

# DPPM

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# CHAPTER-3

## Disaster Impacts

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## Environmental impacts

- Pollutants from flooded industrial sites caused hazardous chemicals to enter untreated into project sites, groundwater, watersheds and the oceans.
- Other disasters such as wildfires, floods, and tornadoes can completely defoliate forests and cause other types of structural changes to ecosystems.
- Wildlife can be killed by the force of the disaster or impacted indirectly through changes in habitat and food availability.
- Endangered species are especially vulnerable when habitat is destroyed.
- Water quality is impacted when sewage treatment facilities flood or debris enters reservoirs and waterways.
- Beaches move and change shape due to storm surges. Riverbanks erode during flash flood events.

## Environmental impacts

- In the urban landscape, natural disasters can impact historic structures, leading to the need for restoration and preservation work.
- Infrastructure such as bridges, roads, transmission lines, and oil and gas pipelines may need new permits, assessment and repair.
- Home and commercial building repairs may first require the identification of asbestos, mold, or lead hazards.



# Physical impacts

## Physical Impacts of Disaster:

- Injuries
  - Death
  - Physical disability
  - Burns
  - Epidemic
  - Weakness/uneasiness
  - Physical illness
  - Sanitation
- Sanitation
  - Miscarriage
  - Reproductive health
  - Fatigue, Loss of Sleep
  - Loss of Appetite



# Social impacts

## Social Impacts of Disaster:

- Change in individual's role
- Disruption of social fabric
- Isolation
- Change in marital status
- Sexual abuse & domestic violence
- Orphans
- Single parent children
- Family & social disorganization
- Migration
- Life style changes
- Breakdown of traditional Social Status

# Social impacts

## Social Impacts of Disaster:

Social Impacts deal with the effects on people and society.

Some of the social impacts of natural disasters Include :-

- loss of life or quality of life
- Unemployment
- poverty





## Ecological impacts

- The immediate affect a disaster makes is the change of ecology and environment of the affected area.
- Some new geological features like lakes can be formed which disturb the ecological and environmental balance of the area. Destruction of roads, buildings and other infrastructure has its impact on the ecology and environment beside economic impacts.

## Economic impacts

### Economical Impacts of Disaster:

- Loss of life
- Unemployment
- Loss of Livelihood
- Loss of property/Land
- Loss of household articles
- Loss of crops
- Loss of Public Infrastructure

# Economic impacts

Economical Impacts of Disaster:

- Economic Impacts are effects on the level of economic activity in a given area.
- They generally deal with money or costs.

Some examples of economic impacts from natural disasters include :

- The destruction of local business
- The loss of property, land crops, or possessions

## Health impacts

- No activity of loss and damage can be termed as disaster unless it has a direct impact on humans.
- The most fragile community on earth is mankind which is susceptible to all kinds of danger and hazards. to offset and reduce the impact of these hazards, humans are evolving themselves.
- Any loss whether it is of human life or of livestock, its loss of property it has direct bearing on humans. Man is a social animal and cannot live alone.
- Small groups joined together to form communities and communities grew to form cosmopolitan cities.



## Health impacts

- (A) Loss of Human Life :-** The worst damage of a disaster is the loss of human life. All the property and households can be recouped with passage of time or with assistance of other communities donors but life is such a precious thing that its replacement cannot be done.
- (B) Loss of Livelihood including Household and Property :-** One of the immediate impact indicators that define the severity of a disaster is the loss of livelihoods of the inhabitants. The earnings of whole life is just washed away in few moments and it affects badly on recovery phase too.
- (C) Displacement :-** Result of a disaster could be the temporary or permanent displacement from the affected area to a new location where environment (socially and economically) are not so favorable.

## Health impacts

**(D) Education :-** Disaster means the complete destruction of not only personal life routine but it also affect on the education badly. Either schools are destructed or if not, these are used to house displaced people. in any case, continuity of education is not there.





# Psycho-social issues

- Distress
- Flash backs
- Intrusion/Avoidance
- Hatred/Revenge
- Dependence/Insecurity
- Grief/Withdrawn/Isolation
- Guilt feeling
- Hyper vigilance
- Lack of trust
- Helplessness
- Hopelessness

## Psycho-social issues

- Disaster completely changes the way of looking at life.
- Loss of human life and livelihoods, displacement from ancestors land, discontinuation of education, misery of fellow ones and lack of economic opportunities are few factors which depends the psychological impact of a disaster.
- Disaster are known in history by the scale of destruction and losses it resulted





## Demographic aspects (gender, age, special needs)

- Women
- Children
- Old age
- People with critical needs

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## Demographic aspects (gender, age, special needs)

### Differential impacts on Women:

- Deterioration of health (lack of food and nutrition).
- Restricted mobility prevents from taking early warnings and evacuation.
- Greater Stress.
- Perceived to be victims rather than responders.

### Children:

- Health (Undernourishment, malnutrition, inadequate, hygiene and sanitation)
- Psychological (Fear, Anxiety, Childish or regressive behavior, difficulty in sleeping and concentrating)
- Education (Studies discontinued, Schools being used as shelters girl children dropouts)

## Demographic aspects (gender, age, special needs)

### Old Age:

- Unable to hear danger signals, alarm, etc.
- Difficulty in evacuation.
- Difficulty in protection.
- Difficulty in getting access to relief and compensation money.
- Difficulty locating avenues of escape.
- Have to face the shock of losing all that they had attained in life. E.g. Home, Family, Security, etc.

# WHY ARE DISASTER IMPACTS INCREASING?

1. Increased in population
2. Climate change
3. Increased vulnerability due to :-
  - Demographic changes
  - Increased concentration of assets
  - Environmental degradation
  - Poverty
  - Rapid urbanization and unplanned development







## WHAT MUST BE DONE TO REDUCE RISK:

- Systematic process of using administrative decisions, organization, operational skills and capacities to implement policies, strategies and coping capacities of the society and communities.
- Setting of related goals and objectives in development and land use areas.
- It involves the formulation of strategies and Plans, Programs and Activities (PPAS).
- Institutionalize Local Disaster Risk Reduction & Management Office.
- Establish Early Warning System.
- Formulation of Communication Protocol.
- Formulation of Evacuation Procedures at the community level and establishments.



## WHAT MUST BE DONE TO REDUCE RISK:

- Organize Local DRRMC and define the functional roles and responsibilities of the members and task units.
- Establish Standard Operating Procedures (SOP).
- Hazard awareness through Community-Based trainings and seminars.
- Good working relationship with Warning Agencies and the Local Media.
- Installation of rain gauges on mountain slopes.
- Updating the hazard profile of all municipalities and to analyse data on human induced disasters for public safety studies.
- Effective flow of communication system to ensure that accurate flow of information before, during and after disasters.



# Climate Change and Urban Disasters

- Many of the impacts associated with climate change exacerbate or alter existing hydrometeorological hazards, such as droughts, floods, storms and heat waves.
- Climate change is caused by the anthropogenic emission of greenhouse gases and leads to alterations in global climate patterns with shifts in local precipitation, temperature and weather patterns.
- According to the Intergovernmental Panel on Climate Change (IPCC), climate change will stress critical ecosystems and lead to water and food shortages this century. Climate change is already evident in many parts of the world.
- Scientists are careful not to attribute a single event to climate change, but do acknowledge the growing frequency and magnitude of hazards in general.



# Climate Change and Urban Disasters

- Although climate change can be addressed by limiting activities that cause greenhouse gas emissions, the scientific community agrees that too little has been done so far.
- People will need to adapt to face the impact from the change that is already unavoidable due to past greenhouse gas emissions.
- Environmental degradation reduces the capacity of these ecosystems to provide important services to communities like food, firewood, medicines and protection from natural hazards. It also greatly reduces a landscape's ability to sequester carbon - a crucial element in climate change mitigation.
- On the other hand, healthy ecosystems has important roles to play in reducing the risks of disasters through multiple ways.



# Climate Change and Urban Disasters

- Healthy ecosystems such as wetlands, forests and coastal areas, including mangroves and sand dunes can not only reduce vulnerability to hazards by supporting livelihoods but also act as physical barriers that reduce the impact of hazard events.
- The most vulnerable are often those who are most dependent on natural resources for their livelihoods.
- Ecosystem restoration and sustainable management of natural resources can therefore play a critical role in people's ability to prevent, cope with and recover from disasters.

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