Session 1: What is Disaster Risk Reduction (DRR)?
In Session 2 you will learn to...

1. Understand concepts of disaster risk and key components of risk;
2. Learn about actors and institutions involved in DRR at the global, national and local levels;
3. Understand which actions are involved in reducing disaster risk;
4. Understand how DRR can be improved by adding an ecosystem component.
Outline of Session 2

1. Understanding disaster risk

2. Global disaster trends

3. DRR Actors

4. DRR Actions
Part 1

Understanding disaster risk
What is a disaster?

A serious disruption of the functioning of a community or a society, beyond its own coping abilities.
What constitutes a disaster?

EM-DAT disaster criteria: at least one of the following

- 10 or more people killed
- 100 or more people affected
- Declaration of a state of emergency
- Call for international assistance

What is your national criteria for disasters?
What is disaster risk? (UNISDR 2009)

Risk: probability of a hazard event and its negative consequences
\[ R = H \times \text{Exp} \times \text{Vul} \]

“The potential disaster losses – in lives, assets, livelihoods, etc. – which could occur to a particular community or society over some specified future time period” (UNISDR 2009)

Disaster Risk = Hazard x Vulnerability x Exposure
Components of disaster risk: Exposure

Exposure: Elements at risk present in a hazard zone and subject to potential losses.
Components of disaster risk: Vulnerability

Vulnerability – the characteristics and circumstances of a community or system

Resilience – the capacity to change faced with adversity, or time and resources required to return to normal state

PEDRR

Training Course on Environment and Disaster Risk Reduction for Sustainable and Resilient Development
Intensive risk – Sudden

- Occur in heavily populated areas with major economic activity.
- Result in emergencies and critically severe impacts.
- Often result in high numbers of injured, dead or missing people and massive loss of resources and assets.

Source: SDF
Extensive risk – slow/chronic

- Low or medium severity.
- Occur in sparsely populated areas with limited economic activity.
- Often occur continuously or repeatedly, but impacts are often confined to a small area.
- Although the impact of each individual disaster can be relatively minor, in the long term affected communities security and wellbeing can be severely reduced.

Source: SDF
Coping vs adaptation strategies

Coping strategy – short term strategies used to face adversity
Adaptation – long term strategies used to face changing conditions
Some differences between DRR and CCA

• Definitions of the same terms has led to some confusion

• Definitions are used for different purposes (technical-physical/political/social analysis)

• Effort for consolidation between DRR and CCA terms

• IPCC SREX report, 2012:

  • Vulnerability: “The propensity or predisposition to be adversely affected”
Why is disaster risk increasing?

Large-scale exposure + vulnerability to a hazard

- **Exposure**
  - Concentration in hazardous locations
    - People
    - Assets

- **Vulnerability**
  - Susceptibility to hazard impacts
    - Poor building design & construction
    - Poor land-use/mgmt
    - Low coping capacities

- **Natural Hazards**
  - Floods
  - Landslides
  - Cyclones
  - Drought
  - Tsunamis

**Increasing**
**Improving**
**Constant / Cyclical**
Part 2.

Disaster trends
Disasters are on the rise

NatCatSERVICE
Natural catastrophes worldwide 1980 – 2010
Number of events with trend

PEDRR
Training Course on Environment and Disaster Risk Reduction for Sustainable and Resilient Development
Asia is one of the world’s hotspots
Disasters worldwide

- Cold, cold waves, frost, snowstorms (3.50%)
- Droughts, heat waves (4.60%)
- Cyclones, storms, gale, winds, hailstorms, tornadoes, electric storms, lightning, thunderstorms, strong wind (12.32%)
- Alluvion, avalanches, landslides (13.96%)
- Surges, tidal waves (0.01%)
- Floods, flash floods, urban floods, rains (40.91%)
- Fires, forest fires (24.69%)

Source: ISDR, 2009
Global flood risk

... is still increasing but at a slower rate due to reduction in vulnerability, or thanks to increased preparedness & improved standards of living in some countries...

Source: ISDR, 2011
Part 3

DRR actors
International DRR architecture


Global Facility for Disaster Reduction and Recovery (GFDRR)

PEDDR Partnership for Environment and Disaster Risk Reduction

National Disaster Management Authorities

Training Course on Environment and Disaster Risk Reduction for Sustainable and Resilient Development

Asian Disaster Preparedness Center (ADPC)
International agencies working on DRR

- UNEP – Post conflict & disaster unit
- UNDP – Post conflict unit
- World Food Programme
- UNHCR
- International Federation of Red Cross & Red Crescent
- UNICEF
- International NGOs
Bilateral DRR - development actors

- UK DFID – ODI
- BMU/GIZ/BMZ
- SDC
- CIDA
- SIDA
- French cooperation
National and local DRR actors

- Regional disaster management bodies: ADPC, CEPREDENAC, SOPAC

- National disaster management agencies

- Local level: NGOs and local organisations

- Views from the Frontline: 20,000 views on local risk governance, Global Network of Disaster Reduction

Five Priority Areas:

1. Strengthening institutional basis
2. Identify, monitor & communicate risks
3. Improve education & awareness – culture of safety
4. Address underlying risks
5. Strengthen preparedness
Progress toward HFA goals

UNISDR, 2011
Cost of disasters & which solutions?

Source: adapted from ERN-AL, 2011

UNISDR, 2011
Most influential reports

  www.preventionweb.org

- IPCC Special Report on Extreme Events, Summary for Policy Makers
  http://ipcc-wg2.gov/SREX/
Part 3

Actions for DRR
Traditional disaster management cycle
Environmental sustainability in all phases of DRR

Pre-disaster risk Reduction phase

Development and ongoing risk reduction

Risk and vulnerability assessment

Disaster prevention and sustainable development

Disaster preparedness

Impact

Relief

Early recovery/transition

Reconstruction

Post-disaster recovery

Source: RICS (2009)
DRR Actions

- Relief: **save lives** (search & rescue, emergency skills)

- Early recovery: **secure livelihoods** (temporary shelters, water supply, food)

- Reconstruction: **livelihood construction** (housing, employment)

- Risk & vulnerability assessment: **prevention** (analyse & assess risk)

- Development and ongoing risk reduction: **prevention** (planning, V & E reduction)

- Preparedness & monitoring: **prevention** (early warning, emergency drills)
**DRR main points**

Only risk when there is something valuable to be lost

Most disaster risk is due to exposure and vulnerability NOT climate change

DRR actors at many scales

DRR actions mainly focused on reaction in crisis

Real risk reduction can only take place through sustainable development

Mainstreaming with ecosystem management is in infancy..
Conclusions: Main drivers of risk

- Ecosystem decline: deforestation, coastal erosion

- Badly planned and managed urban development

- Poverty: people living in exposed areas and vulnerable to hazard events

- Climate change: substantial warming in temperature extremes by the end of the 21st century, NOT YET significant for hazard events except for heatwaves