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Creating Awareness for Minimizing Disaster Casualties

Abstract

Disaster prevention activities are designed to provide permanent protection from disasters. Disaster-whether natural or manmade can create havoc at the affected site. Not all disasters, particularly natural disasters, can be prevented, but the risk of loss of life and injury can be mitigated with good evacuation plans, environmental planning and design standards. Rescue operations, if not managed well, can increase the casualties. Thus, it is important to create awareness among people about the likely situations which can help managing it effectively. Lack of awareness often creates confusion and chaos; rumours add to the complexity of the situation. Thus, in order to minimize these, specialized agencies for disaster management like National Disaster Management Authority (NDMA), who have adequate scientific training and expertise can organize live demonstrations of different situations that arise during a disaster and mock rescue operations through various reachable media directed to the common man and other stakeholders. It is worth noting that a few non-profit organizations like GeoHazards Society (GHS) are working towards making the country's most vulnerable communities safer from natural and other hazards, through preparedness and mitigation. Congruently, disaster preparedness activities are to be designed and planned to minimize loss of life and damage by removing people and property from a threatened location and by facilitating timely and effective rescue, relief and rehabilitation in the affected area. Preparedness is the main way of reducing the impact of disasters. However, in a well-diversified country like India, it is apt to adopt society/community-based preparedness and management for the kind of possible disasters with priority in physical therapy practice management. The present paper focuses on the needs of creating awareness/warning system for the citizens about the impending danger. This research paper is based purely on content analysis constructed on secondary data. The paper highlights on creating awareness for a disaster-resilient future.

Keywords: Awareness, Disaster casualties, Disaster preparedness, Disaster resilient.

Introduction

India has been vulnerable, in varying degrees, to a large number of natural as well as human-made disasters on account of its unique geo-climatic and socio-economic conditions. It is highly vulnerable to floods, droughts, cyclones, earthquakes, landslides, avalanches and forest fires. Out of 35 states and union territories in the country, 27 are disaster prone. Almost 58.6% of the landmass is prone to earthquakes of moderate to very-high intensity; over 40 million hectares (12% of land) are prone to floods and river erosion; of the 7516 km long coastline, close to 5700 km is prone to cyclones and tsunamis; 68% of the cultivable area is vulnerable to drought and hilly areas are at risk from landslides and avalanches.

India is one of the ten most disaster-prone countries of the world. The country is prone to disasters due to a number of factors; both natural and human induced, including adverse geoclimatic conditions, topographic features, environmental degradation, population growth, urbanization, industrialization, non-scientific development practices, etc. The factors, accelerating the intensity and frequency of

disasters are responsible for heavy toll of human lives and disrupting the life support system in the country. As far as the vulnerability to disaster is concerned, the five distinctive regions of the country, i.e., Himalayan region, the alluvial plains, the hilly part of the peninsula, and the coastal zone have their own specific problems. While on one hand the Himalayan region is prone to disasters like earthquakes and landslides, the plain is affected by floods almost every year. The desert part of the country is affected by droughts and famine while the coastal zone is susceptible to cyclones and storms.

A safer, disaster-resilient India with self-reliant prepared communities, whose development will not be affected by disastrous events, must be implemented. Government, semi-government, private sector, NGOs and society as a whole should work towards making the country's most vulnerable communities safer from geological, climate-related and other hazards, through preparedness and mitigation. Disaster relief is a coordinated multi-agency response to reduce the impact of a disaster and its long-term results. Relief activities include rescue, relocation, providing food and water, preventing disease and disability, repairing vital services such as telecommunications and transport, providing temporary shelter and emergency healthcare. Disaster risks in India are further compounded by increasing vulnerabilities. These include the ever-growing population, the vast disparities in income, rapid urbanization, increasing industrialization, development within high-risk zones, environmental degradation, climate change, etc.

Types of Disasters

There are generally two types of disasters:

a) Natural disasters are drought, floods, cyclones, heat wave, cold wave and fog, earthquakes, landslides, tsunami, etc.
b) Man-made disasters are industrial and chemical disaster, stampede, road accidents, rail accidents, air accidents, mine disasters, epidemics, etc.

Objectives

The aim of the disaster management planning is to ensure that the following components in respect to disaster are addressed to facilitate planning, preparedness, operational, coordination and community participation. The objectives guiding the policy formulation are:

- Promoting a culture of prevention and preparedness by ensuring that disaster management receives the highest priority at all levels
- Ensuring that community is the most important stakeholder in the disaster management process
- Encouraging mitigation measures based on state-of-the-art technology and environmental sustainability
- Mainstreaming disaster management concerns into the developmental planning process
- Putting in place a rationalized and institutional techno-legal framework for the creation of an assisting regulatory environment and a compliance system
- Developing contemporary forecasting and early warning systems backed by responsive and fail-safe communications and information technology (IT) support
- Promoting a productive partnership with the media to create awareness and contributing towards capacity development
- Ensuring efficient response and relief with a caring approach towards the needs of the vulnerable sections of the society
- Undertaking reconstruction as an opportunity to build disaster-resilient structures and habitat
- Undertaking recovery to bring back the community to a better and safer level than the pre-disaster stage

Disaster Mitigation, Prevention and Preparedness

Mitigation is permanent reduction of the risk of a disaster. Primary mitigation refers to reducing the resistance of the hazard and reducing vulnerability. Secondary mitigation refers to reducing the effects of the hazard (preparedness). Mitigation includes recognizing that disasters will occur; attempts are made to reduce the harmful effects of a disaster, and to limit their impact on human suffering and economic assets.

Prevention is defined as those activities taken to prevent a natural phenomenon or potential hazard from having harmful effects on either people or economic assets. Delayed actions drain the economy and the resources for emergency response within a region. For developing nations, prevention is perhaps the most critical components in managing disasters, however, it is clearly one of the most difficult to promote. Prevention planning is based on two issues: hazard identification (identifying the actual threats facing a community) and vulnerability assessment (evaluating the risk and capacity of a community to handle the consequences of the disaster). Once these issues put in order of priority, emergency managers can determine the appropriate

prevention strategies. Disaster prevention refers to measures taken to eliminate the root causes that make people vulnerable to disaster

Preparedness is the measures that ensure the organized mobilization of personnel, funds, equipment, and supplies within a safe environment for effective relief. Disaster preparedness is building up of capacities before a disaster situation prevails in order to reduce impacts. Its measures include availability of food reserve, emergency reserve fund, seed reserve, health facilities, warning systems, logistical infrastructure, relief manual, and shelves of projects.

Mainstreaming of Disaster Risk Reduction in Developmental Strategy

Prevention and mitigation contribute to lasting improvement in safety and should be integrated in the disaster management. The Government of India has adopted mitigation and prevention as essential components of their development strategy. Accordingly, the Tenth Five Year Plan document has a detailed chapter on disaster management. The plan emphasizes the fact that development cannot be sustainable without mitigation being built into the developmental process. Mainstreaming DRR involves incorporating disaster risk reduction into development policy and practice. It means radically expanding and enhancing disaster risk reduction so that it becomes normal practice, fully institutionalized within an agency's relief and development agenda. Mainstreaming has three purposes:

(a) To make certain that all the development programs and projects that originate from or are funded by an agency, are designed with evident consideration for potential disaster risks and to resist hazard impact
(b) To make certain that all the development programs and projects that originate from or are funded by an agency, do not inadvertently increase vulnerability to disaster in all sectors: social, physical, economic and environment
(c) To make certain that all the disaster relief and rehabilitation programs and projects that originate from or are funded by an agency are designed to contribute to developmental aims and to reduce future disaster risk

Mainstreaming DRR into developmental plans is an important mandate of the Disaster Management Act 2005. Integration of disaster risk reduction measures into ongoing flagship programs of Government of India is being used as an entry point for mainstreaming DRR in development plans. Steps for ensuring the incorporation of DRR into various ongoing programs/plans are as follows:

a) Identification of key program/project of Government of India
b) Identification of entry points within the program for integration of DRR (structural, nonstructural and other mitigation measures) at various levels, viz., national, state and district levels
c) Close coordination with concerned departments such as State Planning Commission and finance department for promoting DRR measures into development plans and policies
d) Advocacy for allocation of dedicated budget for DRR within the departmental plans
e) Preparation of guidelines for integration of disaster risk reduction measures into development plans of various departments at the district and sub-district levels

Institutional Setup for Mitigation of Disasters

The different institutional setups for mitigation of disasters are:

- National Disaster Management Authority (NDMA)
- National Executive Committee (NEC)
- National Institute of Disaster Management (NIDM)
- National Disaster Response Force (NDRF)
- State Disaster Management Authority (SDMA)
- State Executive Committee (SEC)
- District Disaster Management Authority (DDMA)

Measures Taken for Prevention and Mitigation of Hazards

Risk of destruction and casualties associated with different disasters can be substantially reduced by introduction of prevention and mitigation measures. Mitigation is generally categorized into two main types of activities, i.e., structural and non-structural. Structural mitigation refers to any physical construction to reduce or avoid possible impacts of hazards, which include engineering measures and construction of hazard-resistant protective structures and infrastructure. Nonstructural mitigation refers to policies, awareness, knowledge development, public commitment, and methods and operating practices, including participatory mechanisms and the provision of information, which can reduce risk with related impacts. The Government of India has adopted several mitigation measures for reducing the risk of being affected by disasters. These measures are being implemented by the concerned ministries. Media plays a significant role

in educating the population about disasters and its management. Without media, we could not make people aware about disaster in remote areas of the country.

Casualties of Disaster

The main causes of casualties are the physical exposure to flash flood, the harsh weather conditions, i.e., continuous rainfall, biting cold, and timely non-availability (of food, portable water, shelter, warm clothes, etc.) were also responsible for the grim distress of the people. There was extensive damage to housing, both in urban and rural areas, because settlements were mostly concentrated along the rivers. Damage to public buildings resulted in severe disruption of basic services such as food, shelter, health, education, women and child care, etc.

Mass Casualties Treatment

Following natural disasters, hospital capacity may be considerably reduced by actual damage to the facility or, in the case of a seismic event, an often unnecessary-but hard to reverse-evacuation. It is required to treat those patients who need first and fast treatment rather than the terminally injured or those whose care can be delayed. Lifesaving primary care takes place in the first six hours (the golden rule of emergency medicine). Effectiveness of immediate care will depend on local preparedness before the disaster, not on faraway resources.

Strengthened Surveillance, Prevention, and Control of Communicable Diseases

Because the surveillance, prevention, and control of communicable diseases are strengthened, the anticipated massive outbreaks generally do not actually occur.

Environmental Health

Typical interventions in the aftermath of disasters include strengthening the monitoring and surveillance of water quality, vector control, excreta disposal, solid waste management, health education, and food safety. The first priority is water supply. It is often preferable to have a large quantity of reasonably potable water than a smaller amount of high-quality water. Massive distribution of water purification disinfectants can be effective if the public is already familiar with their use and is not confused by availability of many different brands and concentrations of donated chemicals.

Health education and hygiene-promotion efforts target populations in shelters, temporary camps, collective kitchens, or prepared food distribution centers.

The cost-effectiveness of the external relief effort could often be increased by shifting resources from the over attended medical response to the improvement of environmental health in temporary settlements.

Transparent Management of Donations and Supplies

If donations and supplies are managed transparently during the emergency, the flow of assistance to the intended beneficiaries will be improved.

Unsolicited and often inappropriate medical donations compete with valuable relief supplies for scarce logistical resources. Good governance is critical, and effective logistics cannot be improvised following a disaster.

Coordination of Humanitarian Health Effort

Coordination of the humanitarian health effort is essential to maximize the benefit of the response effort and ensure its compatibility with the public health development priorities of the affected country. Effective coordination in the health sector must do the following:

- Be comprehensive and include all external health actors
- Be based on mutual respect rather than regulatory authority alone. Dialogue and consultation are more effective than enforcement
- Benefit all parties, starting with the victims. It should aim to support and facilitate the activities of other partners
- Be evidence-based and transparent; information made to be shared and used, not jealously guarded

Coordination cannot be improvised in the aftermath of a disaster. Preparedness before the occurrence of the hazard is essential.

National Plan for Disaster Management

An institutional mechanism for preparation of the National Plan has been put in place, which is in three parts, namely:

(i) National Response Plan
(ii) National Mitigation Plan
(iii) National Capacity Building Plan

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Tips for Precaution

- To work towards reducing death and suffering-particularly among children-due to natural hazards in the most vulnerable communities through preparedness and mitigation
- To reduce disaster losses by helping vulnerable communities recognize their risk and the methods to manage it
- To identify and promote strategies, potential practices and programs that support comprehensive school safety
- To educate communities and organize various kinds of awareness raising and training programs regarding natural hazards and possible preparedness measures
- To promote disaster safety in communities by developing awareness generation materials
- To assist in building a safer and disaster resilient India by partnering with the government in developing holistic, pro-active, multi-disaster and technology-driven strategies for disaster risk reduction through collective efforts of all government agencies and non-governmental organizations

Community Based Disaster Management Plan

In community-based disaster management during any disaster, communities are always the first responders. Community participation ensures local ownership, addresses local needs, and promotes volunteerism and mutual help to prevent and minimize damage. Therefore, states should make all efforts to assist communities in understanding their vulnerabilities and the lead role that they can play in managing risks with less dependence on external entities, through robust campaigns. Also arrangements for community-based disaster preparedness should form the basis for preparation of plans.

Once emergency needs have been met and the initial crisis is over, the people affected and the communities that support them are still vulnerable. Recovery activities include rebuilding infrastructure, healthcare and rehabilitation needs proper attention. These should blend with development activities, such as building human resources for health and developing policies and practices to avoid similar situations in future. Disaster management is linked with sustainable development, particularly in relation to vulnerable people such as those with disabilities, elderly people, children and other marginalized groups.

There has been an exponential increase in human and material losses from disasters the past few decades despite advanced human interventions, but there is no clear evidence that the frequency of extreme hazard events has increased. This has contributed to a re-thinking of disaster management theory and practice. Not too long ago, disasters were viewed as isolated events and were responded to by governments and relief agencies without taking into account the social and economic causes and implications of these events. Disasters were considered as emergencies and they were the responsibility of the fire brigade, rescue workers and hospitals. However, if we take a different perspective and look at the range of factors and processes that led to the occurrence of disasters, the priority shifts to reducing people's vulnerability and managing the risks, which can lead to disasters. From this perspective, the rise in disasters and their consequences is a result of a rise in people's vulnerability, induced by human-determined paths of development. Consequently, there has been a paradigm shift from a traditional relief and disaster preparedness focus where communities are considered "victims" and "beneficiaries" of assistance from outside experts, towards a more holistic and longer-term approach, which incorporates vulnerability reduction and risk management concerns as part of the development planning process. This comprehensive approach recognizes that the complex relationships and structures of society determine why certain groups of people are more vulnerable to disasters. One of the central elements of this paradigm shift has been the growing realization that disaster reduction is most effective at the community level where specific local needs are met.

Disaster reduction using top-down government and institutional interventions alone are often insufficient because they tend to pay little attention to addressing community dynamics, perceptions and needs, ignoring the potential of local resources and capacities, which may, in some cases, even increase people's vulnerability. Moreover, local communities are often either unaware of these formal disaster reduction interventions or they find them inappropriate due to lack of recognition of their vulnerabilities and capacities. A broad consensus is emerging in favor of community-based disaster approaches because it is at the community level that physical, social and economic risks can be adequately assessed and managed. This new approach emphasizes activities that strengthen communities' capacities to cope with hazards, and more broadly, to improve their livelihood security. In this way,

disaster risk reduction is integrated with sustainable economic and social development.

Conclusion

The prime objective of a developing country is to develop. Emergencies and disasters have proven to be major obstacles and setbacks in the path toward sustainable development. Conversely, the shortcomings in development programs and institutions reduce the effectiveness of the health response in times of crisis. Development and disaster risk management cannot be addressed separately. Reducing risk is not a luxury reserved for more developed societies; it is a necessity in countries with fragile economies and health systems. It is clearly a public health priority.

Effective planning and focus on prevention and mitigation would greatly help in ensuring that the hazards do not transform itself into disasters and the coping capacities of the vulnerable population is greatly increased. This would again need systematic planning and coordination to ensure that the Disaster Risk Reduction is constantly promoted and mainstreamed in the regular programs of each department. The preparedness and response phase in the disaster management cycle are critical in reducing the impact of disasters. The involvement of multi-various stakeholders, therefore, need to ensure efficient inter-departmental coordination and need to constantly review and improve the systems in place. It has to be kept in mind to ensure that the focus on these two areas help in bringing a tangible improvement in handling disasters.

From the above paper, it will be difficult to say that the developing nations are far behind the lag. We have to adapt the new strategies and policies so that we can face the problems more confidently and positively. Natural disaster is a threat which cannot be prevented, but measures can be taken to do away with or reduce the possibility of its impact on the society, economy and environment. Loss of lives cannot be recovered but apart from these human losses other losses can be secured. Thus, as regards management of natural disasters, at most levels, focus of the Government machinery in India has been on rescue and relief operations only, while in case of Japan it is beyond that. In India, the government machinery lacks proper training in disaster management and it is poorly equipped to undertake natural disasters through effective mitigation and preparedness measures. While the fundamental aspects of managing with natural disasters, like, disaster mitigation and preparedness, have always been ignored, even the post-disaster response of the state through rescue, relief and rehabilitation measures have been found insufficient most of the time. Recently, activities related to disaster management at the planning and policy-making level in the country have expanded considerably. Merely donating money, clothes, food, etc., is not the only thing to be done, but it is beyond that. We cannot fight with disasters until and unless we find the difference between 'empathy' and 'sympathy'. One should have empathy in order to help the nation to recover at the earliest and create a disaster-resilient future.

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