

#### WHERE CLASSICAL WISDOM MEETS INTELLIGENT LEARNING

#### 14. Man-Made Disasters

### **BVES-151: Environmental Studies**

Unit 4: Disaster Management: Natural and Man-Made Hazards

**Topic: Man-Made Disasters** 

### 

Man-made disasters are emergencies or catastrophic events that are caused directly or indirectly by human actions. These can result from negligence, misuse of technology, industrial activities, or intentional acts like war or terrorism.

They can cause large-scale destruction of life, property, and the environment—just like natural disasters.

## ☐ Types of Man-Made Disasters

Man-made disasters can be broadly classified into the following types:

### ☐ 1. Industrial and Technological Disasters

**Disaster Type** Description

Leakage or explosion of chemicals, gases, or machinery failures in **Industrial Accidents** 

factories or chemical plants.

Example: Bhopal Gas Tragedy (1984)

**Nuclear Accidents** Radioactive leaks from nuclear power plants.

Example: Chernobyl (1986), Fukushima (2011)

Caused by electrical faults, gas leaks, or flammable materials in buildings Fires and Explosions

and industries.

## 2. Transport-Related Disasters

**Disaster Type Description** 

**Road Accidents** Vehicle collisions due to over-speeding, drunk driving, poor roads.

**Train Accidents** Derailments, collisions, or fires in trains.

Air Crashes Accidents involving aircraft due to technical faults or human error.

Shipwrecks / Oil Spills Marine disasters due to shipping collisions or oil leakage harming aquatic life.

#### ☐ 3. Terrorism and Armed Conflicts

- Terrorist Attacks: Use of violence to create fear and destruction.
  - Example: 26/11 Mumbai attacks
- War and Armed Conflict: Large-scale destruction of life and environment.
- Use of Biological/Chemical Weapons: Causes long-term health and environmental damage.

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#### ☐ 4. Structural Failures

- Building Collapses: Due to poor construction, overloading, or neglect.
- Dam Failures: Sudden collapse or overflow of dams leading to floods.

### ☐ 5. Cyber Disasters (Emerging Type)

- Attacks on digital infrastructure (e.g., banks, hospitals, power grids).
- Can disrupt essential services and national security.

# ☐ Consequences of Man-Made Disasters

Area Affected Consequences
Human Life Loss of lives, injuries, long-term disabilities

**Environment** Pollution, habitat destruction, radiation contamination

**Economy**Damage to industries, transport systems, public infrastructure **Health**Toxic exposure, respiratory and skin diseases, psychological trauma

**Society** Panic, fear, displacement, loss of trust in safety systems

# □ Disaster Preparedness and Response for Man-Made Disasters

### □ Prevention & Preparedness

- Regular safety inspections in factories and public buildings.
- Strict enforcement of construction and safety codes.
- Public awareness and education.
- Emergency drills in schools, hospitals, and factories.

### □ Response Measures

- Immediate evacuation and rescue.
- Deployment of emergency services: fire, ambulance, police.
- Providing medical aid and temporary shelter.

### ☐ Recovery & Mitigation

- Rebuilding damaged infrastructure.
- Long-term health monitoring and psychological counseling.
- Policy reform and legal action against negligence.

# □ Major Man-Made Disasters in India

Event	Year	Description
<b>Bhopal Gas Tragedy</b>	1984 Leak of toxic gas (methyl isocyanate) from Union Carbide plant.	
<b>Uphaar Cinema Fire</b>	1997 Fire in Delhi cinema due to electrical fault—lack of emergency exits worsened impact.	
Vizag Gas Leak	2020 Styrene gas leak from chemical plant in Andhra Pradesh.	

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Event Year Description

Morbi Bridge Collapse 2022 Collapse of a suspension bridge in Gujarat, over 100 lives lost.

# ☐ Important Terms to Remember

Term Meaning

Industrial DisasterCatastrophe involving hazardous materials or machinery.Nuclear FalloutRadioactive particles from nuclear explosion or leak.Oil SpillDischarge of oil into ocean or coastal waters.

**Structural Collapse** Failure of a building or bridge due to poor design or overload.

## ☐ Quick Self-Check Questions

- 1. What is a man-made disaster? Give two examples.
- 2. Name two industrial disasters in India.
- 3. What are the effects of nuclear accidents on the environment?
- 4. Mention one preventive measure for transport-related disasters.
- 5. What is an oil spill and why is it dangerous?

## ☐ Summary of Man-Made Disasters

- Man-made disasters are caused by human actions like industrial accidents, terrorism, and structural failures.
- They can have severe effects on human life, environment, economy, and social systems.
- Prevention, awareness, strict regulations, and emergency preparedness can significantly reduce the impact.
- It is our shared responsibility to ensure safe practices in daily life and industries.

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