

14. Man-Made Disasters

BVES-151: Environmental Studies

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

Topic: Man-Made Disasters

⚠ What Are 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
Industrial Accidents <i>Example: Bhopal Gas Tragedy (1984)</i>	Leakage or explosion of chemicals, gases, or machinery failures in factories or chemical plants.
Nuclear Accidents <i>Example: Chernobyl (1986), Fukushima (2011)</i>	Radioactive leaks from nuclear power plants.
Fires and Explosions	Caused by electrical faults, gas leaks, or flammable materials in buildings 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.



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
Bhopal Gas Tragedy	1984	Leak of toxic gas (methyl isocyanate) from Union Carbide plant.
Uphaar Cinema Fire	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.



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 Disaster	Catastrophe involving hazardous materials or machinery.
Nuclear Fallout	Radioactive particles from nuclear explosion or leak.
Oil Spill	Discharge 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.