1. Overview

1.6. Disaster Prevention & Mitigation
1.6. Disaster Prevention - Mitigation
Overhead Transparencies

1.6.1. Mitigation, Definition
1.6.2. Principal Objectives of Mitigation
1.6.3. Menu of Emergency Management Actions
1.6.4. Physical Planning Measures
1.6.5. Economic Measures
1.6.6. Management and Institutional Measures
1.6.7. Societal Measures
1.6.8. Engineering and Construction Measures
1.6. **Disaster Prevention - Mitigation**  
Trainers’ Guide

Objective:
To illustrate different options for disaster prevention and emergency management. (Also applicable to relief and development). (Knowledge)

Key-message:
Disaster prevention and emergency preparedness are developmental activities: investment in infrastructures and services, governance etc. Range of options, activities, means, tools.

1.6.1. Mitigation, Definition

Present and clarify. Mitigation and Prevention are used as synonyms. Some prefer to drop the term Mitigation and use only Prevention. The term Mitigation can be comprised in the term Prevention. Mitigation means to reduce the severity of the human and material damage caused by the disaster. Prevention is to ensure that human action or natural phenomena do not result in disaster or emergency. Primary prevention is to reduce -avert- avoid the risk of the event occurring, by getting rid of the hazard or vulnerability, e.g. to avoid overcrowding, deforestation and to provide services. Healthier people in a healthy environment will be less vulnerable to most hazards. E.g. immunizing people against smallpox made them less vulnerable to the virus, and slowly eradicated the disease. Secondary prevention means to recognise promptly the event and to reduce its effects, e.g. by staying alert to possible displacements of population; by being ready to provide immunisation, food, clean water, sanitation and health care to refugees. Healthier people in a healthy environment will also be more capable to overcome the emergency.

1.6.2. Principal Objectives of Mitigation

Discuss. The objective of prevention is to reduce the risk of being affected by a disaster. Even if the hazard cannot be removed, vulnerability can be decreased and in case of an impact, the capacity to withstand, to respond and to recover will be stronger.

1.6.3. Menu of Emergency Management Actions

Illustrate. Disaster prevention calls for the co-ordinated effort of the whole society. Disaster Prevention and Emergency Management are multi-sectoral disciplines.
1.6.4. Physical Planning Measures
Illustrate and ask for examples. *Physical measures for urban planners: choosing safe locations for the people’s houses and work.*

1.6.5. Economic Measures
Illustrate and ask for examples. *A diversified economy makes the community less vulnerable: e.g. after a flood all the crops are destroyed, but if the local industry deals with chemicals it will not be affected. Economic incentives and insurance: e.g. loans are granted for safer building; or damage is paid for farmers who suffered from loss of crops and livestock.*

1.6.6. Management and Institutional Measures
Illustrate and ask for examples. *Institutions and structures are needed.*

1.6.7. Societal Measures
Illustrate and ask for examples. *Laws, by-laws and public education are needed.*

1.6.8. Engineering and Construction Measures
Illustrate and ask for examples. *Special infrastructures, special, hazard-proof materials and designs. Engineers must consider two objectives: a) to reduce the effect of the impact of the hazard, e.g. by making buildings stronger; b) to reduce the hazard itself e.g. by building dams to prevent floods.*

Complementary

Essential Reading:
- UN-DMTP, Training Modules, UN-DMTP, 1990
1.6.1. Mitigation, Definition

MITIGATION

Permanent reduction of the risk of disaster

“Primary” Mitigation:

- reducing the PRESENCE of the Hazard
- reducing Vulnerability

“Secondary” Mitigation:

reducing the EFFECTS of the Hazard
(Preparedness)
1.6.2. Principal Objectives of Mitigation

Principal Objectives Of Mitigation

- Save lives

- Reduce economic disruption

- Decrease vulnerability/increase capacity

- Decrease chance/level of conflict

RISK REDUCTION
1.6.3. Menu of Emergency Management Actions

<table>
<thead>
<tr>
<th>Engineering</th>
<th>Conflict resolution</th>
</tr>
</thead>
<tbody>
<tr>
<td>Economic</td>
<td>Spatial planning</td>
</tr>
<tr>
<td>Societal</td>
<td>Management and institutionalisation</td>
</tr>
</tbody>
</table>
1.6.4. Physical Planning Measures

Physical Planning Measures

- Decentralization of elements at risk
- Control of population density
- Design of services and roads
- Land use regulation
1.6.5. Economic Measures

Economic Measures

- Diversification of economic activity

- Economic incentives (grants, loans, taxes)

- Insurance
1.6.6. Management and Institutional Measures

- Education and training
- Research
- Technical expertise
- Strengthening the capability of local authorities
Societal Measures

- Public information campaigns
- Education
- De-sensationalize hazards
- Community involvement
- Drills
1.6.8. Engineering and Construction Measures

There are two types:

- Stronger individual structures
- Hazard control structures (flood control, levees, dams)