

Climate Adaptation Issues

Definitions and Checklists for WICCI Working Groups

Adaptation Working Group¹

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This is to help working groups discuss adaptation in their assessment reports. The definitions, questions, and common strategies below are suggestions, not requirements. Not all items will be applicable or valuable to all working groups. Our goal is to help working groups not overlook any major adaptation issues.

Definitions of Adaptation

We suggest each working group adopt a definition of adaptation suitable to its topic. A recommended starting point is the IPCC definition:

Adaptation to climate change is the “adjustment in natural or human systems in response to actual or expected climatic stimuli or their effects, which moderates harm or exploits beneficial opportunities.” (IPCC 2007, Glossary.)

Adaptation may take these forms, shown as ends of spectrums:

Planned ² <i>Deliberate actions aimed at adaptation</i>	<—>	Autonomous (or spontaneous) ³ <i>Actions by B that yield adaptation for A</i> ⁴
Anticipatory (or proactive) ⁵ <i>Done before impacts are observed</i>	<—> ⁶	Reactive <i>Done after impacts are observed</i>
Public (or governmental) <i>Involving government actions</i>	<—>	Private <i>Involving non-governmental actions</i>

¹ William Walker and David Liebl (co-chairs), Lewis Gilbert, James LaGro, Jr., Pete Nowak, and John Sullivan.

² Planned adaptation “is the result of a deliberate policy decision, based on an awareness that conditions have changed or are about to change and that action is required to return to, maintain, or achieve a desired state.” (IPCC 2007, Glossary.) [We read “policy” to include actions by individuals, businesses, and institutions.]

³ Autonomous adaptation “does not constitute a conscious response to climatic stimuli but is triggered by ecological changes in natural systems and by market or welfare changes in human systems.” (IPCC 2007, Glossary.)

⁴ Autonomy is a matter of perspective. Adaptation may *appear* autonomous to an observer, *A*, who takes no actions but sees the results of actions that others, *B*, have taken. From *B*’s perspective the actions are not autonomous. For example, people may migrate from hazardous areas. From government’s point of view, that is autonomous (no government action), though the migrants took deliberate action in their movements.

⁵ Anticipatory adaptation “takes place before impacts of climate change are observed.” (IPCC 2007.)

⁶ CCSP 2008, p. 2-19, represents the anticipatory—reactive spectrum with four parts: (a) *no adaptation*; (b) *reactive adaptation* (no planning; adapt after impacts observed); (c) *anticipatory adaptation* (acknowledge impacts; but plan adaptation after impacts observed); and (d) *proactive adaptation* (acknowledge impacts and plan adaptation in advance).

Questions Checklist

We encourage working groups to consider the following questions when identifying impacts and developing adaptation strategies. Not all will apply to each working group. Questions in bold are highly recommended.

Audience and Actors

- **To whom are the adaptation strategies addressed?**
- Is the audience expected to take action to implement the strategies or will others take actions?
- **Who or what is most affected by the impacts under consideration?**
- Is the focus on human or ecological systems?

Benefits and Harms

- **Are the impacts harmful or beneficial** (or is it too early or difficult to tell)?
- **How will benefits and harms vary among affected groups or places?**
- **Are there significant impacts *indirectly* related to climate change** (e.g., impacts from human migration)?
- When there are multiple benefits and harms, do they aggregate into an overall benefit or harm or are the combined effects indeterminate?
- Is determining benefits and harms objective or subjective?
- Will the strategies affect some groups differently than others?
- Will the strategies have negative (or positive) spillover effects (unintended consequences, externalities)?

Scope, Scale, and Timeframe

- What is the geographic area involved? Is it contiguous or fragmented?
- What is the social breadth involved? Are there many or few groups or cultures? How similar are they?
- **What parts of the scale of social or ecological organization⁷ will feel the greatest effect from the impacts? To what parts are the strategies aimed?**
- How soon are impacts likely to arise (or have they already arisen)? For how long are impacts likely to endure?
- **How much lead time is required for strategies to be effective? How quickly can strategies be altered?**

⁷ Social scale is a range of organizational sizes: individuals—small organizations (businesses, nonprofits, etc.)—large organizations—societies. Similarly, the ecological scale ranges from individual organisms through large ecosystems. Impacts, strategies, and adaptation success will vary across scales.

Focus of Strategies

- Are strategies meant to reduce impacts as such or to reduce exposure or harm from impacts?
- **Are strategies focused on deliberate, planned, and centralized actions?**
- If strategies use autonomous adaptation, are policy actions needed to support it?
- Do strategies respond *directly* or *indirectly* to a climate impact?
- **Are the strategies aimed at changing *processes*** (e.g., changing the governing rules or professional practices by which decisions are made) **or achieving *outcomes*** (e.g., building a new storm drain)?

Ranking and Criteria

- **Which impacts and strategies are of greatest importance?**
- **What criteria are most pertinent to evaluating importance?**
 - Risk or urgency (i.e., a matter of survival or mere accommodation)?
 - Feasibility and cost?
 - Positive or negative spillover effects, including co-benefits?
 - Predictive uncertainty?
- **What strategies would be worth doing even without their climate adaptation benefits?**

Common Strategies Checklist

We recommend that groups look for strategies in the following categories.

- **Information:** Generating and sharing information about climate change and adaptation. Including monitoring and early warning capacity.
- **Research:** Researching impacts of climate change. Supporting public and private innovation through theoretical and applied research.
- **Mainstreaming:** Incorporating climate adaptation issues in other government policies and procedures.
- **Infrastructure:** Strategies to build or modify infrastructure.
- **Resilience and adaptive capacity:** Increasing resilience and adaptive capacity of ecological or social systems, including removing barriers to adaptation.
- **Inequality:** Addressing social inequality in distribution of climate impacts.
- **Market mechanisms:** Using regulated markets (taxes, trading systems) or private businesses to foster adaptation.
- **Externality control.** Regulating negative externalities from *other* adaptation strategies, including autonomous adaptations.

References

(IPCC 2007) Intergovernmental Panel on Climate Change. *Climate Change 2007: Impacts, Adaptation and Vulnerability* (Working Group II contribution to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change). Cambridge University Press, February 2008. ISBN 0521880106.

(CCSP 2008) Preliminary review of adaptation options for climate-sensitive ecosystems and resources final report, synthesis and assessment product 4.4. Technical report, U.S. Climate Change Science Program And the Subcommittee on Global Change Research, June 2008. URL http://oaspub.epa.gov/eims/eimscomm.getfile?p_download_id=474224.

Unofficial adaptation blog: <http://acclimatize.wordpress.com>.