
Evaluation of climate change impacts, vulnerability and adaptation

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Structure of presentation

- **What is adaptation?**
- **Integrating adaptation into development policy**



Adaptation and climate negotiations

- COP6 in Bonn (July 2001) established the Special Climate Change Fund (SCCF), the LDC Fund and the Adaptation Fund
- COP7 in Marrakech (November 2001) formed the LDC Expert Group
- COP8 in Delhi, India (November 2002) produced the Delhi Declaration
 - Importance of development and poverty eradication.
 - Integration of climate change objectives into national sustainable development strategies.
- COP10 in Buenos Aires (December 2004) discussed funding adaptation projects in the context of development
 - Global Environment Facility will only finance projects with a core focus on adaptation
 - Adaptation projects with additional development benefits will not receive full-cost funding
 - Co-financing from development and donor agencies would therefore be required, which puts an additional burden on poor countries seeking funds.
- COP11 in Montreal (December 2005) discussed raising funds for the Adaptation Fund from all mechanisms

What is adaptation?

- **Adaptation was treated as a marginal option by scientists and decision makers worldwide**
 - **Fear of diverting resources from mitigation**
- **Now seen as a crucial part of a comprehensive global climate policy**
- **Many developing countries have an interest in adaptation if they can reduce the net costs of climate change impacts**
- **Adaptation can be anything that enhances the resilience of a society and thus is correlated with the degree of development of a society in general**

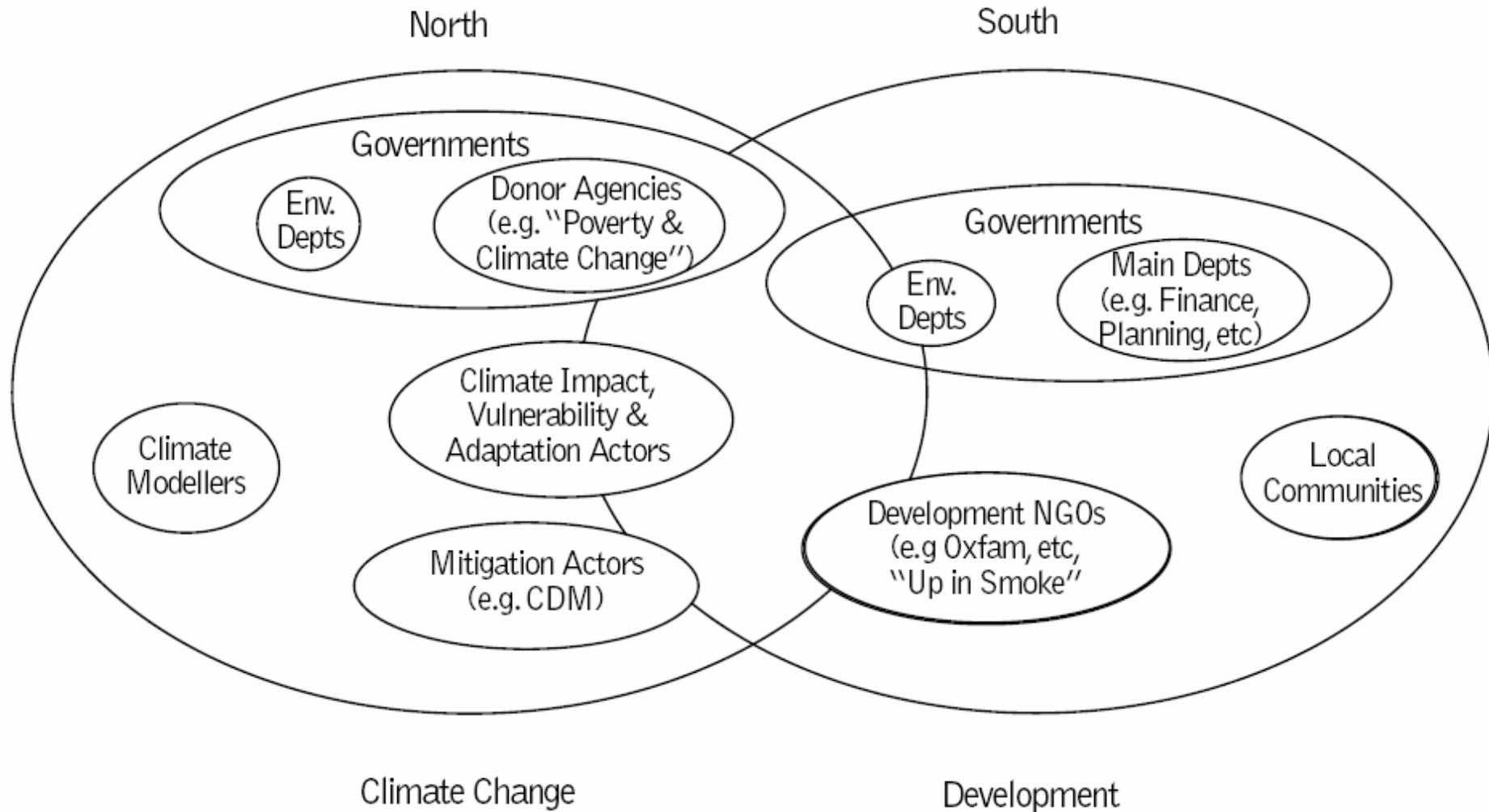
What is adaptation?

- **Not only technological fixes**
- **Increases in flexibility to lower the susceptibility to climatic extremes**
 - Expenses for early warning systems
 - Expenses for institutions such as agricultural and forestry extension services that give recommendations on good agricultural practices and train farmers/foresters
 - Changed management of certain natural resources such as irrigation and hydropower systems

What is adaptation?

- **Necessary conditions for adaptation seem to be**
 - Improved governance, including an active civil society
 - open, transparent, and accountable policy and decision making processes
 - Mainstreaming awareness of climate change impacts into all national, sub-national, and sectoral planning processes, especially through a powerful ministry (finance or planning)
 - Active participation of communities in vulnerability assessments and their full access to climate relevant information systems

Actors in adaptation



Adaptation case studies

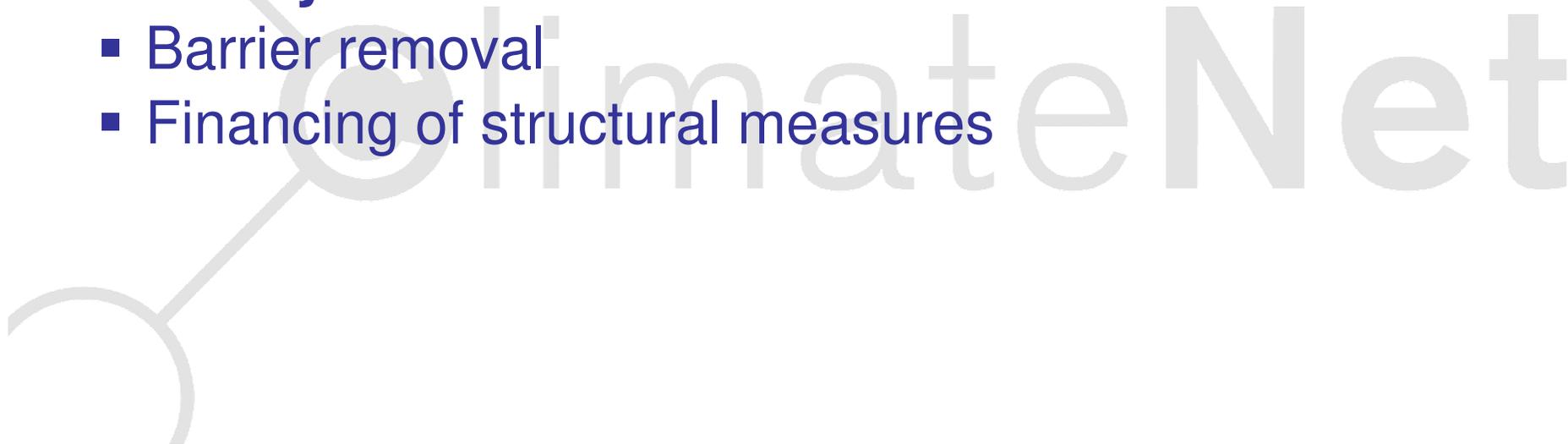
- **Mangrove rehabilitation in Vietnam**
 - 12,000 hectares of mangroves
 - Planting and protecting the mangroves cost ~1.1 million, \$ and saved 7.3 million \$ per year in dike maintenance
 - During the devastating typhoon Wukong in 2000, project areas remained unharmed while neighbouring provinces suffered huge losses in lives, property and livelihoods.
 - 7750 families have benefited from mangrove rehabilitation
 - additional income from selling crabs, shrimp and mollusks while increasing the protein in their diets.

Adaptation case studies

- **Watershed restoration in Maharashtra**
 - Trench building to enhance groundwater recharge
 - Crop management;
 - Afforestation
 - Ban on treefelling
 - Planting shrubs and grasses to meet household fuel needs
 - Grazing restriction
 - Setup of community organization through the formation of “Village Self-Help Groups
 - Micro-lending, supporting cottage industries for supplemental income
 - Training on project management, new fruit crop or animal husbandry techniques

Adaptation strategies

- **Understanding vulnerability**
 - Possible climate change impacts
 - Existing adaptation options
 - Barriers to action
- **Determination of adaptation priorities**
- **Identify institutions that can provide adaptation support**
- **Identify structural and non-structural measures**
 - Barrier removal
 - Financing of structural measures



Efficient adaptation

- **Prioritizing the most cost-effective adaptation measures**
- **Adaptation project developers bid for funding**
 - Ranking according the adaptation benefits per monetary unit
 - Adaptation benefits defined as "the value of the climate change damages avoided by adaptation actions"
 - Requires methodology to quantify incremental benefits from adaptation
 - Need of a firm science on climate change damages (e.g. regional climate models) to be able to value avoided damages
 - Quantify the potential number of lives saved rather than monetarising the damages