developed, over the years, through the community's interactions with the physical, natural and social environment within which the community lives. During the disaster the community has its own perceptions about the possible impacts i.e. the extent of losses and damages, course of the actions to be undertaken or not to be undertaken, shelters which the community can most likely have access to and the people, institutions, agencies and organizations whom it can easily reach out to for help and support. These perceptions are commonly known as behavioural perceptions. In the aftermath of the disaster, community tries to learn from its experiences and makes plans for the future. They find out better ways of dealing with the disasters, and where possible, make attempts at escaping the vulnerability associated with the disasters. These attitudes and perceptions are referred to as adaptation and coping behaviour and strategies. When a community becomes fully aware about all these aspects it may so prepare itself that they can live with the disaster without much negative impacts. Such communities are called as the resilient communities. In the sections that will follow we will discuss more about adaptation, coping and resilience. But, it is important here to understand that adaptation, coping and resilience are, in fact, the results of community perceptions - i.e. awareness and attitude towards disasters - how they think about the disasters and how they intend to deal with those.

We must also understand that the community perceptions depends largely on the physical environment, socio-cultural context, level of general education, exposure to different media and host of other factors. That is why perceptions towards similar kinds of disasters vary widely from community to community. In the strategies for disaster risk reduction community perceptions become particularly significant. The significance of community perceptions towards disasters can be briefly outlined as follows:

Risk Reduction: Understanding community perceptions helps tailor risk reduction strategies. If people underestimate risks, interventions can focus

on awareness and education. If they overestimate risks, strategies may emphasize preparedness and resilience.

Effective Communication: Disaster communication relies on aligning messages with community perceptions. Clear, culturally sensitive communication enhances preparedness and response.

Local Knowledge: Communities possess valuable local knowledge about hazards, vulnerabilities, and coping mechanisms. Incorporating this knowledge into disaster planning can greatly improve plan effectiveness.

Behavioural Change: By addressing misconceptions and promoting accurate risk perceptions, communities can adopt safer behaviours and contribute to overall resilience.

In conclusion, community perceptions towards disasters are pivotal for informed decision-making, risk reduction, and fostering resilience in communities.

2.4.1 Adaptation and Coping

In the previous section, we have mentioned about adaptation and coping behaviour of the communities and have also stated that these are closely linked to disaster risk reduction. In this section we will examine these two concepts in some details.

Adaptation refers to the process of adjusting to changing circumstances or conditions. In the context of disaster management, it entails proactive and pre-emptive measures taken to reduce vulnerability and enhance resilience to potential hazards - i.e. doing things beforehand to make sure that we're less likely to be hurt by disasters and can recover better if they happen. We may see many instances of adaptive behaviour in communities. In Assam one very example of adaptive behaviour of communities living in flood prone areas is crop diversification. Crop diversification helps communities to avoid crop losses at the time of flood. Likewise, communities can develop early warning systems to alert about impending disasters (e.g., cyclones, floods, earthquakes). Implementing

land-use planning that avoids high-risk areas (e.g., floodplains, landslide-prone regions), promoting climate-smart agriculture and sustainable water management practices, building infrastructure (e.g., resilient buildings, flood-resistant roads, raised platforms etc) that can withstand natural disasters are some other examples of adaptation. Adaptation emphasizes long-term planning and preparedness for disasters. It eventually aims to build resilience by addressing underlying vulnerabilities and minimizing the impact of disasters through proactive and preventive actions and practices.

Coping strategies, on the other hand, are the immediate actions taken during and/or after a disaster to manage the crisis. These actions and strategies are reactive and focus on survival and short-term relief. Coping strategies address the immediate impact of disasters and aim to minimize harm and loss. Evacuating people to safer locations during a flood, cyclone or earthquake, providing emergency medical care and relief supplies (food, water, shelter) to affected populations, mobilizing community networks to support each other during and after a disaster, raising funds through public participation etc are common examples of coping mechanisms. In the present time, communities are also using seasonal or temporary migrations as one of their copping strategies for seasonal disaster like flood or drought.

Adaptation and coping are, thus, two important community behaviours towards responding to disasters. They, however, differ in time-frame, purpose and approach. While adaptation is forward-looking and considers long-term changes, the coping strategies are reactive and concerned with managing the immediate crisis. Adaptation aims to prevent or reduce the impact of disasters, whereas coping strategies focus on survival and relief. Finally, adaptation involves planning, policy development, and capacity-building, whereas coping strategies involve quick and prudent actions in crisis situations. Notwithstanding the differences, both adaptation and coping strategies complement each other in disaster management. While adaptation builds resilience over time, coping

strategies provide essential support during emergencies. Both are crucial for effective disaster risk reduction and response.

2.4.2 Community Resilience

Resilience is a key idea and a theme in disaster risk reduction as well as disaster preparedness. Resilience means essentially two things (a) ability to absorb shocks and disruptions in such a manner that the negative impacts can be minimised, and (b) capacity to recover quickly from shocks and disruptions and bounce back to normalcy. In several literatures the second point is given relatively more importance. While defining resilience the time taken to recover and come back to normalcy is often emphasised upon.

A resilient community, thus, is one which witnesses minimal damages in a disaster and can quickly recover from the adverse impacts. Clearly, resilience is the opposite of vulnerability. A community can become resilient by overcoming the diverse vulnerabilities.

Building resilience emphasises on developing and strengthening processes, conditions and institutions that can reduce vulnerabilities and facilitate faster recovery without any significant outside help and support. Thus, resilience underlines those abilities which are existent within the community. However, we can facilitate resilience building in communities by providing support and empowering them with required interventions. In the next section we discuss various interventions that can promote community resilience and facilitate disaster risk reduction.



CHECK YOUR PROGRESS

Q.3: : Distinguish between adaptation and coping strategies.

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Q.4: What is the significance of community resilience in disaster risk reduction?

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2.5 EMPOWERING COMMUNITY

Till now we have seen that most important thing in disaster preparedness is to systematically address the diverse vulnerabilities and, thereby, reducing disaster risks. In addressing the vulnerabilities in communities their perceptions - awareness and attitudes towards disaster - play an instrumental role. The community perceptions towards disasters are shaped by their knowledge and experiences about their surrounding environment, cultural practices and beliefs, and above all by their encounters with disasters at different points of time. Based on the perceptions, the communities on their own find ways of dealing and negotiating with such disasters and try to manage the crisis caused by those disasters as well as minimise the losses and impacts. These actions and practices result in coping strategies in the short run, and various adaptive behaviours in the longer run. Eventually, such awareness, practices and strategies make the communities disaster resilient which means that the communities can live with those disasters without much damage and, in no time, they can recover to normalcy even if they occur. Thus, long term aim of disaster preparedness is all about building community resilience. Although the communities, in the long run, are expected to be resilient by some degree, such resilience can also be promoted through various interventions by various agencies - both government as well as non-government organisations. These interventions are referred to as community empowerment towards disaster preparedness.

2.5.1 Key Aspects of Community Empowerment

Empowering a community for disaster preparedness entails fostering a sense of collective responsibility and resilience among its members. Community empowerment involves equipping them with the knowledge, skills, and resources necessary to effectively prepare for, respond to, and recover from disasters. Following are the key aspects of community empowerment in the context of disaster preparedness:

Knowledge Dissemination: Communities can be empowered by providing with relevant information about potential disasters, educating about evacuation procedures, and emergency response strategies. This relates to enhancing awareness about the importance of disaster preparedness that may include creating emergency kits, early warning system awareness, conducting search and rescue operations, carrying out community-led vulnerability assessments and developing family communication plans.

Building Social Cohesion: Strengthening social networks and fostering trust among community members is crucial for effective disaster preparedness. Strong social ties facilitate cooperation, resource sharing, and mutual support during emergencies. Interventions aiming at community empowerment may focus on developing and strengthening such networks.

Enhancing Local Capacities: Community empowerment also needs to focus on identification of and leveraging upon local resources, skills, and expertise to address specific vulnerabilities and enhancing resilience. It should stress upon developing local institutions, leaderships and other such organizations like youth club, women's collective, self-help groups etc.

Encouraging Participation: Engaging community members in decision-making processes related to disaster preparedness planning, implementation, and evaluation is also essential for community empowerment. Empowering individuals to actively contribute to their own safety fosters a sense of ownership and commitment to resilience-building efforts.

2.5.2 Approaches to Community Empowerment

There are various approaches to community empowerment. The approaches may also vary from one community to another depending on the context, conditions and actual requirement. Innovations are the key to

success in community empowerment efforts. However, followings are the common approaches adopted for empowering communities for better disaster preparedness and planning:

Conduct Community Assessments: Community empowerment begins by understanding the unique risks, vulnerabilities, and capacities of the community through participatory assessments. This process involves consulting with local stakeholders, conducting hazard mapping exercises, and identifying existing resources and gaps in preparedness.

Raise Awareness and Education: Community empowerment seeks to organize community workshops, training sessions, and awareness campaigns to educate residents about potential disasters, preparedness measures, and response protocols. It uses culturally sensitive and accessible communication channels to reach diverse populations.

Foster Collaborative Partnerships: Community empowerment establishes partnerships with local government agencies, non-profit organizations, academic institutions, and businesses to leverage resources and expertise for disaster preparedness initiatives. Such collaborative efforts can enhance coordination, streamline information sharing, and maximize impact.

Develop Community-Based Plans: Community empowerment attempts at working with community members to develop comprehensive disaster preparedness plans tailored to local needs and priorities. These plans should outline roles and responsibilities, evacuation routes, shelter locations, and communication strategies.

Build Skills and Capacities: Community empowerment tries to provide training opportunities for community members on essential preparedness and response skills, such as first aid, fire safety, and search and rescue techniques. It aims at empowering individuals to take proactive measures to protect themselves, their families, and their neighbours during emergencies.

Strengthen Social Networks: Community empowerment organises community events, meetings, and exercises to promote social cohesion,

networking, and collaboration among residents. It also encourages the formation of neighbourhood watch groups, emergency response teams, and mutual aid networks to enhance community resilience.

Ensure Inclusivity and Equity: Community empowerment must consider the diverse needs, perspectives, and vulnerabilities of all community members, including marginalized and vulnerable populations. It needs to adopt inclusive approaches that prioritize the participation and empowerment of traditionally underserved groups.

Policy Advocacy and Legal Support: Community empowerment also advocates for policies that prioritize disaster risk reduction. Local NGOs can provide technical and legal advice to help communities negotiate effectively with governments and agencies. Further, the communities need legal support to enforce disaster risk reduction measures. Moreover, appropriate social protection measures and policies can be a part of the community empowerment approaches.

Empowering communities for disaster preparedness is a multifaceted process that requires sustained commitment, collaboration, and innovation. By investing in education, capacity-building, and social cohesion, we can strengthen the resilience of communities and reduce the impact of disasters on lives and livelihoods. Collectively, we can build a more resilient future, where communities are empowered to face and overcome any challenge that comes their way.



CHECK YOUR PROGRESS

Q.5: Why is community empowerment essential for disaster preparedness?

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2.6 COMMUNITY BASED DISASTER RISK MANAGEMENT (CBDRM)

In any disaster, the communities turn out to be the first responders. Therefore, risks involved with disasters can be best minimised when communities are prepared for disaster risk management. Community-based disaster risk management (CBDRM) is a proactive approach that empowers local communities to identify, assess, and mitigate risks associated with diverse disasters. By engaging community members in all stages of disaster management, CBDRM enhances resilience, fosters self-reliance, and reduces risks and vulnerabilities. It places people at the heart of decision-making in disaster risk management (DRM) activities, ensuring accountability and responsibility at all stages-from risk assessment to implementation.

2.6.1 Key Features of CBDRM

Proactive and Pre-emptive Approach: CBDRM emphasizes on prevention, mitigation, and preparedness rather than just response. It aims to reduce vulnerabilities before disasters strike.

Participatory Approach: CBDRM emphasizes active participation and engagement of community members in all stages of the disaster management cycle, including risk assessment, planning, implementation, monitoring, and evaluation.

Inclusive Approach: CBDRM involves marginalized groups and ensures their needs are considered. It underlines the gender-sensitive approaches in disaster planning.

Contextual Analysis and Use of Local Resources: CBDRM recognizes the unique socio-cultural, economic, and environmental context of each community. It involves conducting participatory risk assessments to identify local hazards, vulnerabilities, capacities, and priorities. It also attempts at maximum utilization of local resources and expertise.

Multi-Sectoral Collaboration: CBDRM promotes collaboration and partnership among diverse stakeholders, including local government agencies, non-governmental organizations, civil society groups, academia, and the private sector.

Capacity Building and Training: CBDRM invests in building the knowledge, skills, and capacities of community members to effectively respond to and mitigate disaster risks. This includes training in first aid, search and rescue, early warning systems, and disaster preparedness planning.

Risk Reduction Measures: CBDRM focuses on implementing a range of risk reduction measures tailored to local needs and priorities. These may include land-use planning, infrastructure improvements, ecosystem restoration, livelihood diversification, and social safety nets.

Communication and Information Sharing: CBDRM promotes effective communication, information sharing, and public awareness campaigns to disseminate timely warnings, preparedness messages, and evacuation plans.

Monitoring and Evaluation: CBDRM involves continuous monitoring and evaluation of risk reduction initiatives to assess their effectiveness, identify lessons learned, and adapt strategies as needed

2.6.2 Significances CBDRM

In overall disaster preparedness and disaster risk reduction, community based disaster risk management occupies a very significant place. Significances of the CBDRM can be outlined as follow:

Local Knowledge and Capacities: Communities possess valuable local knowledge about hazards, vulnerabilities, and coping mechanisms. By tapping into this knowledge base, CBDRM ensures that disaster risk reduction efforts are contextually relevant, culturally appropriate, and effective.

Empowerment and Ownership: CBDRM empowers communities to take ownership of their safety and well-being. By involving community members in decision-making processes, planning, and implementation of risk reduction measures, CBDRM fosters a sense of ownership, responsibility, and resilience.

Cost-Effectiveness: CBDRM leverages local resources, capacities, and networks to implement low-cost, sustainable risk reduction initiatives. By mobilizing community volunteers, utilizing indigenous technologies, and promoting self-help initiatives, CBDRM maximizes the impact of limited resources.

Timely Response and Recovery: Community-based approaches enable swift and coordinated response and recovery efforts in the aftermath of disasters. By pre-identifying local resources, establishing communication networks, and training community responders, CBDRM enhances the capacity to mobilize timely assistance and support.

Social Cohesion and Solidarity: CBDRM strengthens social cohesion, trust, and solidarity among community members. By fostering collaboration, mutual support, and collective action, CBDRM builds resilient communities that can effectively withstand and recover from adversity.

Community-based disaster risk management is a holistic and inclusive approach that empowers communities to build resilience, reduce vulnerability, and enhance their capacity to cope with disasters. By leveraging local knowledge, resources, and capacities, CBDRM ensures that disaster risk reduction efforts are sustainable, contextually relevant, and people-cantered. Through active participation, collaboration, and innovation, CBDRM lays the foundation for resilient communities capable of facing and overcoming the challenges posed by natural and man-made disasters.



CHECK YOUR PROGRESS

Q.6: Why does community based disaster risk management occupy important place in overall disaster preparedness?

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2.7 LET US SUM UP

- Disaster preparedness involves identifying risks and minimizing them.
- Vulnerability extends beyond exposure to disasters, encompassing susceptibility to their consequences.
- Community vulnerability arises when a group faces increased risk and suffers more from disasters.
- Proximity to hazards, social factors, and historical context shape community vulnerability.
- Social networks, Community beliefs and practices can affect disaster preparedness and response.
- Community perceptions towards disasters encompass awareness, attitudes, and responses before, during, and after disasters.
- Adaptation involves proactive measures to reduce vulnerability and enhance resilience.
- Adaptation emphasizes long-term planning, while coping strategies address short-term relief, complementing each other in disaster management.
- Community resilience involves minimizing damages and recovering quickly from disasters.
- Building resilience involves strengthening community processes, conditions, and institutions, supported by external interventions.

- Community-based disaster risk management (CBDRM) is a proactive approach empowering communities to identify, assess, and mitigate risks, enhancing resilience and self-reliance.
- CBDRM's significance lies in leveraging local knowledge and capacities, empowering communities, ensuring cost-effectiveness, enabling timely response and recovery, fostering social cohesion and building resilient communities.



2.8 FURTHER READING

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3) Rajan, S. R. *Risk, disaster, and vulnerability: An essay on humanity and environmental catastrophe.* University of California Press (2023).
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5) Singh, R. B. (Ed.). *Natural hazards and disaster management: Vulnerability and mitigation.* Rawat Publications (2015).

2.9 ANSWERS TO CHECK YOUR PROGRESS

Ans. to Q. No.1. Disaster risk depends on exposure as well as vulnerability. Vulnerability implies all those characteristics that make people susceptible to greater damages. People with same exposure to disasters may suffer variedly depending on their vulnerability. Therefore, while reducing disaster risks we need to focus on vulnerability.

Ans. to Q. No. 2: A community may remain less vulnerable even if it is highly exposed to disaster by controlling and overcoming various factors that determine vulnerability such as adequate infrastructure and basic services, building greater social networks, finding alternative resources and livelihood options, gaining scientific awareness and knowledge about disaster and its management etc.

Ans. to Q. No. 3: Adaptation is a long term strategy and planning involving proactive measures to reduce vulnerability and enhance resilience. Coping strategies are short term response to disasters and focus on immediate crisis management during and after disasters.

Ans. to Q. No. 4: Community resilience minimises the damages and adverse impacts of disasters and allows people to quickly recover from it. Resilient communities overcome vulnerabilities and possess internal capacities for faster recovery.

Ans. to Q. No. 5: Community empowerment is essential in disaster preparedness because unless the community acquires greater abilities to deal with disasters and situations arising out of their occurrences disaster risk cannot be reduced effectively. Community empowerment, thus, focuses on reducing community vulnerabilities and building community resilience.

Ans. to Q. No. 6: Communities are the first responders in any type of disasters. Therefore, any disaster preparedness has to begin at the level of the community. Therefore, community based disaster risk management occupies a most significant place in overall of disaster risk reduction strategy.



2.10 MODEL QUESTIONS

Q1. What is vulnerability? What are the community vulnerabilities? How do the vulnerabilities affect disaster risk?

Q2. Briefly discuss the factors that can increase vulnerabilities in a community.

Q3. What is community perception towards disaster? What are significances of community perceptions in disaster management?

Q4. What are the distinctions between adaptation and coping strategies? How are they related to resilience?

Q5. Mention few examples of adaptation and coping strategy that you notice in your locality, district or state. DO you think that they have been helpful?

Q6. What is resilience? How a community can be disaster resilient? What are relevances of community resilience in disaster management?

Q7. How a community can be empowered towards resilience?

Q8. Briefly discuss the various approaches of community empowerment.

Q9. What is community based disaster risk management? What are the key features of community based disaster risk management? Why is this important?

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UNIT- 3: ROLE OF INFORMATION AND COMMUNICATION IN DISASTER MANAGEMENT

UNIT STRUCTURE

3.1 Learning Objectives

3.2 Introduction

3.3 Information, Education and Communication

3.4 Application of Information and Communication Technology in Disaster Management

3.5 Let Us Sum Up

3.6 Further Reading

3.7 Answers to Check Your Progress

3.8 Model Questions

3.1 LEARNING OBJECTIVES

After reading this unit, you will be able to-

- describe the role of information, education and communication in disaster management
- explain the applications of ICT in disaster management

3.2 INTRODUCTION

In our previous discussions, we explored community-based disaster preparedness and how local efforts can make a huge difference in times of crisis. In this unit we are going to study about the role of information and communication in disaster management. Knowing the information regarding

what to do, where to go and how to stay safe is vital during and after a disaster. We will also explore how educating people about disasters can lead to more resilient and prepared societies in this unit. Understanding the role of information, communication, and education in disaster management equips us with the knowledge and tools to respond effectively in emergencies, mitigate risks and reduce the impact of disasters. This unit will also deal with the various applications of Information and Communication Technology in disaster management.

3.3 INFORMATION, EDUCATION AND COMMUNICATION

Information, Education and Communication (IEC) are crucial for effective disaster preparedness, prevention and mitigation. These elements form the foundation of any disaster management programme. For IEC to be effective, it requires the cooperation and readiness of various entities, including administrative bodies, Non-Governmental Organizations (NGOs), Community-based Organizations (CBOs), other agencies and the community. These groups must be proactive and well-informed in carrying out their roles. Therefore, prioritizing IEC in disaster management programmes is essential to ensure coordinated and effective disaster response and recovery efforts.

The three components i.e., information, education and communication, have their own distinct significance, origin, perspective and focus area.

Information:

Preparing the community for disaster management through information involves sharing essential knowledge, including data, best practices and processes. Information provides the data needed to understand and respond to disasters. The transfer of information increases community awareness and realizing of potential risks. For the administration

and other agencies, this information is vital for effective planning and decision-making. For the community, it helps to know about the hazards such as floods, cyclones etc., and their causative mechanisms. Update and correct information also helps the community to develop internal coping mechanisms, enabling them to respond better to disasters and enhance their resilience.

Early Warning Systems allows to provide accurate and timely information about impending disasters like cyclones, tsunamis or earthquakes which can save lives by giving people time to evacuate or take other protective measures.

Information plays an important role in resource allocation during disasters. Information on damage assessment help to determine where resources like medical aid, food and shelter are most needed. Tracking of resources ensures that they are distributed efficiently. Historical data and real-time updates allow for proactive planning recovery and reconstruction process. In this way, information is vital in depicting the reality for the community and helps them realize the risks. It must be based on facts verified by competent authorities.

Education:

Disasters and emergencies have been increasing all over the world. Todays, with technological advancement, educating people is the only effective way for prevent disasters or reducing its effects. Education is a continuous process throughout the human life that attempts to modify the attitudes and behaviour of the people. Education informs about the causes of disasters, provides knowledge of the best alternatives and mitigation strategies. Community is the first respondent in any disaster situation. Usually, low-income communities are more susceptible to vulnerability. Although certain communities and individuals are inevitably vulnerable to natural and man-made disasters. They can contribute to mitigating these disasters by enhancing system resilience and disaster recovery capacity. Disaster education is important for vulnerable people to learn about disasters. There are different methods to educate vulnerable people. The ways of

imparting disaster education are dependent on the target groups. Trained people can better protect themselves and others. So, planning and designing comprehensive educational programmes are necessary for people to face disasters. While educating communities, their traditional practices and wisdom, existing knowledge in coping with such situation-must also be kept in mind, and integrated with the educational process. Disaster education should be a key part of both school and university curricula. The goal of education is to promote an informed, alert and self-confident community or individual who is equipped to face disasters.

Communication:

Communication has the ability to open the minds and potential of people. It involves the exchange of information between individuals or groups. It is essential in both educational contexts and emergency communication management. In disaster education, communication serves as a means of transferring knowledge to the community about disaster risks, preparedness and mitigation measures. It ensures that individuals are informed and equipped to handle potential disasters effectively. In communication process, information flows from individual to the community. During emergencies, this communication involves forecasting hazards and issuing clear, understandable warnings to the public about impending disasters.

Pre-disaster communication, such as early warnings to the community, helps people relocate to a safer location and lessen the impact of the disaster.

Once a disaster happens, communication provides key support for relief and as well as Search and Rescue (SAR) operations. Rescue teams must stay in touch with the base station and different agencies need to coordinate their efforts for better and more efficient coverage. An effective communication system helps rescue teams become aware of what assistance is needed and where it is required. This is also useful for reaching out to the affected community with relief materials such as food, medicines

and clothing. The rescue teams can also send back information to the base station regarding the extent and nature of additional assistance required, and the deficient areas.

Thus, IEC (Information, Education, and Communication) attempts to create and strengthen community awareness, which forms the foundation of modern disaster management. Disaster management cannot be effective without IEC activities.



CHECK YOUR PROGRESS

Q.1: . Why is Information, Education and Communication (IEC) important for disaster management?

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Q.2: What role does education play in disaster management?

.....

Q.3: How does communication support relief and Search and Rescue (SAR) operations during a disaster?

.....

3.4 APPLICATION OF INFORMATION AND COMMUNICATION TECHNOLOGY IN DISASTER MANAGEMENT

It is widely accepted that disasters, both natural and man-made, have been increasing in frequency and intensity around the world. These events cause significant loss of life, property and resources. However, in this digital age, Information and Communication Technology (ICT) has emerged as a powerful tool to enhance our ability to prepare for, respond to, and recover from disasters.

First, let us explore how ICT is used in pre-disaster stage. One of the most significant contributions of ICT is in early warning systems. Technologies such as satellites, remote sensing and Geographic

Information Systems (GIS) are used to monitor and predict disasters like cyclones, earthquakes, floods, drought etc. For example, satellite imagery can track the formation of a cyclone, providing valuable time for communities to evacuate and take necessary precautions. GIS helps in mapping high-risk areas and planning evacuation routes, making sure the community is better prepared for potential disasters.

In terms of disaster response, ICT plays a pivotal role in communication and coordination. During a disaster, effective communication is crucial for rescue and relief operations. Mobile networks, radio communication and internet services enable the rapid dissemination of information. Social media platforms and messaging apps have become essential tools for emergency communication. It allows authorities to share real-time updates and instructions with the public. Drones equipped with cameras and sensors are used to assess damage, locate survivors and deliver aid to inaccessible areas.

Moreover, ICT facilitates better coordination among various agencies involved in disaster management. Centralized command centres use advanced software to integrate data from different sources. For example, during the Nepal earthquake in 2015, the government used ICT tools to coordinate rescue efforts, allocate resources and manage relief distribution efficiently. During COVID-19 Pandemic (2020) Command centers around the world used software to integrate data from health reports, testing results, and hospital capacities to monitor the spread of the virus, coordinate public health responses and allocate resources.

In the post-disaster stage, ICT continues to play a vital role. Damage assessment is conducted using high-resolution satellite images and aerial surveys. It provides accurate data to plan reconstruction and recovery processes. ICT also supports the management of resources and logistics. It ensures that aid arrives in the affected areas quickly. Additionally, ICT helps in documenting the disaster impact, generating assessment reports

and capturing lessons learned. These are vital for improving future disaster management strategies.

Furthermore, ICT is instrumental in building resilient communities. Educational programmes and awareness campaigns about disaster preparedness and response are conducted using digital platforms. Mobile apps and online portals provide valuable information and training to the public, empowering them to take proactive measures. By leveraging ICT, we can foster a culture of preparedness and resilience, reducing the overall impact of disasters. As we continue to face the challenges posed by disasters, embracing and advancing ICT will be key to safeguarding lives and building a safer, more resilient world.



CHECK YOUR PROGRESS

Q.4: How does ICT contribute to early warning systems?

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Q.5: What was one of the uses of ICT during the Nepal earthquake in 2015?

.....

Q.6: What role does ICT play in the post-disaster stage?

.....



3.5 LET US SUM UP

- Information, education and communication, have their own distinct significance, origin, perspective and focus area.
- Early Warning Systems allows to provide accurate and timely information about impending disasters.

- Information plays an important role in resource allocation during disasters.
- Disaster education is important for vulnerable people to learn about disasters.
- communication serves as a means of transferring knowledge to the community about disaster risks, preparedness and mitigation measures.
- GIS helps in mapping high-risk areas and planning evacuation routes, making sure the community is better prepared for potential disasters.
- Centralized command centres use advanced software to integrate data from different sources.
- Technologies such as satellites, remote sensing and Geographic Information Systems (GIS) are used to monitor and predict disasters
- Damage assessment is conducted using high-resolution satellite images and aerial surveys.



3.6 FURTHER READING

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3.7 ANSWERS TO CHECK YOUR PROGRESS

Ans. to Q.No.1: Information, Education, and Communication is important for disaster preparedness, prevention and mitigation because it creates and strengthens community awareness, ensuring coordinated and effective disaster response and recovery efforts.

Ans. to Q. No. 2: Education informs about the causes of disasters, teaches mitigation strategies and promotes an informed, alert, and self-confident community equipped to face disaster situations.

Ans. to Q. No. 3: Communication helps rescue teams stay in touch with the base station, coordinate efforts with different agencies and become aware of what assistance is needed and where, ensuring efficient coverage and support.

Ans to Q. No. 4: ICT uses satellites, remote sensing, and GIS to monitor and predict disasters

Ans to Q. No.5: ICT was used to coordinate rescue efforts, allocate resources and manage relief distribution.

Ans. to Q. No. 6: ICT helps with damage assessment, resource management and documenting the disaster impact.

3.8 MODEL QUESTIONS

Q.1: Describe the importance of education in disaster preparedness and response

Q. 2. Discuss the challenges of implementing disaster education programs in vulnerable communities.

Q. 3. Discuss the role of ICT in disaster response and coordination.

Q. 4. Provide an example of a disaster and explain how specific technologies were used to manage it effectively.

Q. 5. Analyze the impact of ICT on the pre and post disaster phases.

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UNIT- 4: CAPACITY BUILDING IN DISASTER MANAGEMENT

UNIT STRUCTURE

4.1 Learning Objectives

4.2 Introduction

4.3 Training for Disaster Management

- 4.3.1 Class Room Training
- 4.3.2 Web-based Training
- 4.3.3 Field Training
- 4.3.4 Training for Specialized Equipment

4.4 Specialized Training for People with Disability

4.5 Let us Sum up

4.6 Further Reading

4.7 Answers to Check Your Progress

4.8 Model Questions

4.1 LEARNING OBJECTIVES

After going through this unit, you will be able to-

- Discuss the modes of training required for disaster management
- Explain the aspects of specialized training for people with disability

4.2 INTRODUCTION

In the previous unit we have discussed the role of Information and Communication Technology in disaster management. In this unit we shall

discuss various aspects related to capacity building in disaster management including the importance of various training modes in disaster management. Capacity-building implies developing and strengthening the skills, instincts, abilities, processes and resources that organizations and communities need to survive, adapt, and thrive in a fast-changing world. In disaster management, capacity building through training involves not only the service providers but the general public as well. If the public is not well aware, the mechanisms would not yield the desired results. Training is an essential component for capacity building of the disaster management personnel. Specialized training is required for people with disability. In this Unit, we shall discuss all these aspects.

4.3 TRAINING FOR DISASTER MANAGEMENT

There is a very close link between training and awareness. Training is important to improve performance in any field. For disaster management it may perhaps be considered more important because it has multiple challenges of preventing, mitigating and effectively responding to disasters. It requires knowledge, skill and right kind of attitudes and motivation. After attending a training programme, be it online or offline, the trainees should be able to take appropriate preparatory measures and strengthen the response mechanism. In disaster management, a wide range of stakeholders may be involved. They could be NGO volunteers, members of Self-Help-Groups, Anganwadi workers, Gram Sevaks and ASHA karmis, to name a few. Disaster preparedness training to the community can be seen as an extension of public education.

The disaster response personnel and the general public need to be provided with practical tools for disaster preparedness and mitigation. To that extent, awareness, sensitization, skills and right kind of attitudes are important. For example, in South India, NGOs are involved in disaster management training to recognize and act on cyclone warnings, build floating devices, rescue and treat the injured and get people safely into cyclone shelters. Such trainings are a part of Community Based Disaster

Preparedness Programme carried out by a network of local NGOs, Coastal Area Disaster Mitigation Efforts with support from Oxfam India. Imparting effective training requires participation of stakeholders across a spectrum. We need to develop capacity to promote a culture of safety. Then only, effective management of disasters will be possible. The approaches may vary depending on the nature of disasters. For example, training on disasters related with public health may have coverage on health promotion and protection, disease prevention, disease surveillance during an emergency. The trainees could be government officials from the health, public health, social welfare department or the NGO volunteers as they could be the immediate responders to disaster situations. Therefore, they should have immediate access to training and practical tools for undertaking response mechanism to an emergency or a disaster.

The training programmes could be organised based on the expected outcomes of the training. It may be imparted in class room situation. In today's ICT enabled environment, continuous training can be organised with online simulation and display of practical tools to handle emergencies. Moreover, as a supplement to face to face class room training we can have field training also in presence of instructor. Or even in the absence of a field instructor, we can develop modules so that the trainees can learn the tools and techniques on their own. In the next sections, we shall discuss various aspects related with different modes of training.

Training programmes can be organised at various levels with different modes, methods and objectives. It could be offline or online. They may be supplemented by field visits and demonstration of special equipment. An indicative outline is presented in the following Table.

Level of training and its modes and methods

Level	Training modes	Methods
Policy (for policy level functionaries to equip them with updated knowledge)	Both online and offline	Seminar, review workshop, exercises, case studies

Operational (for the response teams at execution level)	Both online and offline	Skills briefing specialist roles on disaster preparedness and mitigation
Community (for the members of the general public)	Mainly offline	Public awareness meetings and motivation to combat disasters as and when they happen

The Disaster Management Act, 2005 (Chapter VI, Clause 41) stipulates that local authorities train their officers and employees on disaster management. Chapter VII of the Act is on establishment of National Institute of Disaster Management (NIDM). The NIDM plays an important role in capacity development of disaster response personnel in India. The efforts in this direction that began with the formation of the National Centre for Disaster Management (NCDM) in 1995 gained impetus in its new avatar as the 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. The Institute provides face-to-face training, on-line and self-learning mode as well as satellite-based training. The 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. You must visit the website of NIDM(https://nidm.gov.in) to have detailed information on capacity building and training for disaster management.

After being aware of some aspects of training, let us see how training can be conceptualized through different modes like class room training, web based training and field visits.

4.3.1 Class Room Training

Duryog Nivaran, a network of individuals and organisations working in South Asia (https://duryognivaran.org/) set up in 1994 promotes alternative perspectives on disasters and vulnerability as a basis for disaster mitigation. They developed and presented case studies from Bangladesh, Pakistan and Sri Lanka focusing on women empowerment to handle crises. Training for relief workers is a focus area of the network. We know that Bangladesh as a country is flood prone. Frequent flooding in Bangladesh requires adequate tips for the public regarding preparation and storage of food items which should be a source of energy and nutrition. Through training, it is shown how a mixture of puffed rice and dry coconuts in appropriate packaging can serve the purpose as it is not perishable and gives sufficient energy. Moreover, tips are also provided to keep provisions of drinking water, minimum clothing and bedding, mosquitoes' repellents etc. Capsules on basic dos and don'ts, disaster mitigation and response, search and rescue techniques, taking care of livestock, fodder, valuables, cooking utensils etc. are also imparted through training.

Not only on preparedness, in service training may be organised for staff already working in disaster response services. They may include village level workers, Block Officers and supervisors, State Civil Service Officers, Constables, Sub Inspectors and other police officials. Emergency Operation Centres also known as Control Room is the main centre from where all disaster activities are coordinated. Those personnel also need training to improve functioning. They may be imparted training on important provisions of Disaster Management Act, roles and responsibilities of National Emergency Management Authority, State Disaster Management Authority etc.

Role play sessions and group discussion can be organised in class room training to impart skills on leadership and teamwork as these are essential components of disaster response. Information, education and communication can reach the community through a variety of means. It can be through educational programmes, media, preparation and

distribution of material such as brochures, pamphlets and posters that contain information about the disasters. In class room situations, all these aspects can be discussed to equip the participants with relevant knowledge and skills.

We may utilise the services of local disaster experienced officials. Training in educational institutions may cover the case examples of national disasters and how they were handled. We may discuss the role of NIDM, Incident Command System of Government of India which was developed with support from USAID (United States Agency for International Development).

Training programmes should be objectives oriented. The class room training sessions should also be utilised to sensitise and develop skills on emotional intelligence, interpersonal sensitivity etc. because facing a disaster requires lots of mental courage. The response personnel and the general public should be sensitised on this aspect as well.

4.3.2 Web-Based Training

Types of disasters are different and they require different coping mechanisms. Many aspects cannot be covered in class room situations. All these may not be relevant for all the participants. Here, we may make use of web based training. For different types of disasters, we may develop training materials and modules with adequate audio-visual aid. We may develop online modules on types of disasters with respect to specific content related with that disaster. This may not be that relevant for general public. However, disaster response personnel can be sensitised. Some examples are stated below.

i. **Cyclones:** Cyclones generally affect the coastal areas, weak houses, light weight structures, telecommunication, infrastructure. Hence, training on building codes, shelters etc. may be relevant.

ii. **Drought:** Training on water prevention, watershed management, alternate cropping, curbing deforestation and practicing afforestation, rainwater harvesting.

iii. **Floods:** Land use planning, construction of dams, dykes, embankments, dukes, reservoirs. diversion of flood water, maintenance of dams, drains and canals

iv. **Earthquakes:** Seismic building codes, retrofitting existing buildings, seismic zonation

Moreover, extensive uses of open educational resources can be made in online training modules. As we have discussed in the preceding sections, the website of NIDM is a very rich repository of online resources that can help us in disaster preparation and mitigation. Along with the NIDM website, the trainees may be asked to visit some other websites to educate themselves on the emerging trends in disaster management. In this regard, as a student of this programme on Disaster Management, you may personally visit the following weblinks, for example.

https://elearning.nidm.gov.in

https://nidm.gov.in/tarchives.asp

https://nidm.gov.in/NDMAPublication.asp

The trainees may be administered assignments and projects based on the web resources. That will make web based training quite thoughtful, meaningful and application oriented. Training in new technology can be especially effective via online medium.

The COVID-19 pandemic highlighted the significance of digital education. Extensive reliance on web-based training played a crucial role in informing the general public. Remember the Standard Operating Procedures (SOPs) and the emphasis on physical distancing? With traditional classrooms unavailable, the challenges posed by the pandemic were met through the effective use of online resources.

Rapid developments in space technology are facilitating disaster prediction and forecasting with the help of remote sensing. Once a disaster strikes, it is necessary to reach the disaster site without loss of time to

provide rescue and assess damage. Aerial photography, Geographical Information System (GIS) and Disaster Mapping are useful for this purpose. Use of aerial cameras, radars, scanners are key tools. The smartphones are quite useful. We need specialised training in communication and information skills for those actively engaged in disaster work.

4.3.3 Field Training

As we have discussed already, different types of disasters include earthquake, landslide, tsunami, volcanic eruption, tropical cyclone (typhoon, hurricane), flood, drought, wildfire, civil conflict, population displacements, epidemic, pandemic, industrial hazards. The nature, intensity, extent, scope varies and accordingly risks, predictability and manageability. Frequency, speed of onset, duration, elements of risk and vulnerability are other aspects. Pre and post disaster related aspects can be appreciated better with field visits as a part of capacity building and training. The trainees can be exposed to the realities and challenges in flood shelters, affected areas, high rise apartments or other dense populated areas.

Disaster mitigation focuses on minimising the destruction and disruption by a hazard and offers long term cost effective methods of dealing with or managing disasters. According to Carter (1991) there are two approaches to mitigation - Structural Approach and Non Structural Approach. It has been regarded that non-structural measures complemented by structural measures are effective means towards disaster mitigation. Structural approach for mitigation may refer to engineered structures and non-engineered structures. Engineered structures involve architects and engineers during the planning, designing and construction of structures, including buildings, dams, embankments, roads, bridges etc. Rules and specifications are to be framed by regulatory agencies in disaster prone areas. While doing so, different factors like wind velocity, rainfall, temperature, load bearing capacity etc. are to be

considered. Non engineered structures are generally constructed by people with the help of local artisans like masons, carpenters etc. using locally available technology, raw material and skills. These structures can be made safer if people are trained and given improved designs. These structures are normally of low cost but have less strength and resistance for a disaster. Non-structural approach also includes those measures that attempt to bring about coordination of efforts between all organisations and persons during all phases of disaster management, training and public awareness, legislation, policy making and preparation of action plans.

While organising field visits, the trainees need to be sensitised on all these aspects. Opportunities need to be created for the trainees to interact with community to gauge their preparedness, gap areas and involvement. The voice of communities, team work, leadership and interest articulation are quite important.

Field visits as a component of capacity building and training has the following advantages

i. It provides contemporary and relevant information about local environment
ii. It helps in understanding pre and post disaster activities of the affected vulnerable community on a wider scale
iii. It provides scope to explore use of technology to combat disaster
iv. It exposes to the dynamics of leadership and effective teamwork
v. It sensitizes on the role and challenges of organized bodies like Village Task Force, Disaster Task Force

4.3.4 Training for Specialized Equipment

While training firemen, military, para military, police personnel extensive use of equipment is made. Similar should be the case for disaster response personnel. We often read in newspapers and social media that

because of red alert and training provided to local communities, hundreds of lives could be saved in natural disasters occurring in coastal areas. Better training helps in effective management of shelters, relief and rescue operations. However, handling of specialized equipment requires special training. Special equipment includes

i. Earth moving equipment
ii. Mobile crane
iii. Mobile X Ray Unit
iv. Search light
v. Electric generator
vi. Mobile trauma care centres
vii. Capping kit for chlorine leak
viii. Water tankers and carriers
ix. Mobile Medical Units
x. Wireless system/walkie talkie sets
xi. Boats/ zodiac boats/inflammable boats/Fibre boat

India Disaster Research Network (IDRN) is a very useful tool as it provides necessary information about equipment, human resources, training and critical supplies, which are available at district level with the line departments and agencies. You may visit the following web links for an easy understanding of the functional aspects of its operations.

https://idrn.nidm.gov.in/ItemDetails

https://idrn.nidm.gov.in/pdf/Data_collection_format_for_Districts.pdf

IDRN is a web based platform, for managing the inventory of equipment, skilled human resources and critical supplies for emergency response. Primary focus of IDRN portal is to enable the decision makers to find answers on availability of equipment and human resources required to combat any emergency situation. This database will also enable them to assess the level of preparedness for specific disasters.

Any training should be objective based. There are different models for training evaluation. One globally accepted model is the Kirkpatrick

model which consists of 4 levels: Reaction, learning, behaviour and results. Training for specialized equipment should be result driven. At the end of the training, the trainees should be able to handle the equipment skilfully. Then only, they would be able to respond to the calls of disaster situations.



CHECK YOUR PROGRESS

Q.1: State two advantages of Field Visits as a component of capacity building and training

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4.4 SPECIALIZED TRAINING FOR PEOPLE WITH DISABILITY

Disasters impact every part of society, but some groups are more vulnerable than others. These sections may suffer more due to a lack of resources and capabilities to manage and recover from disasters. The vulnerable sections include women specially the pregnant, lactating mothers, children including new-born and infants, old and infirm people, physically challenged, mentally challenged, destitute, landless and poor. Disasters drastically affect lives through income loss, decreased purchasing power, malnutrition, illnesses, and various other crises. They can be particularly traumatic for children, instilling fears of injury, separation from family, loss of loved ones, and the dread of being alone. Another harsh reality is dislocation from homes or communities. These events can lead to psychological issues such as irritability, aggressiveness, anxiety, withdrawal, tension, frustration, and depression. The impacts of disasters are profound, affecting individuals both physically and mentally.

The UN Secretary General's Report on "Protecting the Vulnerable: Implementing the Millennium Declaration" presented in 2004 emphasised on the need to help the vulnerable categories of people. During the time of

a disaster there is likely to be a delay before external aid/assistance reaches the affected. Self-help is essential and that depends on preparedness of a community which has

i. An alert, informed and actively aware population
ii. A preparedness and response plan
iii. An active and involved local government
iv. Agreed, coordinated arrangements for response, preparation and mitigation including measures for identifying the vulnerable, training for food supply and nutrition, access to information
v. Ability to develop courage and resilience

High vulnerability to a wide array of disasters require a systematic planned and professional approach at all levels. As the needs of especially abled people are different, ways of handling those also have to be different. Response personnel must be sufficiently sensitive to these considerations.



CHECK YOUR PROGRESS

Q.2: Mention any four specialized equipment that requires special training to handle.

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4.5 LET US SUM UP

- Effective disaster preparedness and mitigation depend on building capacity.
- Training programmes can be organised at various levels with different modes, methods and objectives.

- The wealth of tips, tools, and techniques available on government websites can be extremely beneficial if used correctly.
- Simply accessing this information is not enough; it must be effectively utilized through organized training programs for response personnel and the community.
- Training can be conducted online or offline, but should be supplemented with field visits and specialized instruction on equipment and for individuals with disabilities.



4.6 FURTHER READING

1. I Sunder and T Sezhiyam; *Disaster Management;* Sarup & Sons, New Delhi 110002, 2007
2. SL Goel; *Disasyer Administration and Management- Text and Case Studies*, Deep & Deep Publications, New Delhi, 2007



4.7 ANSWERS TO CHECK YOUR PROGRESS

Q. No. 1: Field visits as a component of capacity building and training has several advantages. Two of them can be stated as follows

i. It provides contemporary and relevant information about local environment

ii. It helps in understanding pre and post disaster activities of the affected vulnerable community on a wider scale

Q. No. 2: Specialized equipment requires special training to handle. Four such special equipment are as follows

i. Earth moving equipment

ii. Mobile crane

iii. Mobile X Ray Unit

iv. Capping kit for chlorine leak



4.8 MODEL QUESTIONS

Q.1: Discuss the role of training as an intervention for capacity building to face disasters.

Q.2: Explain how can class room training be helpful to develop knowledge, skill and attitudes of disaster response personnel.

Q.3: What factors should be considered while organising web based training on disaster management? Explain.

Q.4: As an organiser of a training programme on disaster management, what are the aspects that you will consider while organising a field visit of the participants? Justify your answer.

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UNIT- 5: AWARENESS CAMPAIGNS

UNIT STRUCTURE

5.1 Learning Objectives

5.2 Introduction

5.3 Importance of Awareness

5.3.1 Purposes of awareness

5.4. Ways and Means of Campaigning

5.4.1 Ways and Means

5.4.2 Best Practices

5.5 Let us Sum up

5.6 Further Reading

5.7 Answers to Check Your Progress

5.8 Model Questions

5.1 LEARNING OBJECTIVES

After going through this unit, you will be able to-

- Define awareness campaign
- highlight the importance of awareness
- describe the purposes of campaign
- explain the various ways and means of campaigning

5.2 INTRODUCTION

In the previous unit we have discussed capacity building in disaster management. In this unit we are going to discuss the importance of awareness in disaster management. This unit will also provide the various ways and means of campaigning in disaster management.

A disaster is an abrupt, catastrophic event that causes significant harm, loss, destruction, and devastation to people and property. The consequences of disaster often lack precise measurements and it influences the mental, socioeconomic, political, cultural and mental states of the affected areas. The main purpose of awareness campaign is to create awareness on prevention, mitigation, preparedness and management of disasters. In general, awareness campaign is the process of informing and educating people about a problem. They aim to inform people about a problem so that, over time, they may adjust or modify their behaviour or attitude towards a specific objective.

India's geology is susceptible to multiple disasters. Creating awareness is a formidable task when engaging with individuals from diverse linguistic, cultural, and literacy backgrounds. Nevertheless, raising awareness is crucial for enhancing their ability to cope with various natural and human-induced hazards and for preventing these hazards from escalating into disasters.

5.3 IMPORTANCE OF AWARENESS

The frequency, complexity, scale, and economic effect of disasters are all thought to be rising, and they still seem to strike without notice. People are at risk from hazards, which can have major consequences in under developed countries with dense population. Awareness campaign can be an essential instrument for equipping communities to respond to and recover from a variety of disasters. Awareness is essential to alert people, inform and educate about disasters and disaster risks. While it is not possible to prevent disasters, it is possible to build resilience and preparedness to effectively manage and mitigate the associated risks. Most people are unfamiliar with disaster management practices, therefore it is very important to indulge in disaster preparedness through various disaster awareness campaign strategies.

You may have heard about various awareness strategies implemented by the government to reduce the risk of disasters, such as the Uttarakhand flood and Cyclone Phailin. Awareness plays a crucial role in fostering public participation. According to Sayers (2006), the primary purpose of raising awareness about something-whether positive, negative, or neutral-is to enhance its visibility and credibility within a community.

To preserve natural and cultural environments and promote sustainable development, public awareness campaigns seek to enhance people's knowledge, understanding, and capacity to act accordingly.

5.3.1. Purpose of awareness campaigns

The main purpose of awareness campaign are:

- Disseminate Information to public about different types of disasters, their causes, potential impacts, and how to prepare for and respond to them.
- Encourage practices that may reduce the risk of disaster.
- Encourage people, families, groups, and communities to create communication networks, emergency plans, and kits.
- Motivate people to be aware of their surroundings, take personal responsibility for their safety, and follow government instructions such as evacuation orders during emergencies.
- Promote resilience-building strategies and sustainable development practices that improve communities' long-term capacity to sustain and recover from disasters



CHECK YOUR PROGRESS

Q.1: : Why is Awareness important

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5.4 WAYS AND MEANS OF CAMPAIGNING

Disaster awareness campaigns play a critical role in enhancing community resilience and reducing the risks associated with natural and human-induced hazards. These campaigns employ various strategies, such as community workshops, school education programs, public service announcements, and distribution of educational materials, to disseminate vital information and practical skills. The importance of such initiatives is underscored by their ability to save lives and mitigate economic losses by fostering a culture of preparedness and informed response within communities (IFRC, 2011; Aronsson-Storrier, 2020). Effective awareness campaigns ensure that individuals are better equipped to act swiftly and appropriately in the face of disasters, thereby minimizing the adverse impacts on health, well-being, and livelihoods.

5.4.1. Various Ways and Means

As it has been discussed above about the risks associated with disaster and how does awareness campaign play a pivotal role to make people ready to face any disasters. Now, the question is, how this awareness can be created? There are many effective ways and means of creating awareness which are discussed below

a. **Educational and Training:** Disaster preparedness through education is very effective. Disaster education is helpful for the people of the society at all level, however it is important to educate the vulnerable people like children, pregnant women aged people, people with disability for disaster risk reduction by the help of trained people. Inclusion of disaster preparedness strategies to the school curriculum is helpful for improving the preparedness and resilience among children and families. I f we see the data (Statista, 2022) there are more than 1.4 million schools and around 200 million school student in India. Therefore, it is very high time to educate our future

generation through various awareness training/ campaign at a very early stage to combat future disaster.

Not only at the school level but also inclusion of higher educational institutions including ODL mode institutions can play a key role in generation of knowledge in the area of disaster, creation of awareness and impart training to the various strata of the society.

b. **Media for generating awareness:** Mass media, Social media are more easy ways of transferring knowledge and information to huge numbers of people. In mass media, we can cite some example of certain television shows like "Save the Tiger" campaign of NDTV, other documentaries, radio programmes etc. In recent years, social media is most cost effective way of disseminating information beyond geographical boundaries. Social media platforms like Facebook, twitters, WhatsApp, Instagram can be strategically used for generating awareness.

c. **Public Event and Activities:** Conduct public awareness campaigns through street plays, exhibitions, rallies, and community events to raise consciousness and foster a culture of preparedness. Film, documentaries, street plays, road shows, slogan competitions are some examples of creating awareness among public and community

d. **Community Outreach Programme:** The community's role in disaster recovery has received more attention in recent years, with a focus on the significance of local knowledge, action, participation, and control in defining the type of disaster response. Community Based Disaster Reduction (CBDR) should follow participatory approaches ensuring involvement of local communities as much as possible The local people should be considered as proactive and not passive target for intervention. Building community leadership and a chain of trained community cadres through participatory approaches can help harness the resilience and resourcefulness of the community to cope. Through certain

community outreach programme it is possible to make the community ready (Community readiness) for any disaster. Community readiness measures include establishing a community grain and fodder bank, maintaining a community kitchen, establishing an emergency community shelter.

e. **Collaboration with Stakeholders:** Government agencies, local NGOs, volunteer groups, and community-based organizations can take proactive role in creating awareness and preparedness for any disaster.

f. **Early Warning System and Mobile App:** Promote awareness about the importance of early warning systems and how to access them. Conduct drills and simulations to familiarize communities with response protocols upon receiving alerts.

Activity I

Prepare a list of some community level awareness campaign/ program conducted for disaster preparedness in Assam

5.4.2 Best practices of Disaster Risk Reduction through Awareness in India and Assam

There are many best practices for disaster preparedness initiated by the Government in collaboration with other stakeholders for disaster reduction. A few of them are mentioned as follows:

Flood Early Warning System (FIEWS) Assam:

It is a project started in the year 2009 in Lakhimpur district after a devastating flash flood and extended to other districts of Assam later on. Through this advanced mechanism, people of flood prone areas can be

informed earlier, and also prepare rescue teams to evacuate people to safer place.

Early Warning System and SATARK in Odisha:

Cyclone Fani, a Category 4 storm that made landfall in May 2019, was one of the deadliest due to its high wind speed of 180 km/h. However, despite wind speeds comparable to the Super Cyclone of 1999, the death toll was significantly lower. Before Fani made landfall in Odisha on May 3, 2019, almost 1.5 million people were evacuated to a place of safety in less than a day (Govt. of Odisha, 2019). The early warning system, coordinated communication, and an integrated approach at all administrative levels made this massive rescue operation successful. System for Accessing, Tracking and Alerting Disater Risk information Based on Dynamic Risk Knowledge (SATARK) is web and mobile based application that uses machine Learning Algorithm and provided actionable advisories in both English and local language of Odisha.

Chetna Initiative Bihar:

As we know, Bihar is particularly prone to natural disasters such as floods and droughts. To enhance community participation in preparedness and mitigation efforts and to raise awareness of the adverse effects of various disasters, an event named Chetna-2006 was held in Patna. This fair also provided a platform for public and private sector stakeholders to come together and collaborate.

Activity 2

Prepare a note on " Jono Jagaran" Campaign initiative by Assam Government Assam



CHECK YOUR PROGRESS

Q.2: Write the Purposes of Awareness Campaign

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Q.3: What does FLEWS stands for?

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5.5 LET US SUM UP

- Disasters have significant and far-reaching impacts on various aspects of life and society.
- Awareness campaigns play a crucial role in equipping communities to respond to and recover from disasters effectively.
- The main purpose of awareness is to disseminate information about different types of disasters, their causes and potential impacts, encourage practices that reduce the risk of disasters.
- Awareness campaigns can be done through various means.
- Educational training and workshop, mass and social media use, community outreach programmes, events like rally, road shows, documentaries are some of the examples of awareness campaigns.



5.6 FURTHER READINGS

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2. Brennan, M., Phillips, R., Hales, B., & Walzer, N. (eds). *Community Development in Times of Crisis: Creating Caring Communities*. Routledge: New York (2022).

3. Jena, Pratap & Kishore, Jugal. *THE FANI: A CASE STUDY OF ODISHA DISASTER MANAGEMENT.* International Federation of Red Cross and Red Crescent Societies. Public awareness and public education for disaster risk reduction: a guide. International Federation of Red Cross and Red Crescent Societies, 2011. (2021).

4. Department of Administrative reforms and Public Grievances, Ministry of Personnel, Public Grievances and Pension Government of India ***Report on Flood Early Warning System (FLEWS)***

5. Assam State Disaster Management Authority and Doctors for you: *Training Handbook on Community Based Disaster Preparedness* (2013)**.** .



5.7 ANSWERS TO CHECK YOUR PROGRESS

Ans. to Q.No.1: Awareness campaign can be an essential instrument for equipping communities to respond to and recover from a variety of disasters. The awareness is essential to make the people alert, informed and educate them about disaster and risk associated with the disaster.

Answer to Q.N. 2

- Disseminate Information to public about different types of disasters, their causes, potential impacts, and how to prepare for and respond to them.
- Encourage certain practices that may reduce the risk of disaster.
- Encourage people, families, groups, and communities to create communication networks, emergency plans, and kits.

- Motivate people to be aware of their surroundings, take personal responsibility for their safety, and follow government instructions such as evacuation orders during emergencies
- Promote resilience-building strategies and sustainable development practices that improve communities' long-term capacity to sustain and recover from disasters.

Answer to Q.N. 3. Flood Early Warning System



5.8 MODEL QUESTIONS

Q. No. 1. What is Awareness Campaign? Briefly Discuss the importance of Awareness Campaign for Disaster Management.

Q. No.2: Discuss different ways and means of Awareness Campaign with special focus on North East India.

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