

Adaptation to climate change: why, who, how, and when?

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2 June 2009



Outline

- 1. Adaptation discourses:**
Who is interested in adaptation, and why?
- 2. Adaptation assessment:**
Providing relevant information to society
- 3. Adaptation priorities:**
Acting in the presence of uncertainty

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Adaptation discourses: Who is interested in adaptation, and why?

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Climate change policy portfolio

	Mitigation	Adaptation		Residual impacts
		Proactive (prevention)	Reactive (coping)	
Local to national	Domestic emissions reductions	Domestic adaptation		Bearing/sharing the loss
Inter-national	Financing mitigation abroad	Assisting adaptation abroad		Compensation for impacts abroad?

Mitigation: Avoiding the unmanageable
Adaptation: Managing the unavoidable

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Main policy discourses on adaptation

- 1. Regional adaptation planning and policy-making**
 - What actions are recommended to reduce climate risks?
 - How can they best be planned, implemented and funded?
 - How can adaptation be mainstreamed with existing policies?
- 2. International burden sharing of adaptation costs**
 - What are the costs of adaptation in different countries?
 - How can sufficient funds for adaptation abroad be raised?
 - Which countries should receive funding, for which policies, and under which conditions and institutional arrangements?
- 3. Global benefits, costs, and limits of adaptation**
 - To what extent, and at what costs, can adaptation reduce adverse climate impacts, and thus the need for mitigation?

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Adaptation differs from mitigation

1. More diverse range of actions, actors and goals
2. Larger uncertainty about costs & effectiveness
3. No common performance indicators and targets
4. Private good character limits role of markets
5. No separability of equity and efficiency
6. Responsibility for bearing the costs is disputed
7. Fundamental limits to adaptation
8. Human rights issues and international relations

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Two perspectives on adaptation

Adaptation to climate change is about ...

Future problems	Current vulnerabilities
Targeting specific risks	Enhancing adaptive capacity
Sea walls	Policy coordination
Building codes	Networking & learning
Vaccine programs	Education & motivation
Drip irrigation	Incentive structures
Crop breeding	Flood insurance
Desalination plants	Flexible water allocation rules

Different criteria for "good" adaptation

- 1. Economic efficiency:**
Reduce climatic risks where benefit-cost ratio is highest
- 2. Equity in outcome:**
Share adaptation costs and residual impacts equitably
- 3. Cost-effectiveness:**
Achieve acceptable risk level at lowest costs
- 4. Robustness:**
Prevent unacceptable losses across all plausible futures
- 5. Legitimacy of process:**
Aim for wide public participation and support

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Trade-offs and challenges for adaptation planning

- 1. Efficiency vs. equity:**
Adapt where its cheapest or where needs are greatest?
- 2. Private vs. public adaptation:**
Rely on self-interest of vulnerable sectors and groups or aim for a strong role of public institutions?
- 3. Short-term vs. long-term perspective:**
Focus on known risks or on (more uncertain) future risks?
- 4. Costs of acting early vs. risks of acting late:**
Act now or wait for more information?
- 5. Specialization vs. flexibility:**
Adapt to specific scenarios of future risks or build capacity to deal with a wide range of plausible futures?

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Key areas for government action

- 1. Research and provision of information**
 - Regional climate scenarios (including uncertainties)
 - Adaptation guidelines, forums, networks, etc.
- 2. Climate-proofing of current government activities**
 - Natural resources management
 - Disaster preparedness and management
 - Development aid
- 3. Regulating essential activities of private actors**
 - Urban and spatial planning
 - Elderly care and health services
- 4. Resource transfers to vulnerable groups**
 - Efficiency: Enable adaptation that would not happen else
 - Equity: Reduce burden of disproportionately affected groups

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Adaptation assessment: Providing relevant information to society

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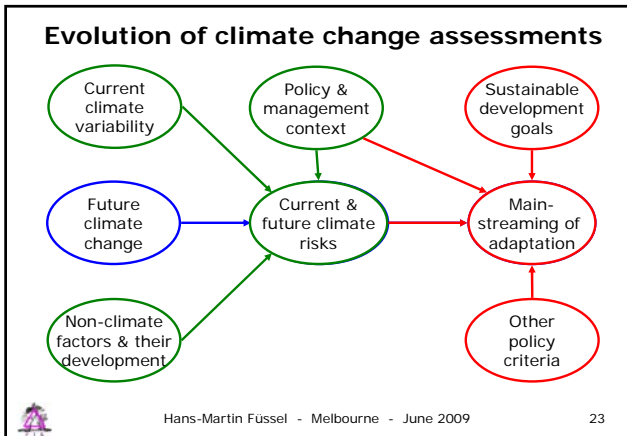
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Principles of good adaptation planning

1. Consider uncertainties from the outset
2. Frame your objectives carefully before you start
3. Involve stakeholders throughout the process
4. Focus on actions to manage priority climate risks
5. Combine different assessment approaches flexibly
6. Integrate quantitative and qualitative information
7. Try to find robust policy options:
no/low-regret policies and win/win strategies
8. Review your adaptation strategy regularly

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Adaptation priorities: Acting in the presence of uncertainty

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- ### Key questions for prioritizing adaptation
- 1. How important are climate factors for a decision?**
The larger the importance of climatic factors, the greater is the need for detailed climate projections.
 - 2. How severe is a particular risk?**
The larger the projected increase in risk, the greater is the need for *detailed assessment* and action.
 - 3. How confident are we about a particular risk?**
The more certain we are about a particular risk, the more specific action is justified.
 - 4. How familiar are we with a particular risk?**
The less experience exists in coping with a particular risk, the greater the need for *additional action*.
 - 5. How urgent is the implementation of adaptation?**
The larger the current risks and/or the longer the decision horizon, the more urgent is acting now.
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- ### Timing of adaptation
- Early action** is particularly important if:
- Climate-sensitive risks are already urgent now
 - Projections of increasing risks are reliable
 - Future impacts are potentially catastrophic or irreversible
 - Decisions have long-term effects (e.g., building long-lived infrastructure)
 - Adaptation measures have a long lead time (e.g., spatial planning, epidemiological studies)
- Delaying adaptation** can be rational if:
- Current and potential future risks are moderate
 - Cost of adaptation is high
 - Timely response options are readily available
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- ### Starting points for policy prioritization
- 1. Large current risks from climate variability**
 - Which current climatic risks are insufficiently controlled?
 - Are they expected to increase further?
 - 2. Large future risks from climate change**
 - Which significant impacts of climate change are projected with high confidence for the future?
 - 3. Long policy horizon**
 - Which current decisions have long-term effects?
 - Which potential adaptations have a long lead time?
 - 4. No/low-regret policy options**
 - Which options exist for increasing the capacity to cope with climate variability at no or little additional cost?
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Thank you!

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