

## Adaptation and Needs of Developing Countries

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## About Presentation

- **An Overview on Adaptation**
  - Adaptation Science
  - Adaptation in the Negotiations and
  - Adaptation in the Real World
- **Development Goals and Objectives of Developing Countries: Examples from South Asian Countries**
- **Sensitivity of Development to Climate Change: Sectors and Region**
- **Mainstreaming Adaptation**
  - Mainstreaming Concept and Debate
  - Mainstreaming in the Negotiating World
  - Mainstreaming in the Real World
- **Key Elements for Mainstreaming Adaptation to Climate Change: Development Planning and Projects**
- Some Remarks

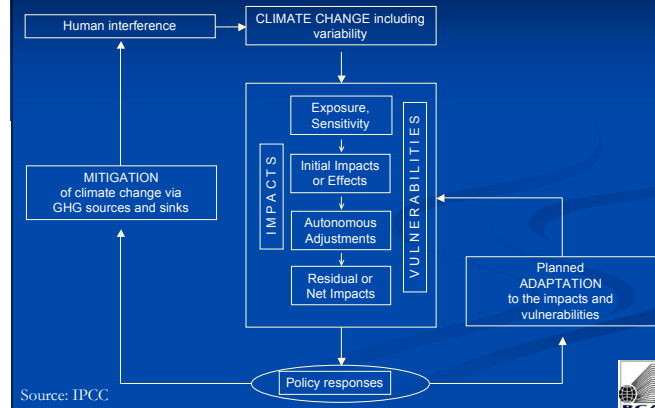


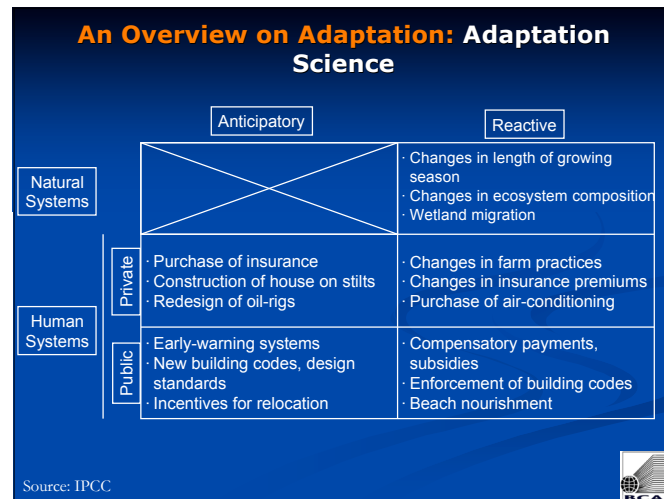
## An Overview on Adaptation: Adaptation Science

- **Adjustment** in natural or human systems in response to **actual or expected climate stimuli or their effects**, which moderates harm or exploits beneficial opportunities. **Various types** of adaptation can be distinguished, including **anticipatory and reactive adaptation**, **private and public adaptation** and **autonomous and planned adaptation**. (IPCC, 2001)
- UNFCCC has not clear definition but adaptation has mentioned under different articles



## An Overview on Adaptation: Adaptation Science






### An Overview on Adaptation: Adaptation Science

#### ■ Forms of Adaptation

- Increasing robustness of infrastructural designs and long-term investments.
- Increasing flexibility of vulnerable managed systems.
- Enhancing adaptability of vulnerable natural systems.
- Reversing trends that increase vulnerability ("maladaptation").
- Improving societal awareness and preparedness.



### An Overview on Adaptation: Negotiations World

#### ■ Climate vs. Climate Change


- Negotiations deals only with anthropogenic Climate Change
- Create problems of allocating losses (climate vs. climate change)
- Who pays? "Common but differentiated responsibilities" for climate change.
- Climate-related disasters as a "common concern"
- Significance of responsibility vs. concern



### An Overview on Adaptation: Negotiations World

#### ■ Who Pays?

- UNFCCC. Article 4.4.
- "The developed country Parties ..... shall also assist the developing country Parties that are particularly vulnerable to the adverse effects of climate change [not climate variability] in meeting the costs of adaptation to those adverse effects."
- Hence the debate about incremental costs



## An Overview on Adaptation: Negotiations World

### ■ Article 4.8

- The parties shall give full consideration to what actions are necessary under the Convention, including actions related to **funding, insurance, and the transfer of technology**, to meet the specific needs and concerns of developing country Parties arising from the adverse effects of climate change and/or the impact of the implementation of response measures, especially on .....
- Nine criteria including dependence on fossil fuels.



## An Overview on Adaptation: Negotiations World

### ■ Three Funds Under the Convention and Protocol

- Established by COP under the Global Environment Facility (GEF) finance mechanism
- Least Developed Countries Fund (LDCF) supports NAPAs. Pledges \$32.5 M.
- Special Climate Change Fund (SCCF) pledges \$33 M for adaptation
- Adaptation Fund, the Kyoto Protocol Levy. 2% of proceeds from CDM and other source of funding
- GEF Special Priority on Adaptation (experimental fund) \$50 M allocated
- Implementing Agencies. UNDP, UNEP, World Bank.



## An Overview on Adaptation: Real World

### ■ Peoples and Community are Adapting to Climate Variability, Extreme and Change

- Peoples are coping with Floods, Cyclone, Droughts etc.
- Different types of technologies are adopting by different sectors particularly water and agricultural sectors to deal with variability and extreme weather events



## Development Goals and Objectives: Developing World

- Economic Growth
- Poverty Reduction
- Food-grain Self-sufficiency and Food Security
- Human Health
- Education
- Water and sanitation
- Energy Security
- Natural Resource Management (land, water, forestry, biodiversity etc.)



### Poverty: Different Regions of the World

Regions	1990	1998	2008 (Projection)
East Asia	28	15	9
Eastern Europe and Central Asia	2	5	10
South Asia	44	40	31
Sub-Saharan Africa	48	46	52
Latin America	17	16	23
Global	30%	24%	22%



### Development Goals and Objectives: South Asian Countries

- Poverty Alleviation (35 to 40 percent living below poverty line)
- Economic Growth (4-8 percent)
- Food-grain Self-sufficiency and Food Security
- Natural Resource Management (land, water, forestry, biodiversity etc.)
- Human Health
- Education
- Water and sanitation
- Energy Security



### Development Goals and Objectives: South Asian Countries

- Social and Economic Development of the South Asian Countries are dependent on
  - Availability and Quality of Natural Resource base
  - Economy is highly dependent on performance of agriculture sector (crop, livestock, fisheries etc.)
  - Agricultural sector is also primary source of income for rural households and employ larger labour force
  - Water resources (surface and groundwater) played significant role in social and economic development

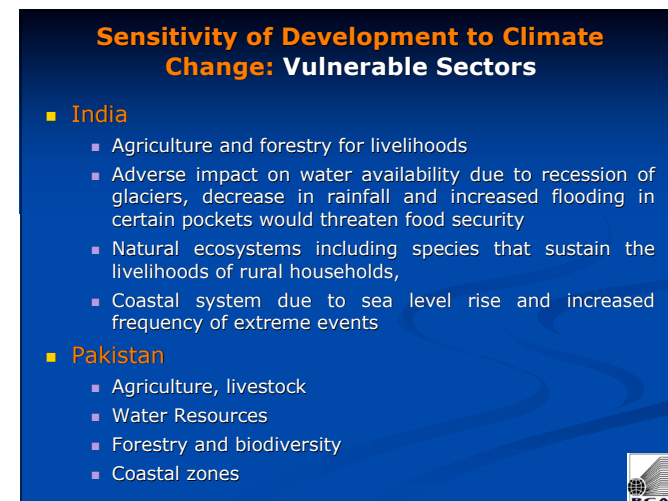
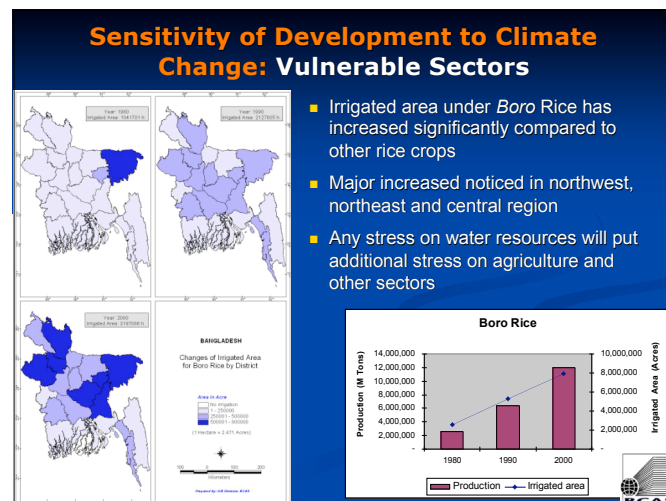
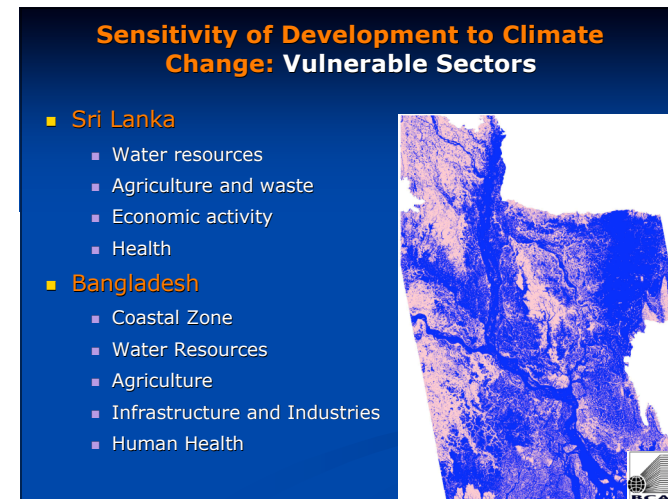
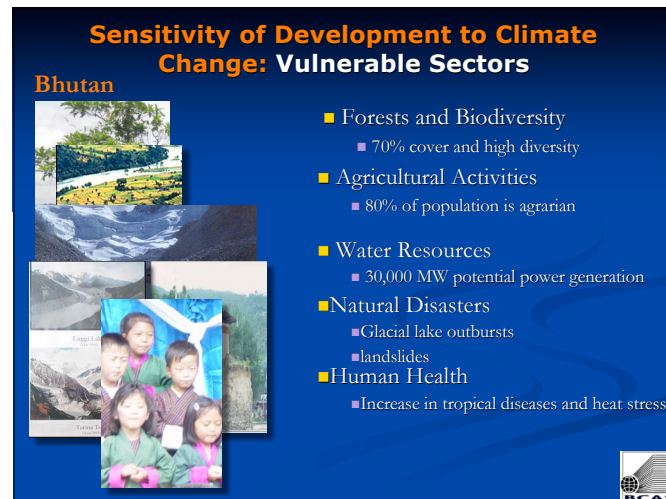


### Sensitivity of Development to Climate Change: Vulnerable Sectors

#### Maldives

- Ecosystems
  - Coral Reefs,
  - Sea Grass, Mangroves, swampy areas
- Economy
  - Tourism
  - Fisheries
  - Agriculture
- Food Security
  - Agriculture,
  - Import Dependence,
  - Storage and Distribution
- Water Resources
- Human Health
  - Vector Control
  - Waste Management: Solid, Sewage, hazardous waste





### **Sensitivity of Development to Climate Change: Vulnerable Sectors**

#### ■ **Nepal**

- Water Resources
- Hydropower (prone to GLOF)
- Agriculture
- Forestry and Biodiversity
- Health



### **Mainstreaming Adaptation: As Concept**

- Incorporation of climate risks into all development activities (both developed and developing countries?)
- Climate proofing



### **Mainstreaming Adaptation: Negotiating World**

- Developed country parties and their development agencies pushing concept of mainstreaming adaptation to climate change in to development policies and plans
- Developing countries particularly Least Developed Countries reluctant to accept concept of mainstreaming
- Because responsibility of developed country parties under the convention may be shifted



### **Mainstreaming Adaptation: Real World**

- **Developed Country**
  - Number of developed countries has prepared their strategies and programme to deal with climate impacts
  - Example – UK Climate Impact Programme (UKCIP)
  - They are not calling this as Adaptation
- **Developing Country**
  - Least Developed Countries (LDCs) are preparing their National Adaptation Programme of Action (NAPA) under COP7 Decision
  - There is growing demand that other countries should follow the NAPA process



## Key Elements for Mainstreaming Adaptation to Climate Change

### ■ Key Elements

- Identification of issue and awareness raising
- Priority setting
- Strategic planning and policy development
- Operational decision-making

### ■ Use Existing Knowledgebase

- Communities do understand their vulnerability and adaptation needs in daily life. They also understand the change that is going on; but they may not know the future and it may go beyond their coping capacities.
- Uncertainty is not a barrier – because these activities are inherently useful regardless of whether we can attribute them to climate change at this stage.



## Key Decisions in Montreal Related to Adaptation

### ■ Key Decisions

- Five year work of programme on adaptation
  - Objectives
  - Expected Outcomes
  - Scope of Work and
  - Modalities
- Discussion on LDCF and finalization of Programming Paper
- SCCF (adaptation to responses measures)
- Decision on Adaptation Fund under KP

### ■ Gap between work programme and availability of funds

- No reference to fund



## Remarks and Way Forward

- **Adaptation science** has evolved from what is happening with climate change to what are we going to address the impacts of changes.
- **Vulnerability of people is not only determined by climate change**, but by other factors such as population growth, access to resources, etc that need to be included in assessments of impacts and adaptation
- **Adaptation activities are already underway** in vulnerable communities while UNFCCC process is still getting going
- **Success** of adaptation activities will be enhanced by the small scale of activities and they can more easily be context-specific



## Remarks and Way Forward

- **Role of NGOs** in the transmission of knowledge to and from the communities is vital
- **Awareness-raising** has been very effective in stimulating the enhancement of adaptive capacity of communities but **needs to be in their own terms**
- Efficiency of implementing at the local level will be much enhanced if there is **proper use of local knowledge**
- **A database on local coping strategies** - UNFCCC is preparing



## Remarks and Way Forward

$$\text{Impacts of an event} = \sum \int \text{Intensity of Event} \\ \times \int \text{Baseline Conditions} \times \int \text{Adaptive Capacity} \uparrow$$



## Remarks and Way Forward

### At Global Level

- Differentiated burden sharing for adaptation like mitigation target
- Mandatory contribution
- New criteria and indicators for funding adaptation projects

### National Level

- Mainstreaming or integrating adaptation into development plans and activities – NAPA is an example for LDC as a beginning
- Capacity building and capacity utilization

### Local Level

- Building resilience of community to deal with climate impacts
- Enhance social capital



**Thank You**