EEN Forum 2009, 6/8/2009, 1 p.m.
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Session 4: The Vexing Problem of Scaling

Hans Bruyninckx
- Scale as a relevant concept:
- Organize policies that have an eco-logic (not by regions or countries)
- Fit, interplay and scale are all difficult for policy interventions
- Little academic literature on scale as a policy issue
- Policy evaluation (euro term) not program evaluation (USA)

Scale-conscious policies:
- river basin approaches, migratory birds, trans boundary nature protection
- new policy initiatives prompt debates on other scale issues (institutional scales, financial constructions, different types of actors – state, market, civil society, etc., governance arrangements)

Need for policy evaluation for new policy interventions
- better adaption to environmental scale lead to better performance?
- More attention to environmental scale lead to more attention for environmental effectiveness in evaluations? – often little correlation between results and intervention
- Can we evaluate these new arrangements with old eval methodologies?
- How good are evaluators at linking different scales?

Definition:
- 3 relevant scales for environmental policy
    o Ecological scale, temporal scale, social scale
- Different levels along a scale:
    o Ecological scale: from cell level to global ecosystem
    o Temporal: immediate changes to long term changes
    o Social scale: household level to globalization
- Tradition policy starts at 'state' level

Social scientist so defining scale is social process (scale is socially constructed – by whome? For what reason?
- Scales can make policies sound apolitical
- Scaling up or down can change statistics
- Switching scales or levels on a scale can make problems (dis)appear
- Powerful tool
- Social political aspect behind scales

3 probs with scale
1. Institutional fit: scale mismatch between the ecological and policy scale
   - serious consequences for effectiveness and efficiency

- our knowledge systems, policy models, environmental models and social organization has been dominated by an approach that separates all of these scales (Homer-Dixon)
- these things are being integrated, epistemologies aren't always adapted to each other

2. Knowledge discordance (Cash and Moser 2000)
   - mismatch between the available information and the information needed for better matched between ecological, social and time scales
   - Might require new sort of thinking about explanation, new explanatory models, new epistemological science

3. Cross-scale interactions
   - we can understand things within one scale but what are the interactions between diff levels of scales, and across scales

Consequences for evaluators:
- become more scale conscious
- question the scale aspect of your approach
- design new methodologies
- multi-disciplinary teamwork
- how to communicate with the 'customer' (public or private)

Guy Robertson
Scale and Scope in Forest Sustainability: lessons learned

- Montreal Process Criteria and Indicators for Forest Sustainability (MPC&I)
- Scale and scope are interrelated as broader spatial scales entail broader….???? – see first slide

- MPC&I
  - background (see slide)
  - international agreed upon set of criteria and indicators
  - Montreal process – 7 criteria, 64 indicators, 12 countries
  - structure – see slide
  - Institutional framework indicators – can't be addressed by quantitative measures
  - Aims to be comprehensive, cover all aspects of forest sustainability
  - Product of international process and negotiation process – collaborative process
  - Aims for comparability across countries – global scale
  - Not constrained by availability
  - Represents maximum scope and scale
  - Extensive stakeholder input
  - National perspective isn't understood well enough

Summary results
- concerns about quality, especially in area of disturbance, less concern about quantity (stable) – in US
- forests are changing and evolving faster than our perceptions

Impact of Scale:
- temporal scale – 'increasing' since 1990 but not since pre-industrial times
- trend data – starting and ending point is important

Fragmentation
- measure itself is dependant on scale
- things change at different scales

Scope:
- sustainability is too broadly defined – lots of divergent viewpoints in a collaborative process – everything gets put in

- Collaborative process not a systematic process – process of synthesis and debate
- want to try and make data as available and relevant as possible at multiple scales

Don Outen: Forest sustainability at the Local Government Level
- county-level
- Baltimore county – 40yr tradition of managed growth (urban growth boundary) – 90% of current population lives within 1/3 of land
- Forests fragmented, small patches, lower level cover, 75% privately owned, disturbance, deer, land conversion, etc.
- As local gov, have bounds and constraints – driven by mission
- Limited on focus (local only)
- Work at multiple levels at same time (ecological, social, etc), noational to parcel level
- Users, scientists and evaluators all in one
- Process: normative planning process, evaluate outcomes, etc.
- Better data -> better dialogue -> better decision
- MPC&I – represents all important values in forest system – we used this as our goal set
- At local level we're responsible for an increasing number of outcomes – use montreal criteria and use it as a tool to focus on tings we're supposed to do
- Involved with chesapeak bay initiative, etc.
- Process has been iterative, lots of adaptive management – brought stakeholders in and asked them to participate

Data Approach:
- realized we lacked necessary data to look at indicator level
- decided to look at criteria level (goal set) – started here

- then started to collect and look at existing data – asked what data was available at county scale
- then started collecting some of the data ourselves
- compiled info on our own with GIS experts in the county, used our own ways of measuring
- tracked performance data from existing projects and new initiatives

Examples
- scaling down existing federal and state data
- used GIS tools to characterize forest resources (built typologies)
- used standard methodologies to collect data
- assessing urban forests

- forest now key tool we're building into everything
- now that we have the ability to get the data and evaluate what it means to the process (thanks to montreal process)

Hans
- have to link agents (people and societies) with trees
- linkages are key

Don
- vulnerability is converging
- have to look at everything, consider social factors, institutions, etc.

Q: performance management v. measurement
- were stakeholders involved in shaping metrics that managers use or just that are reported out to public?
Don's A: both – involved stakeholders who came to us with their data and programs that we didn't know about

Q for Hans:
- scale v. communicating what's essential to policy maker?
A: when new policies are made, often there is no thought into how are we going to follow-up on what we've decided
- the people who evaluate in agencies are not the same people that have thought about the policy
- policy makers are not people dealing with implementation, measuring, evaluating
- process should involve thinking about what kind of knowledge we need from the beginning – what knowledge do I need to follow up this process
- serious problem in both arenas

Guy
- impact of scale on processes involve
- local process – lots of people involved

- national process – policy makers aren't involved in process of measurement and evaluation
- institutional scale plays into how these things go forward – more engagement at local scale than national scale

Hans:
- US = disadvantaged by size of country – too many agencies and specialists
- smaller country – people know each other more – policy communities

Q for Don:
- you have strong tax base, ability to do this – not true for lots of other counties
Don:
- roundtable for sustainable forests – brings MPCI down to local level, held workshop for local governments to help show them how to use the process (MPCI)
- this is important to counties – you have requirements and mandates
- just trying to share the info, show they can do it too
- our programs spreading to adjacent counties
- you have to be optimistic

Q:
- why should local governments support programs like 'growing homes (coupons to grow trees)' and how do we know if it's working?
Don's A: track trees with GIS, we learned out of MPCI that economic sustainability of forests is important – have to use market forces
- now doing network analysis – fill in the gaps
- a lot of this evaluation isn't very formal, welcomes input of the evaluation community