ELCS 0045- DISASTER MANAGEMENT

LECTURE 5

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Instructor- Kombe Adauth

DISASTER MITIGATION

Cost-Effective Analysis in Disaster Management

Cost-effective analysis is the process of comparing different disaster mitigation measures to determine which option provides the greatest reduction in disaster risk at the lowest cost.

Objectives

- Minimize loss of life and property.
- Ensure efficient use of available resources.
- Prioritize disaster mitigation projects.
- Improve decision-making in disaster management.

Steps in Cost-Effective Analysis

- Identify disaster risks.
- List possible mitigation measures.
- Estimate implementation costs.
- Assess expected benefits and risk reduction.
- Compare alternatives.

Utilisation of Resources in Disaster Management

Utilisation of resources refers to the effective use of available human, financial, material, and technological resources before, during, and after disasters.

Types of Resources

- **Human Resources**
- Emergency responders
- Medical personnel
- Engineers
- Volunteers

- **Material Resources**
- Food supplies
- Water
- Shelter materials
- Rescue equipment

- **Financial Resources**
- Government funds
- Donor assistance
- Insurance funds

- **Technological Resources**
- GIS and remote sensing
- Early warning systems
- Communication equipment

Training in Disaster Management

Training involves developing skills and knowledge necessary for effective disaster preparedness, response, and recovery.

Objectives

- Improve emergency response.
- Enhance rescue operations.
- Increase preparedness levels.

Types of Training

- First aid training
- Fire safety training
- Search and rescue training
- Emergency evacuation drills
- Incident command system training

Benefits

- Faster disaster response.
- Reduced loses.
- Better coordination among agencies.

Education in Disaster Management

Education refers to the systematic teaching of disaster-related knowledge to individuals and communities.

- **Goals**
- Increase disaster awareness.
- Promote safety culture.
- Build sprit of dealing with disaster.

Methods

- School curriculum integration.
- Community workshops.
- Seminars and conferences.
- Online learning platforms.

Importance

- Creates informed communities.
- Encourages preparedness.
- Reduces vulnerability.

Public Awareness

Public awareness involves informing communities about hazards, risks, and safety measures.

Methods

- Public campaigns.
- Posters and brochures.
- Community meetings.
- Social media platforms.
- Television and radio programs.

Roles of Media in Disaster Management

Functions of Media

Before Disaster

- Raise awareness.
- Educate the public.
- Disseminate early warnings.

During Disaster

- Provide real-time information.
- Guide evacuation procedures.
- Reduce panic through accurate reporting.
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After Disaster

- Report damage assessments.
- Mobilize relief support.
- Monitor recovery activities.

Disaster-Resistant Structures

Disaster-resistant structures are designed and constructed to withstand hazards such as earthquakes, floods, cyclones, and landslides.

Characteristics

- Strong foundations.
- Quality construction materials.
- Compliance with building codes.
- Hazard-resistant designs.

Benefits

- Reduced damage.
- Improved safety.
- Lower reconstruction costs.

Dams and Disaster Management Methods:

Importance of Dams

- Water storage.
- Flood control.
- Hydroelectric power generation.
- Irrigation water.

Disaster Risks

- Dam failure.
- Flooding downstream.
- Structural deterioration.

Mitigation Measures

- Regular inspection.
- Maintenance programs.
- Emergency action plans.
- Monitoring systems.

Hospitals and Disaster Management

Requirements of Disaster-Resistant Hospitals

- Structural safety.
- Backup power supply.
- Emergency water supply.
- Communication systems.
- Emergency operation centers.

Hospital Disaster Preparedness

- Disaster response plans.
- Emergency drills.
- Medical stockpiles.
- Staff training.

Industrial Structures and Disaster Management

Examples

- Factories
- Chemical plants
- Oil refineries
- Warehouses

Risks

- Fire outbreaks.
- Chemical spills.
- Explosions.
- Toxic gas releases.

Safety Measures

- Hazard assessments.
- Emergency response plans.
- Fire protection systems.
- Employee training.

Importance

Prevents industrial disasters and protects workers and communities.

Reconstruction After Disasters

Reconstruction is the process of rebuilding damaged infrastructure, housing, and services after a disaster.

Objectives

- Restore normal life.
- Improve resilience.
- Promote sustainable development.

Phases of Reconstruction

- **Damage Assessment**
  - Evaluate losses.
  - Identify priority needs.
- **Planning**
  - Develop reconstruction strategies.
  - Allocate resources.
- **Rebuilding**
  - Construct houses.
  - Repair infrastructure.
  - Restore public services.
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- **Monitoring and Evaluation**
  - Assess progress.
  - Ensure quality standards.

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