Literature review on vulnerability and adaptation to climate change and sustainable development

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Climate change and sustainable development

- Mitigation
  - Developed countries
  - Developing countries
- Vulnerability and Adaptation
  - Developed countries
  - Developing countries
Vulnerability and Adaptation

- IPCC Third Assessment report
- Food security
- Natural hazards
- Human health
- Natural resource management
Vulnerability at different scales

- Household
- Sub-regions within countries
- Countries/national
- Regional (multi-country)
- Global (inter-country)

Vulnerability by sectors

- Water resource
- Coastal zones
- Natural disasters
  - Floods
  - Droughts
  - Hurricanes/cyclones
- Human health
- Natural ecosystems
## Vulnerability by regions

- Africa
- Asia
- Small island states
- Latin America

### Anticipatory vs. Reactive Responses

#### Natural Systems
- Changes in length of growing season;
- Changes in ecosystem composition;
- Wetland migration.

#### Human Systems

<table>
<thead>
<tr>
<th>Private</th>
<th>Anticipatory</th>
<th>Reactive</th>
</tr>
</thead>
<tbody>
<tr>
<td>Purchase of insurance;</td>
<td>- Construction of house on stilts;</td>
<td>- Changes in farm practices;</td>
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<td>- Redesign of oil-rigs.</td>
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<td>- Changes in insurance premiums;</td>
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<tr>
<td>Public</td>
<td></td>
<td>- Purchase of air-conditioning.</td>
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<td>Early-warning systems;</td>
<td>- New building codes, design standards;</td>
<td>- Compensatory payments, subsidies;</td>
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<td>- Incentives for relocation.</td>
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<td>- Enforcement of building codes;</td>
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<td>- Beach nourishment.</td>
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Adaptation

- Policies
- Adaptive capacity
- Economic estimation
- equity

Adaptation linkages

- Mitigation (CDM)
- Other MEAs
  - Desertification
  - Biodiversity
  - Ramsar
  - Development
  - NSSD
  - PRSP
Adaptation funding

- Climate Change Fund
- LDC Fund (NAPAs)
- Adaptation Levy (on CDM)
- Development funding
  - Multi-lateral
  - Bilateral

Conclusions

- Policy
  - National planning
  - International funding policies
- Development assistance
  - Role of adaptation
  - Incremental cost concept
- Research
  - Linkages between adaptation and mitigation
  - Equity related issues