A Case for Incorporating Institutions in Climate Change Studies and Models

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Definitions

• Broad definition: “humanly created formal and informal mechanisms that shape social and individual expectations, interactions, and behavior”

• “Institutions are the formal and informal organizations through which society structures shared decision-making and takes collective action”
Types of Institutions

• **Property Rights Institutions**: institutions that protect individuals and firms from risk of expropriation by the government or powerful elites

• Contracting Institutions: institutions that enforce contracts made by private citizens

• **Institution for social insurance**

• Institutions for conflict management
(1) Institutions as fundamental determinants of mitigation and adaptive capacities of societies

• Overall governance, particularly land and water governance determine mitigation and adaptive capacity
  • Governance: “the manner in which power is exercised in the management of a country's economic and social resources for development”

• Strength of institutions as determinant of the effectiveness of adaptation and mitigation policies

• Thus, institutions also determine the magnitude of the impact that climate change has on societies
World Bank (Kauffman) Governance Indicators

(a) the process by which governments are selected, monitored and replaced;

(b) the capacity of the government to effectively formulate and implement sound policies; and

(c) the respect of citizens and the state for the institutions that govern economic and social interactions among them.
Governance Indicators : 2013

- Voice and Accountability
- Political Stability
- Government Effectiveness
- Regulatory Quality
- Rule of Law
- Control of Corruption

Nigeria vs Germany
Nigeria, 1996-2013
Aggregate Indicator: Government Effectiveness
(2) Institutions shaping incentive structure in the economy

- Institutions shaping incentive structure in the economy
  - Property right institutions give the individual control of the returns of her investment
  - Tenure security $\rightarrow$ investment in conservation, natural resource management
  - Communal ownership of natural resources
  - Lack of well-defined property rights $\rightarrow$ deforestation
(3) Institutions as endogenous responses to climate change

• Formal Institutions
  • US Federal Crop Insurance: Great Depression and the Dust Bowl
    • The Federal Crop Insurance Corporation (FCIC) was created in 1938 to carry out the program
  • Ethiopia:
    • Disaster Prevention and Preparedness Commission (to manage frequent drought)
    • Safety net (food for work programs)
    • Extension Service: Conservation Practices
    • Weather Insurance: idiosyncratic vs aggregate shocks

• Informal Institutions
  • Communal pooling of resources
  • Sharecropping arrangements
Policy

• “The philosophers have only interpreted the world, in various ways. The point, however, is to change it.”

• Underlying economic rationale for collective action (public policy)
  • Private costs of emission are less than social costs
  • Private benefits of mitigation and adaptation exceed social benefits

• Policies differ both in effectiveness and efficiency (cost)
  • Usually there are different winners and losers from different policies

• Policy Neutral Scenario Outcomes
  • Scenarios are endogenous
  • Fundamental Assumption :“ The outcome predicted under different scenarios do not depend on the specific policy instruments used achieve the scenarios”

• Implications for internal consistency of the regional and global models ?