Disaster Risk Reduction and Climate Change Adaptation

- **Adaptation:** “An adjustment in natural or human systems in response to actual or expected climate stimuli or their effects, which moderates harm or exploits benefit opportunities.”

- **Disaster risk reduction:** “The concept and practice of reducing disaster risks through systematic efforts to analyze and manage the causal factors of disasters, including through reduced exposure to hazards, lessened vulnerability of people and property, wise management of land and the environment, and improved preparedness for adverse events.”
IPCC reports indicate that climate change will alter risk patterns in several ways:

• Increase in the frequency and intensity of extreme climatic events, such as temperature extremes, storms, floods and droughts;

• Hazard impact in areas that do not have experience with such hazards;

• Increase in vulnerability as underlying risk factors are compounded by climate-change-specific hazards, such as sea-level rise and glacier melt.
Sea Level Rise and Storm Surge

- Scientific evidence indicates that increased sea surface temperatures will intensify cyclone activity and heighten storm surge.
- Surges will create more damaging flood conditions in coastal zones and adjacent low lying areas.
- Egypt, Saudi Arabia and Libya would experience large increases in the extent of their surge zone.
- Kuwait, Yemen and Oman would experience highest surge prone area relative to their country’s coastal zone.
- Absolute impact of Sea Level Rise and intensified storm surge on coastal populations would be particularly severe in Egypt with potential risk to 2.67 million people.
- Relative exposure of population will be high in Kuwait, United Arab Emirates and Yemen.
- The increased inundation exposure translates to a potential loss of 65.27% coastal GDP in Kuwait, 58.08% in UAE, 52.56% in Morocco and 51.98% in Yemen.
Climate Change and Disaster Risk

- Increasing frequency and intensity of natural disasters pose serious challenge to the sustainability of development investments and the stability of economic growth in the region.

- Floods = one of the most recurrent disaster events, which destroy development progress and hinder economic stability in the region. The 2008 floods in Yemen caused approximately US$ 1.7 billion in total damages and losses, and estimated to have increased the poverty rate (28 to 51%).

- 2009 Global Assessment Report on Disaster Risk Reduction (GAR) included Sudan in the top ten countries on the Mortality Risk Index for floods.
Climate Change and Disaster Risk

- Millions of people in the region living in areas potentially affected by tsunami including Egypt, Libya, Yemen, Oman, Syria, Lebanon and Somalia.

- The region is highly vulnerable to climate change, with the world's worst water scarcity & reliance on climate-sensitive agricultural sector and concentration of people and economic activity in coastal zones.

- Over 3/4 of the region's water resources go for human use, and climate change will require more stringent adjustments of water resources management than in any other region.

- IPCC report indicates expected rise in temperatures by 2 degrees in the next 15-20 years and over 4 degrees by the end of the century.
Disaster risk reduction and climate change: UNISDR Strategy

- Disaster risk reduction and risk management were included in the Bali Action Plan and Nairobi WP;
- Raise awareness of synergies between disaster risk reduction and adaptation.
- Support UNFCCC processes and UN System initiatives.
- Assist Governments and national actors to link their disaster risk reduction and adaptation efforts.
- Promote the development of information and tools and the use of the Hyogo Framework.
- Promote action on climate change within the disaster risk reduction community.
Disaster risk reduction and climate change:

UNFCCC-related

- Include disaster risk reduction as a critical element of adaptation in the Post-Kyoto agreement.
- Ensure that national UNFCCC delegations include disaster risk reduction experts.

Hyogo Framework-related

- Implement disaster risk reduction plans as a quick-win climate change strategy.
- Target funding to reduce disaster risks in vulnerable developing countries.
- Participate in the Global Platform and make commitments on DRR and CCA.
- Monitor and Report on HFA to underline progress on DRR including on CCA

IPCC-related

- Support input and information collection for the new IPCC Special Report on Managing the Risks of Extreme Events and Disasters

Global Risk Assessment Report

- 2011 Global Report… drought challenges in the Arab region
What are the Opportunities?

Disaster Risk Management Practices offer capacity to support CCA

• Disaster risk reduction can be a first line of defence whilst building long-term adaptation strategies.

• Bali Action Plan calls for:
  – DRR to advance adaptation; and
  – International cooperation to support implementation of adaptation actions including climate-resilient development and vulnerability reduction.

• Disaster and climate risk reduction use similar tools: e.g. risk assessments, early warning, multi-sectoral approaches.

• Reducing risk is therefore a critical component of adaptation and CC adaptation reduces risk.