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Towards Economics of Multi-Level & Polycentric Environmental Governance

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Motivation and links

- To better understand the link between the design of formal legal institutions and environmental governance outcomes
  - by extending some of Lin Ostrom's ideas to the governance of "large environmental resources" on the basis of formal legal institutions
  - by amalgamating additional insights from new institutional economics, philosophy, political science and IR
- Focus on institutional design & its impact on enforceability and outcomes, rather than on other aspects of IAD
- Testing some of the amalgamated ideas on development context?

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What is environmental governance?

- Hollowing out of state? Absence of government? => Descriptive & restrictive take on EG.
- Resolution of environmental conflicts through the establishment, reaffirmation and change of institutions: functional take on EG.
- Environmental conflict is an analytical, not descriptive concept: conflict of values, goals or interests the key and requires decisions
- Source of conflicts is e.g. rival & joint use etc.
- Institutional arrangements emerge to resolve conflicts, not to coordinate or to optimise on transaction costs.
- Social justice is central to environmental governance

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Environmental governance as ownership

Established View	Better View?
1. Private property	Private ownership
2. State property	Redundant – not needed as it resolves to 1 & 3
3. Common property	Collective ownership, including many national policies & MEAs
4. Res nullius and open access	Res nullius - but not identical with open access

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Institutional design

- The match between resource & user attributes and the institutional design affects environmental & other outcomes;
- Institutional design also affects transaction costs and thus enforceability and governance outcomes;
- Institutional designs distribute benefits & costs of resource use and provisioning differently and create different user incentives
- **Level structure, organisation of governance functions and formulation of rules are key aspects of institutional design**;
- All governance solutions have 1) constitutional, 2) institutional or collective choice and 3 operational functional **tiers**;
- Uniplanar governance solutions have but a single **structural** level while multi-level governance solutions have many of them;

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Governance functions

- Ostrom's (1990) "design principles" describe good ways of organizing governance functions
- Governance functions include:

1. exclusion of unauthorized users;
2. regulation and sharing of benefits of resource use
3. Provisioning and sharing of its costs;
4. monitoring of resource users;
5. enforcement of rules;
6. resolution of conflicts over resource use;
7. collective choice for the establishment and modification governance solutions.

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What is MLEG?

- Multi-level governance solutions have many structural tiers unlike uniplanar governance solutions
- Multi-level governance solutions can be formed by bottom up and top down processes
- Nested institutions with vertically symmetric solutions one form.
- Vertical symmetry not necessary, differentiation may occur.
- State-based vs. voluntary - Types 1&2 (H&M 2003); Hybrids?

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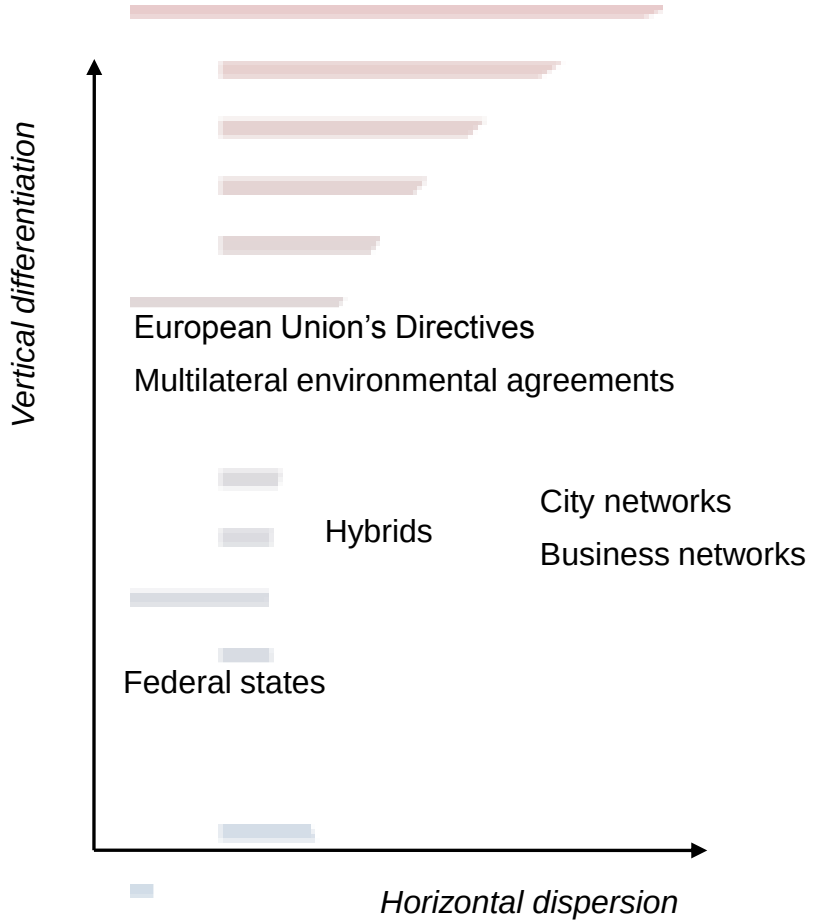
Polycentricity?

- Empirical base in the post-war public service and good provision in the US
- Ostroms' demonstrated that the new overlapping, networked and bottom up solutions made economic & political sense
- Horizontal fragmentation of authority & vertical functional differentiation & bottom up are key features;
- There is little economic theorisingand empirical evidence on ML & PC environmental governance
- But multiple starting points do exist for explaining their emergence etc.



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Collective action & MLEG

- Collective action more likely successful in small groups than in large groups (Olson, 1971).
- When “large” groups are involved in environmental conflicts, it is difficult to mobilise collective action
- Mobilising collective action in smaller groups remains possible and is more likely to succeed.
- Organising collective action among these smaller groups e.g. through representation more likely to succeed than going “big” from the outset.
- Multi-level structure may emerge to facilitate collective action
- Implicit bottom up orientation but can inform top down

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Governance costs & MLEG

- Governance functions involve (transaction) costs which are in part a function of the design of the governance solution
- Assuming given governance goals, rational actors would minimise the costs of their attainment
- Different governance functions may have different optimal levels of implementation
- Multi-level structure can emerge as an instrument for minimising governance costs.
- Cost-benefit explanation highlights that benefits can also vary for different designs, and MLEG may maximise.
- Top down & also bottom up differentiated solutions

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Scale, Scope & MLEG

- General-purpose jurisdictions such as the municipality and the state can have economies of scope.
- Addition of new functions may entail lower costs than the establishment of new governance solutions
- MLEG emerges as the result of economies of scope in and replicates layers of government
- Special districts have been shown to be more expensive in public service delivery in the US (Foster 1997)
- Path dependence provides comparable explanation but may not require cost advantage
- OK for nested solutions but not for differentiated ones?

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Catchments & MLEG

- Environmental resources are resource systems providing many ecosystem services (multifunctionality).
- ESS “catchments” have varying spatial scales and thus their provision implies costs and benefits to spatially divergent groups of agents.
- Public finance theory of optimal provision of public goods demands determination of jurisdictions so as to match benefits and costs of provision => multiple jurisdictions
- Multiple levels may be needed to resolve conflicts between spatially divergent interests.
- Relevant in all MLEG types

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Observations & explanations

- Collective action theories explain negotiated (bottom up) solutions – fishermen's associations & federations etc.?
- Cost-benefit theories and catchment theories underpin ecosystem service provision proposals (PES schemes etc.)?
- Governance cost rationale underpins decentralisation initiatives / top-down co-management?
- International agreements constitute MLEG solutions where economies of scope and path dependency are determinants, together with governance costs?

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Implementation analysis

- MLEG employed in already “populated” institutional environment.
- **Governance regime** could be considered to encompass all institutional arrangements and rules relevant for the governance purpose at question.
- Cluster of institutions encompasses core institutional arrangements in governance regime.
- Institutional interaction – horizontal and vertical interplay – can either hinder or foster environmental governance. Absence of negative interplay means “coherence”.
- Coevolution of institutional arrangements to achieve coherence?

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Example: biodiversity & MEAs

- Six MEAs form the biodiversity cluster, regime includes further institutional arrangements and rules;
- Number of measures are used in the cluster to enhance / achieve coherence: liaison group an example.
- Evidence of co-evolution exists at the level of MEAs.
- We also examined implementation at country level in 15 LAC countries (focal points etc).
- Coevolution does not extend to national level where MEAs have different focal points and their implementation does not fit well with structures of public administration.

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Velázquez J.O.G., Stringer L.C., ***Paavola J***. (2014). Managing regime complexity at the national level: The implementation of biodiversity- related conventions in Latin America and the Caribbean. *Global Governance* 20: 119-145.

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Example: biodiversity in EU

- Poland's transition and accession to EU transformed biodiversity governance, making it based on MLEG;
- EU accession larger change than transition in terms of implications: NGOs gained leverage by linking to international NGOs and making use of EU participation provisions;
- But wider political changes and changes in governance have also empowered local authorities and accentuated conflicts between conservation and development interests.
- Democracy enhanced but conservation not?

Niedzialkowski K. & Paavola J. (2013) Governance of biodiversity in Poland before and after the accession to the EU: The tale of two roads. *Environmental Conservation* 40: 108-18; Niedzialkowski K., Paavola J., Jedrzejewska B. (2012). Participation and protected areas governance: the impact of changing influence of local authorities on the conservation of the Białowieża Primeval Forest, Poland. *Ecology and Society* 17(1): 2.

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Example: carbon markets

- Do carbon markets (CDM) deliver on their dual goal of delivering effective mitigation and contributing to local sustainable development; climate justice framing
- Multi-level and method fieldwork in India with a focus on hydropower projects in Sikkim; experiences also gathered from SSA projects.
- Case evidence and literature suggest that host communities benefit little or may actually suffer from carbon market projects; national benefits may exist though. Little difference between carbon market arrangements although some good examples from VCM.
- Key issue is the way in which designated national authorities institutionalise sustainable development requirement

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Mathur V., Afionis S., Paavola J., Dougill A.J. and Stringer L.C. (2014) Experiences of host communities with carbon market projects: towards multi-level climate justice. *Climate Policy* 14: 42-62.

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Example: climate change adaptation

- The role of institutions in helping to transform coping with climate change into longer term adaptive capacity in Uganda;
- Multi-level and method fieldwork on continuum from two communities to district, regional and national levels;
- Mapping and analysis of customary, public, civic and market institutions relevant for coping with floods and droughts;
- Institutional lacunae – customary institutions remain local and focal and insufficient in empowering in all respects. Public institutions do not reach local level and have sectoral gaps.
- Yet instances of negative interplay and pre-emption

Berman R, Paavola J. Quinn C, (2014) The role of institutions in coping with climate variability and adapting to change in two Ugandan communities. Centre for Climate Change Economics and Policy, *CCCEP working paper xx, available at* *http://www.cccep.ac.uk/Publications/Working-papers/*

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Conclusions

- The approach is broad enough to facilitate the investigation of a range of questions across policy areas and levels, whilst still providing analytical orientation and facilitation. But it is early days.
- The work has involved mixing etc. economics, political science, IR and development studies ingredients in varying proportions;
- There is great scope for IAD, TAC etc inspired research on formal governance institutions – getting more work off the ground, based on varied approaches, would help making analytical advances
- For WINS, problem-focused work helps amalgamating insights from necessary sources but this should be needs based / instrumental consideration, not a priori.
- Avoid grand synthesis, keep tinkering the going concern.