

# Disaster Management

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All cities are in one way or another vulnerable to some form of disaster. In particular, cities that are located in seismically active regions are vulnerable to earthquakes and volcanoes, while others are vulnerable to hurricanes, typhoons, floods, or tsunamis. Therefore, emergency and disaster management, which consist both of pre-emergency and post-emergency measures, are the important components of maintaining safety and security of the people.

## What is Disaster?

This is a serious disruption of the functioning of a community or a society. Disasters involve widespread human, material, economic or environmental impacts, which exceed the ability of the affected community or society to cope with them using their own resources.

## Types of disasters:

There is no country that is immune from disaster, though vulnerability to disaster varies. There are four main types of disaster.

- **Natural disasters:** including floods, hurricanes, earthquakes and volcano eruptions that have immediate impacts on human health and secondary impacts causing further death and suffering from floods, landslides, fires, tsunamis etc.
- **Environmental emergencies:** including technological or industrial accidents, usually involving the production, use or transportation of hazardous material, and occur where these materials are produced, used or transported, and forest fires caused by humans.
- **Complex emergencies:** involving a break-down of authority, looting and attacks on strategic installations, including conflict situations and war.
- **Pandemic emergencies:** involving a sudden onset of contagious disease that affects health, disrupts services and businesses, brings economic and social costs.

Any disaster can interrupt essential services, such as health care, electricity, water, sewage/garbage removal, transportation and communications. The interruption can seriously affect the health, social and economic networks of local communities and countries. Disasters have a major and long-lasting impact on people long after the immediate effect has been mitigated. Poorly planned relief activities can have a significant negative impact not only on the disaster victims but also on donors and relief agencies. So it is important that physical therapists should also join and establish programs rather

than attempting individual efforts.<sup>1</sup>

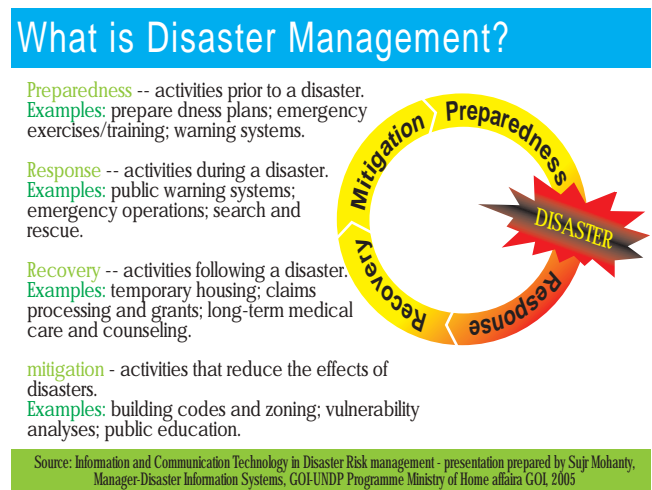
## Principles of disaster management:

In 2007, Dr. Wayne Blanchard of FEMA's Emergency Management Higher Education Project, at the direction of Dr. Cortez Lawrence, Superintendent of FEMA's Emergency Management Institute, convened a working group of emergency management practitioners and academics to consider principles of emergency management. This was the first time the principles of the discipline were to be codified. The group agreed on eight principles that will be used to guide the development of a doctrine of emergency management. Below is a summary:

1. Comprehensive – consider and take into account all hazards, all phases, all stakeholders and all impacts relevant to disasters.
2. Progressive – anticipate future disasters and take preventive and preparatory measures to build disaster-resistant and disaster-resilient communities.
3. Risk-driven – use sound risk management principles (hazard identification, risk analysis, and impact analysis) in assigning priorities and resources.
4. Integrated – ensure unity of effort among all levels of government and all elements of a community.
5. Collaborative – create and sustain broad and sincere relationships among individuals and organizations to encourage trust, advocate a team atmosphere, build consensus, and facilitate communication.
6. Coordinated – synchronize the activities of all relevant stakeholders to achieve a common purpose.
7. Flexible – use creative and innovative approaches in solving disaster challenges.
8. Professional – value a science and knowledge-based approach; based on education, training, experience, ethical practice, public stewardship and continuous improvement.<sup>2</sup>

Disaster management comprises of (Figure 1) following main steps:

Figure: 1



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**Disaster prevention:** These are activities designed to provide permanent protection from disasters. 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. In January 2005, 168 Governments adopted a 10-year global plan for natural disaster risk reduction. It offers guiding principles, priorities for action, and practical means for achieving disaster resilience for vulnerable communities.

**Disaster preparedness:** These activities are designed to minimize loss of life and damage – for example by removing people and property from a threatened location and by facilitating timely and effective rescue, relief and rehabilitation. Preparedness is the main way of reducing the impact of disasters. Community-based preparedness and management should be a high priority in physical therapy practice management.

**Disaster relief:** This 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 health care.

**Disaster recovery:** 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, health care and rehabilitation. These should blend with development activities, such as building human resources for health and developing policies and practices to avoid similar situations in future.<sup>3</sup> Local, regional, national and international organizations are all involved in mounting a humanitarian response to disasters. Each will have a prepared disaster management plan. These plans cover prevention, preparedness, relief and recovery.<sup>4</sup> Various organizations are working at international and national forums to manage disasters.

**International Organizations:** are (1) The International Emergency Management Society (TIEMS) (2) International Association of Emergency Managers (3) The International Recovery Platform (IRP) (4) The International Red Cross and Red Crescent Movement etc.<sup>5</sup>

**National Disaster Organizations:** In Australia, New Zealand, Canada, Germany, Russia, USA, Somalia, UK, India, Pakistan etc and in some other countries organizations that deals with various types of disaster have been made<sup>6,7,8</sup>

**NDMA-Pakistan:** In Pakistan the National Disaster Management Authority NDMA, is an independent, autonomous, and constitutionally established disaster preparedness federal institution. It has been given mandate and is responsible to deal with whole spectrum of disaster management and preparedness in the country. The NDMA formulate and enforces national disaster policies at federal and provisional levels and collaborate closely with various government ministries, military forces, and United Nations-based organizations to jointly coordinate efforts to conduct its disaster man-

agement, search and rescue, and wide range of humanitarian operations in the country and abroad. The NDMA aims to develop sustainable operational capacity and professional competence to undertake its humanitarian operations at its full capacity.<sup>9</sup> Codified under the Article 89(1) of the Constitution of Pakistan, the institution is chaired by the appointed chairman, either civilian or military officer, and directly reports to the Prime Minister of Pakistan as its chief operations coordinator. The functions and duties of NDMA are defined and set by the Constitution of Pakistan in Article 239I in Chapter 1. The Commission is charged with the following duties: (1) To act as the implementing, coordinating and monitoring body for disaster management (2) To prepare the National Plan to be approved and implement coordinate and monitor the implementation of the National policy (3) To provide necessary technical assistance to the Provincial Governments and the Provincial Authorities for preparing their disaster management plans in accordance with the guidelines laid down by the National Commission (4) To coordinate response in the event of any threatening disaster situation or disaster<sup>10</sup>

Riaz and Asim have highlighted two major natural disasters encountered by Pakistan- the earthquakes and the floods. They have recommended that (1) seismic provisions of Building Code of Pakistan should be strictly implemented in the design and construction of structures in the seismically active areas (2) the earthquake vulnerable structures should be strengthened by suitable retrofitting techniques (3) flood infrastructure should be monitored and necessary maintenance should be carried out on regular basis (4) flood forecasting system should be improved by installing more gauge stations and (5) seminars, workshops and training programs should be arranged to increase the awareness of people regarding these hazards.<sup>11</sup>

Thus Disaster management or emergency management is the creation of plans through which communities reduce vulnerability to hazards and cope with disasters. Disaster management does not avert or eliminate the threat, instead it focuses on creating plans to decrease the impact of disasters. Failure to create and implement a plan effectively could lead to damage to assets, human mortality, and lost revenue.<sup>12</sup>

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