

## Disaster: Role of Regulatory Agencies, NGOs, Citizens and Nurses

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### Abstract

A disaster is a phenomenon which disrupts the normal environmental conditions required for normal existence and causes enormous sufferings beyond the capacity of adjustment of the affected community. As per origin, disasters are classified into natural and man-made disasters and as per impact, minor or major. There are physical, social, economic and psychological impacts of disaster. There are differential impacts of disaster on vulnerable groups like children, elderly, women and physically and mentally challenged people. Disaster cycle has many phases namely; preparedness, impact and rescue, relief, response, recovery, rehabilitation and mitigation. The Disaster Management Act provides directions for effective management of disasters. Primary focus of this act is to prepare, prevent and plan well ahead of the disaster. This act aims to provide the effective management of all aspects pertaining to disaster. The local community usually responds first and calls for help in any disaster. Local community best knows its resources, traditional knowledge of coping with such events in the past and relevant counter measures regarding disaster management. There are various ways by which well informed citizens can reduce the fear, anxiety, and losses that are bound to occur after a disaster. Nurses play an important role in all phases of disaster-cycle. Nurse makes and leads the preparedness plan. Nurse participates in triage and first aid of the disaster victims. She plans for recovery and rehabilitation of the affected people. She also collaborates with other

disciplines, governmental and non-governmental agencies.

**Keywords:** Disaster; Disaster cycle; Role of nurses; Classification of disasters; Impact of disasters.

### Introduction

Disasters have been integral parts of the human existence since the beginning of time, causing untimely death, loss and damage of property and altered health status. In addition to the natural disasters, wars, acts of aggression, use of biological weapons and the terrorist attacks leave grave imprint on humanity.

The origin of the word disaster ("bad star" in Greek) comes from anastrological the mein which the ancient susedt or efer to the destruction or deconstruction of a star as a disaster. Disaster may affect one family at a time, a city, astate, one nation or the entire world.

A disaster is a phenomenon whichdisrupts the normal environmental conditions required for normal existence and causesenormous sufferingsbeyond the capacity of adjustment of the affected community.<sup>1</sup> World Health Organization has defined disaster as a sudden and abrupt environmental phenomenon of great magnituderequiring external assistance.<sup>2</sup> Indian Red Cross Society defined disaster as any event such as hurricane, tornado, storm, flood, high water, tidal wave, earthquake drought, famine, fire, explosion, building collapse, transportation wreck,

or other situation that cause suffering for human beings and victims cannot cope without outside help and cooperation.<sup>3</sup>

### Classification of Disasters<sup>4</sup>

As per origin, disasters are classified into natural and man-made disasters and as per impact, minor or major.

#### *Natural disasters*

Natural disasters are major adverse events which are outcome of serious change in the natural processes on or beneath earth resulting in loss of human lives, destruction of property, economic losses, etc.

- *Hydrometeorological disasters*- Natural events of extreme climate changes. Examples are floods, droughts, landslides, mudslides, cyclones, typhoons, hurricanes, tornadoes, etc.
- *Geographical disaster* - Natural earth processes or phenomena that include processes of endogenous origin or tectonic or exogenous origin such as mass movements, Permafrost, snow avalanches. Examples are earthquake, tsunami, volcanic activity, mass movements, landslides, surface collapse, geographical fault activities etc.
- *Biological Disaster* - These result in mass scale deaths due to diseases or disabilities among living beings like animals, men and plants by biological vectors, such as exposure to pathogenic microbes, toxic substances. Examples are outbreaks of epidemic and pandemic diseases and extensive infestation etc.

#### *Man-Made disasters*

These are the serious abrupt events causing because of hazardous man induced activities. These may be accidental or incidental activities but magnitude is huge in terms of loss of lives and property.

- *Technological disaster* - Accidents associated with technological or industrial failure e.g. industrial pollution, radioactivity, nuclear toxic waste release, failure of dams, spills of oil, waste, in water body, fires due to explosives, etc.
- *Environmental Degradation* - Activities induced by human behaviors that damage or change the ecosystems. Effects are varied and may contribute to the increase in vulnerability, frequency and the intensity of natural hazards. Examples include ozone depletion, deforestation, desertification, and land, water and air pollution, sea level rise, etc.

### Impacts of Disaster<sup>5</sup>

#### *Physical*

- Injuries
- Death
- Physical disability
- Burn
- Epidemic
- Weakness/uneasiness
- Physical illness
- Sanitation
- Miscarriage
- Reproductive health
- Fatigue, loss of sleep
- Loss of appetite

#### *Economic*

- Loss of life
- Unemployment
- Loss of livelihoods
- Loss of property/land
- Loss of household articles
- Loss of crops
- Loss of public infrastructure

#### *Social*

- Disruption of social structure
- Isolation
- Change in marital status
- Sexual abuse and domestic violence
- Orphans/ single parent children
- Family and social organizations
- Migration
- Life style changes
- Breakdown of traditional social status

#### *Psychological*

- Distress
- Flash backs
- Intrusion/ avoidance
- Hatred/revenge
- Dependence/insecurity
- Grief/withdrawn/isolation
- Guilt feelings
- Hyper vigilance
- Lack of interest
- Helplessness
- Hopelessness

## **Impact on Vulnerable Groups**

### ***Vulnerable groups include:***

- Women
- Children
- Old aged
- Physically and mentally challenged
- People with critical needs

### ***Differential impact on women***

- Deterioration of health due to lack of food and nutrition
- Restricted mobility prevents from taking early warning and evaluation
- Greater stress
- Perceived to be victims rather than responders

### ***Impact on children health***

- Undernourishment, malnutrition, inadequate hygiene and sanitation
- Fear, anxiety, childish or regressive behavior, difficulty in sleeping and concentrating (play therapy, story telling etc.)

### ***Education***

- Studies discontinued, schools being used as shelter girl children dropout.

### ***Impact on mother and child***

- Increased case of complication and premature delivery amongst women (children born are weak)
- Feeding of Infant (stress interferes with release of milk in mother and it weakens the immune system of child)
- Children born as consequence of gender based violence

### ***Impact on aged***

- Unable to hear and see the danger signals and alarm etc.
- Difficulty in evaluations
- Difficulty in getting relief and compensation
- Shock of losing all the belongings

### ***Impact on Physically and mentally challenged***

(Visually challenged, hearing impaired, physically disabled, mentally challenged and people with critical needs like balance disorders)

- Dependency upon health care facilities and health care professionals

- Dependent on life sustaining medications such as with HIV/AIDS, on dialysis, epileptic, diabetes or are dependent on medication to control condition and maintain quality of life such as pain medication, seizures control medications
- In disaster, pre-existing medical condition inhibit ability to function and are aggravated.

## **Disaster Cycle**

### ***Disaster Preparedness***

During this phase measures are taken to prepare for and reduce the effects of disasters. That is, to predict, prevent disasters, mitigate the impact on vulnerable populations, and respond effectively to cope with their consequences. These include effective infrastructure, inter and intra-sect oral planning, avoiding duplication of efforts and increasing the overall efficiency and effectiveness of disaster management organizations, household and community members' disaster preparedness and response efforts. Well-coordinated disaster preparedness activities along with risk reduction measures can prevent disaster situations and also result in saving maximum human lives during any disaster situation, reducing the time to get back to normalcy in the affected population.

### ***Disaster Impact and Rescue***

The immediate impacts of any disaster include loss of life and damage to property and infrastructure, leaving many injured and shocked by the experience and unable to do much for their own escape from the scene. Sometimes affected population is left without shelter, food, water and other basic necessities to lead life. Prompt action is required to search the victims, prevent further damage and loss of life. Transport to health care facility and treatment for large number of casualties is needed after disaster. Most injuries are sustained during the impact, and thus, the greatest need for first aid and emergency care occurs in the first few hours.

### ***Relief Phase***

This phase marks the beginning with assistance from outside. The determinants of type and quantity of relief supplies are type of disaster and quantity of supplies available locally. Disaster may increase the transmission of communicable diseases through overcrowding and poor sanitation in temporary resettlements, disruption and the contamination of water supply. Disruption in sewerage and power system increase the disease causing vector density and displacement of domestic and wild animals;

which further pose a threat.

### ***Disaster Response***

The aim of disaster response is to rescue the disaster victims from immediate and potential danger. Stabilization of the physical and emotional condition of survivors and relatives living in other areas is a herculean task. These activities go simultaneously with the recovery of the dead and the restoration of essential services such as water, sewerage, communication and power.

### ***Disaster Recovery***

It refers to programs initiated towards helping those who have faced the disaster in full swing. In this phase victims require to rebuild their homes, gather lives and need support and services to strengthen their capacity to cope with future disasters. After a disaster, life-saving assistance is the most urgent need. Getting food, water, shelter and health care is vital to prevent further loss of life and alleviate suffering.

### ***Rehabilitation Phase***

In this phase water supply, food safety, basic sanitation and personnel hygiene and vector control receive the priority. Vocational and psychological rehabilitation are also addressed during this phase.

### ***Disaster Mitigation***

Disaster mitigation measures eliminate or reduce the impacts and risks of hazards through timely and proactive measures taken before disaster occurs. Disaster mitigation measures may be structural or non-structural. Mitigation measures include hazard mapping, adoption and enforcement of land use and zoning practices and adequate engineering practices, flood plain mapping, public awareness and insurance programs.

### **Disaster Management Act**

In India Disaster Management Act was passed in 2005 which extends to the whole of India. The Act provides directions for effective management of disasters. Primary focus of this act is to prepare, prevent and plan well ahead of the disaster. This act aims to provide the effective management of all aspects pertaining to disaster.<sup>6</sup>

### ***National Disaster Management Authority***

National Disaster Management Authority, abbreviated as NDMA, is an apex body of Government of India, lays down policies for disaster management. NDMA is responsible for framing policies, laying down guidelines, approving the

plans prepared by different ministries and departments of GoI and laying down the guidelines to be followed by the State Disaster Management Authorities. NDMA is headed by the Prime Minister of India.<sup>7</sup>

### ***State Disaster Management Authority***

SDMA approves the state plan in accordance with the guidelines of NDMA. Also, it coordinates all the activities in the implementation of the state plan, provides funds for mitigation and preparedness measures. The Chief Minister of the State heads the SDMA. State Executive Committee, headed by the Chief Secretary to state government, is constituted to assist SDMA.<sup>8</sup>

### ***District Disaster Management Authority***

The Chairperson of District Disaster Management Authority (DDMA) will be the District Magistrate or Deputy Commissioner of the district. DDMA is supposed to coordinate and monitor the implementation of the policies and plans laid down by the state authority.

### **Funding Mechanism**

Each state has a corpus of funds, called State Disaster Response Fund, administered by a state level committee headed by the Chief Secretary of the State Government. The size of the corpus is determined according to the expenditure normally incurred by the state on relief and rehabilitation over the past ten years. In case the State Disaster Response Fund is not sufficient to meet the specific requirements, state governments seek assistance from the National Disaster Response Fund a fund created at Central Government level. Both these funds, as the names suggest, are meant for relief and rehabilitation.

### **Role of Public / NGO / Media**

The local community usually responds first and calls for help in any disaster. Local community best knows its resources, traditional knowledge of coping with such events in the past and relevant counter measures regarding disaster management. The best approach is to work cordially as a team. The local community, volunteers, non- governmental organizations and media along with government machinery should work together to deal with the disaster. NGOs along with local volunteers work towards rescue and mobilization of the survivors, provision of basic amenities and health care to the victims.

### **Citizen's Role in Disaster Management<sup>9</sup>**

There are various ways by which well-informed

citizens can reduce the fear, anxiety, and losses that are bound to occur after a disaster. Sometimes, they need to evacuate their homes, confine to their/neighbors' home, stay in government shelters, and take care of their basic medical needs on their own. Many a times they can even save each other's' lives by supporting each other.

The important step in preparing for any disaster is to find out which hazards could strike the community. It is important to consider the dangers that natural hazards present when choosing a new home as well. If possible, home buyers should avoid buying in areas that are prone to floods and hurricanes. As a protection against financial loss, homeowners should purchase insurance on their home and its contents. To warn their citizens in time of an emergency, some communities use alarms or loudspeakers; while some officials and volunteers go door to door to give messages broadcast by local TV or radio stations. Hundreds of times each year, transportation or industrial accidents release harmful substances, forcing thousands of people to leave their homes and go to a safer area. More frequent causes of evacuations are fires, floods, and hurricanes. Evacuation can last for hours, several days, or even longer after a major disaster. During this time, citizens may be responsible may have to manage their own food, clothing, and other emergency supplies.

Disaster kits should contain the supplies listed below in an easy to carry covered containers;

- Drinking water for all family members and food that will not spoil like biscuits.
- One pair of clothes and blank ets, or sleeping bags.
- A first aid kit that includes the family's essential medicines.
- A battery operated radio, a flashlight with batteries.
- Sanitation supplies.
- Special items like feeds for infant, medicines/dentures for elderly or disabled family members.
- Cash and credit card.
- Matches in a water proof container.
- Signal flare.

For the survival and cope with the disaster, number of preparedness activities can be done.

- Responsible family members should know where, when, and how to disconnect electricity, gas, and water at main, so as to prevent the home from unnecessary damage like leaking of gas, explosions etc.

- Smoke alarm should be installed in each home to prevent and take necessary steps during disaster.
- At least each of the family members should know how to perform ABC in emergency situation and how to use fire extinguisher.
- People who all are living in the home should know all the alternative escape routes in case fire. Emergency evacuation drill is needed to practice periodically.
- People who all are living in Earthquake prone area should not put heavy object hung nearby their bedrooms or any object that block their way to escape.
- Encouraged people to learn first aid and Cardiopulmonary Resuscitation (CPR).

<sup>10</sup>Citizens may help voluntary health agencies by donating money, so that they can provide quality care during disaster. People get voluntarily involved with health agencies and supportive management as it is the best way to involved. The voluntary Agency can provide training, guidance, and can help the volunteer find meaningful work whether it is in the disaster mitigation period or disaster preparedness, response or recovery period. Appropriate goods which are required should be donated to support a disaster relief operation. Good coordination with an organization is necessary as it helps in the shipping, receiving and distributing the goods.

### **Role of Nurse in Disaster Management**

Nurses play an important role in all phases of disaster-cycle.

#### ***Disaster Preparedness***

- Nurses play as liaison with community
- Nurses collect the information about vulnerable groups within community
- Nurse makes and leads the preparedness plan
- Nurses should have thorough understanding of community resources
- Disaster nurse must be involved in community organization

#### ***Disaster Response***

- Nurse takes active part in assessment of the losses, further potential risks for the community
- Nurse participates in triage and first aid of the disaster victims
- Nurse works as a member of assessment and surveillance team

- Nurse informs all the stakeholders of disaster management team

### ***Disaster Recovery***

- Plans for recovery and rehabilitation
- Imparts need based health teaching
- Extends psychological support
- Refers the victims to health facility as and when needed
- Remains vigilant for environmental health
- Nurse must be attentive to the potential danger of the future disasters

### ***Major Role of Nurse in Disasters***

- Determine magnitude of the event
- Define health needs of the affected groups
- Establish priorities and objectives
- Identify actual and potential public health problems
- Determine resources needed to respond to the needs identified
- Collaborate with other disciplines, governmental and non-governmental agencies
- Maintain a unified chain of command communication.

### **Conclusion**

Disaster disrupts normal life and puts the developmental targets out of gear. Disasters can result from natural or man-made causes or a combined effect of both. The impact of disasters are felt more strongly when the affected community is more vulnerable, either in terms of physical exposure or vulnerable socio economic conditions. Therefore, disaster management is a public administration issue, since disaster mitigation has to be achieved in time through public policy. Disaster management needs to be seen in a developmental context and pre-emptive action

needs to be taken to reduce the impact of disasters.

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