ASSAM DOWNTOWN UNIVERSITY

Assignment - 3

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Subject: Disaster Management
Branch: B-Tech 5th sem

1. Define capacity building in the context of disaster management. Why is it considered essential for reducing disaster risks?

Capacity building means improving the **skills, knowledge, resources, and systems** of people, communities, and institutions so they can **better prevent, prepare for, respond to, and recover from disasters**.

It is essential because:

- It **reduces vulnerability**.
- It helps communities respond **quickly and efficiently**.
- It ensures **less loss of life and property**.
- It makes disaster management **more sustainable and long-term**.

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2. Differentiate between structural and non-structural measures for capacity building. Give two examples of each.

Structural measures

These are **physical constructions** designed to reduce disaster impact.

Examples:

1. Building flood embankments or dams
2. Earthquake-resistant buildings

Non-structural measures

These are **policies, awareness, training, and planning** activities.

Examples:

1. Early warning systems

2. Community awareness programs

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3. What are the key elements involved in a capacity assessment? Name any two tools used for conducting such assessments.

Key elements of capacity assessment:

- Existing **resources and skills**
- **Gaps and weaknesses** in the current system
- Community's **coping abilities**
- Availability of **infrastructure and equipment**
- Institution's **readiness** to handle disasters

Tools used:

1. SWOT Analysis (Strengths, Weaknesses, Opportunities, Threats)
2. Hazard and Vulnerability Assessment (HVA)

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4. List the different types of counter-disaster resources. How do they contribute to effective disaster response?

Types of counter-disaster resources:

- **Human resources:** rescue teams, doctors, volunteers
- **Equipment:** boats, fire engines, ambulances, cranes
- **Supplies:** food, water, medicines, tents

- **Financial resources:** emergency funds
- **Technology:** warning systems, communication tools

Contribution:

These resources help in **quick rescue**, **medical care**, **evacuation**, **relief distribution**, and restoring normal life faster after a disaster.

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5. Explain the significance of building codes and land-use planning in enhancing structural resilience. Provide real-life examples if possible.

Building codes ensure that construction follows **safe engineering standards**, making buildings capable of withstanding earthquakes, cyclones, or floods.

Land-use planning ensures people don't build homes in **high-risk areas** like floodplains or landslide zones.

Examples:

- Japan’s strict earthquake building codes prevent huge damage during frequent earthquakes.
- Mumbai’s land-use rules restrict construction close to coastal areas to reduce flood risk.

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6. Discuss the role of early warning systems and community drills as part of non-structural capacity building.

- **Early warning systems** alert people **before** a disaster (like cyclone warnings), giving them time to evacuate or prepare.
- **Community drills** teach people how to react during emergencies, such as school fire drills or tsunami mock drills.

These help reduce panic and ensure **organized, quick responses**, saving many lives.

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7. What strategies can institutions adopt to strengthen their capacity for disaster risk reduction? Illustrate with examples.

Institutions can:

- Provide **regular training** to staff
- Create **disaster management plans**
- Build **strong coordination** with local agencies
- Invest in **technology** like GIS, sensors
- Conduct **mock drills and simulations**

Example:
Indian Railways conducts regular fire and evacuation drills to improve emergency response during train accidents.

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8. Describe the process of mobilization and deployment of disaster response resources during emergencies. What challenges are usually faced?

Process:

1. **Assess** the situation
2. **Activate** emergency operation centers
3. **Mobilize** personnel (NDRF, police, doctors)
4. **Deploy** equipment and supplies
5. **Coordinate** with local administration
6. **Monitor and adjust** the operations

Challenges:

- Roadblocks due to damaged infrastructure
- Communication failures
- Shortage of resources
- Delay in transportation
- Lack of coordination

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9. Critically analyze the role of the Disaster Management Act (2005) in shaping India's disaster response framework.

The **Disaster Management Act, 2005** created a **structured and legal framework** for disaster management in India.

Positive impacts:

- Created NDMA, SDMAs, DDMAs
- Focus on **prevention**, not just relief
- Improved coordination between agencies
- Increased community participation

Limitations:

- Implementation varies across states
- Awareness at local levels still low
- Funding and resources sometimes insufficient

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10. Compare and contrast the functions of NDMA, SDMAs, and DDMAs. How do they coordinate across different administrative levels to manage disasters effectively?

NDMA (National Disaster Management Authority)

- Highest authority
- Makes **national policies** and guidelines
- Coordinates with ministries and NDRF

SDMA (State Disaster Management Authority)

- Works at **state level**
- Creates state disaster plans
- Coordinates with district authorities

DDMA (District Disaster Management Authority)

- Works at **district/local level**
- Implements plans on the ground
- Handles actual **rescue and relief operations**

Coordination:

- NDMA gives national guidelines → SDMAs adapt them for state → DDMAs implement them.
- Regular meetings, information sharing, and resource support happen across levels.