



Methods of Climate change Assessment



Principal topics

- National Inventories of Greenhouse Gases
- Vulnerability Assessments
- Adaptation Analysis
- Mitigation Analysis
- Capacity-Building Needs Analysis

Overview

- Methodological tools are used in the development of **national implementation strategies**
- Applying these tools provides basic information needed to formulate **national communications under the UNFCCC**
- The result can also help national governments **formulate projects and programmes that can be funded under the financial mechanism of the Convention**

Key principles

- Studies should be adapted to fit national circumstances
- Studies should be structures so as to provide feedback and input to national development plans
- Studies should take account of all greenhouse gases, but will typically emphasizes carbon dioxide
- Results of the inventory and vulnerability assessments should be used to structure the adaptation and mitigation analyses

The National inventory

- The Convention requires all Parties to report estimates of emissions by sources and uptake by sinks and reservoirs
- This balance sheet provides an estimate of a national contribution to global climate change
- **Emissions = Emissions Factor x Activity Data**

Principle component of Emission Inventory

- Emissions from **fossil fuel use or nonsustainable** use of biomass
- Emissions from **livestock and agriculture**
- Emissions from **land-use change**

Vulnerability assessment

- Pinpoint the risk of rapid climate change for national economies and natural ecosystems
- Identify the economic sectors and geographic regions most at risk
- Identify the components of natural ecosystems that may be negatively affected by rapid climate change



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- Requires review or evaluation of the effects of climate change, both positive and negative, on populations, economic sectors and ecosystems
- Can be qualitative as well as quantitative in nature
- Is usually based on local experience with past weather events (e.g., severe rain storms, droughts, hot spells, cold snaps, floods, and wind storms) that resemble climate change

Adaptation Analysis

“An Adaptation Analysis highlights the key opportunities, projects, programmes or measures available **to reduce the impacts of those climate changes which cannot be avoided.**”

- Asks the question: “what can we do to reduce the economic, physical, and biological damages due to future climate changes ?”
- Includes technological, institutional, behavioural and policy responses

Adaptation analysis

- May be based on assessments of institutional reform and other behavioural responses to climate change
- Can include both new management techniques, specific educational strategies, and shifts in development plan in light of the risk of rapid climate change
- Can include economic modeling of proposed policies or introduction of new technologies
- Can include physical and engineering analysis of protective measures
- Can include assessments training and communication strategies to increase public awareness



Thank you