Concepts in Emergency Management

The basis of EHA Training Programmes in WPRO
Health Sector Emergency Managers

are concerned with

public safety and public health

Our clients are

threatened or injured and damaged communities
A Community ...

consists of 5 *elements* (each of which has *specific* vulnerabilities from *specific* hazards):

- the **people**
- their **property** (infrastructure, possessions and assets; public, private and cultural)
- their **services** (government and non-government, commercial and voluntary)
- their **livelihoods** (urban and rural, formal and informal)
- their **environment** (air, water and soil; urban and rural, built and natural)
Hazards

There are 4 classes of hazard:

- Natural hazards
- Technological hazards
- Biological hazards
- Societal hazards
A Hazard is: any potential threat to public health and safety
An Emergency is:

any actual threat to public health and safety
Concepts in Emergency Management

Risks

The consequences of exposure to a hazard are:
Risks = consequences, outcomes

- dead and missing;
- injury (mental and physical);
- disease (mental and physical);
- secondary hazards (fire, disease etc.);
- contamination;
- displacement;
- breakdown in security;
- damage to infrastructure;
- breakdown in essential services.
- loss of property;
- loss of income …
Vulnerabilities are:

determinants of risk
(outcomes, consequences)
Determinants of risk (people)

- Access to health care
- Measles vaccination coverage rate
- Under 5 nutrition rate
- Under 5 mortality rate
- Access to safe water
- Access to sanitation
- Access to adequate housing
- Access to regular source of income
- Female literacy rates
Capacities are:
determinants of risk
Preparedness is:

Measures to build capacities
Ten elements of preparedness

<table>
<thead>
<tr>
<th>Legal Framework</th>
<th>National level</th>
<th>Local level</th>
<th>Personal level</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>✓ Policies</td>
<td>✓ Plans</td>
<td>✓ Knowledge</td>
</tr>
<tr>
<td></td>
<td>✓ Procedures</td>
<td>✓ Resources</td>
<td>✓ Skills</td>
</tr>
<tr>
<td></td>
<td>✓ Guidelines</td>
<td>✓ Authority</td>
<td>✓ Attitudes</td>
</tr>
</tbody>
</table>
A Disaster is: an emergency in which local authorities cannot cope.
Local authorities are unable to cope

they don’t have capacity to meet urgent needs:

- find and rescue victims
- evacuate victims to safe place
- provide first aid and medical transport
- treat the injured
- provide shelter, sanitation, food and water
- care for the dead and manage the missing
- establish security
- re-establish the lifelines (water, power, phone)
- plan and pay for recovery and reconstruction
The goal of emergency management is to protect public health and safety regardless of scale/cause.
All disasters are emergencies but not all emergencies are disasters
Two types of emergencies

- **Non-disaster emergencies**
  The local emergency services are not part of the affected population or group, and can function normally

- **Disaster emergencies**
  The local emergency services are themselves victims and cannot function effectively
Concepts in Emergency Management

- Hazard
- Community

Threat to public safety

Emergency

- Disaster Emergency
  - Reconstruction of the community
  - Emergency services also victims

- Non-Disaster Emergency
  - Local floods, storms etc.
  - Epidemics
  - Transport / Industrial accidents
  - Environmental pollution
Concepts in Emergency Management

Non Disaster Emergency
- Local capacities can cope
  - Surge in demand
  - Local services intact
  - Resources may or may not be adequate or sufficient

Disaster Emergency
- International, national and local response needed
  - Surge in demand
  - Local services cannot function normally
  - Resources destroyed, damaged, inadequate and/or insufficient

HAZARD
- natural
- technological
- biological
- societal

COMMUNITY
- People
- Property
- Services
- Livelihoods
- Environment

threat to public safety
### Disaster Management is:

<table>
<thead>
<tr>
<th>80% generic to all disasters</th>
<th>15% specific to the hazard</th>
<th>5% unique to the event</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>1. Organisation</strong></td>
<td><strong>earthquake</strong></td>
<td></td>
</tr>
<tr>
<td>EOC</td>
<td></td>
<td>time</td>
</tr>
<tr>
<td>coordination</td>
<td></td>
<td>place</td>
</tr>
<tr>
<td>communications</td>
<td></td>
<td>weather</td>
</tr>
<tr>
<td>transport</td>
<td></td>
<td>geography</td>
</tr>
<tr>
<td>logistics</td>
<td></td>
<td>climate</td>
</tr>
<tr>
<td>information</td>
<td></td>
<td>security</td>
</tr>
<tr>
<td>reporting</td>
<td></td>
<td>politics</td>
</tr>
<tr>
<td><strong>2. Response</strong></td>
<td></td>
<td>economy</td>
</tr>
<tr>
<td>search and rescue</td>
<td></td>
<td>governance</td>
</tr>
<tr>
<td>evacuation</td>
<td></td>
<td>emergency management capacity</td>
</tr>
<tr>
<td>mass casualty management</td>
<td></td>
<td>logistics capacity</td>
</tr>
<tr>
<td>dead and missing</td>
<td></td>
<td>leadership</td>
</tr>
<tr>
<td>security</td>
<td></td>
<td>solidarity</td>
</tr>
<tr>
<td>temporary shelter</td>
<td></td>
<td>morale</td>
</tr>
<tr>
<td>emergency water, sanitation and energy</td>
<td></td>
<td>corruption</td>
</tr>
<tr>
<td>emergency food supplies</td>
<td></td>
<td></td>
</tr>
<tr>
<td>emergency public and environmental health</td>
<td></td>
<td></td>
</tr>
<tr>
<td>emergency engineering and public works</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>3. Recovery</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>lifelines</td>
<td></td>
<td></td>
</tr>
<tr>
<td>curative and public health care</td>
<td></td>
<td></td>
</tr>
<tr>
<td>education</td>
<td></td>
<td></td>
</tr>
<tr>
<td>agriculture</td>
<td></td>
<td></td>
</tr>
<tr>
<td>trade and commerce</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>4. Rehabilitation and Reconstruction</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>people</td>
<td></td>
<td></td>
</tr>
<tr>
<td>property</td>
<td></td>
<td></td>
</tr>
<tr>
<td>services</td>
<td></td>
<td></td>
</tr>
<tr>
<td>livelihoods</td>
<td></td>
<td></td>
</tr>
<tr>
<td>environment</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
The Risk Analysis process

1. selects a hazard
2. maps the distribution of the hazard
3. identifies the communities exposed to the hazard
4. predicts the consequences of that hazard interacting with that community at a certain time in a certain season
5. analyses each of the 5 elements of community in terms of that hazard to identify the factors which will lead to each consequence i.e. determines the vulnerabilities of each element
6. identifies the capacities within the community to respond to that hazard
7. Undertake interventions to reduce risks by reducing exposure to hazards, reducing vulnerabilities and building capacities
Risk analysis

risk analysis is based on the formula:

Public Safety Risk is proportional to:

\[
\text{Probability of hazard} \times \frac{\text{Vulnerabilities}}{\text{Capacities}}
\]
Risk analysis

The purpose of a risk analysis is to guide communities in planning for protecting health and safety by developing and maintaining 3 sets of plans:

- Hazard Reduction Plans
- Vulnerability Reduction Plans
- Emergency Preparedness Plans
Outcome of our work

Safer and healthier communities
Key learning points

The Risk Management Framework uses:

- 4 classes of hazard
- 5 elements of community
- 10 components of preparedness

...to produce:

- 3 sets of community plans
  to protect public health and safety
  in communities
Concepts in Emergency Management

Thank you