Institutional Dimensions of Global Environmental Change in Coastal and Marine Systems

Syma A. Ebbin
IDGEC IPO

Diagram:
- **Institutions**
  - local, regional, national, international, global
  - property rights, election systems, regulatory regimes

- **Institutional Causes**
  - weak incentives to conserve, no penalties for harmful side effects

- **Institutional Responses**
  - altering systems of property rights, adopting environmental regulations

- **Human Activities**
  - overharvesting of fish, clearing land for agriculture, consuming CFCs

- **Environmental Change**
  - forest degradation, long-range air pollution, loss of species

- **Other Causes**
  - socioeconomic, biophysical
IDGEC Research Foci

**Focus 1 – CAUSALITY**
What roles do institutions play in causing and confronting global environmental changes?

**Focus 2 – PERFORMANCE**
Why are some institutional responses to environmental problems more successful than others?

**Focus 3 – DESIGN**
What are the prospects are for (re)designing institutions to confront environmental challenges?
IDGEC’s Analytical Themes

FIT
How well do institutions match the ecosystems they interact with?

Interplay
How do different institutional arrangements affect each other?

Scale
Do lessons learned about local institutions apply to global institutions and vice versa?

Performance of Exclusive Economic Zones (PEEZ)

- Exclusive Economic Zones (EEZ’s)
  - Encompass 25% of global primary productivity
  - 90% of world’s fish catch
PEEZ research themes

- Conservation and use of marine living resources
- Comparative studies of performance of over 100 coastal state EEZ-based regimes

PEEZ Analytical Approach

Exclusive Economic Zones

- Biophysical effects
- Socioeconomic effects
- Governance effects
- Knowledge effects
PEEZ Research Questions

- How can we account for variation in the performance of EEZ regimes?
- How have EEZ’s affected the conservation, distribution and efficient use of marine resources?
- How has the creation of EEZ’s changed traditional notions of sovereignty?
- How have EEZ’s affected the way in which knowledge about management and conservation is produced?

Institutional dimensions of vulnerability and resilience to GEC in coastal and marine systems

Vulnerability:
- inability to cope with adverse effects

Resilience:
- Ability to withstand or cope with perturbations

Both have:
- biophysical
- social
- institutional components
Relevant institutions

- Economic/market systems
- Fishermen’s coops/industry organizations
- Government
- Cultural
- Religion
- family

Institutional Characteristics

- **Fit issues**
  - Biophysical and social components
- **Interplay issues**
  - Redundancy, overlap, fragmentation
- **Scale issues**
  - Local
  - State/provincial
  - National
  - International/global
Need to consider: Knowledge Systems

- Structure of information flows
- Existence or non-existence of feedback loops

- **Adaptive capacity**
  - Ability of system to:
    - Add
    - Change
    - Evolve
    - Self-organize
    - Learn

- **Institutional goals**