

Reflections on Problems of Fit, Interplay and Scale

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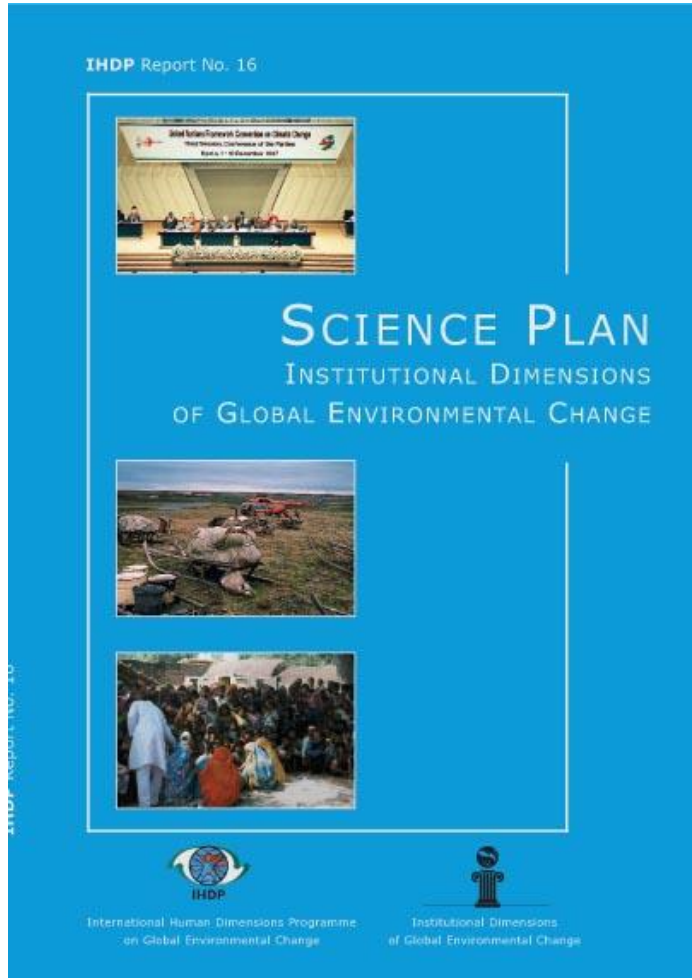
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Structure

1. Introducing the analytical framework
2. The illusion of perfect spatial fit
3. Interdependencies of fit and interplay
4. The dynamic and contested nature of scale
5. Towards a nuanced, cross-cutting research agenda

1. Introducing the analytical framework

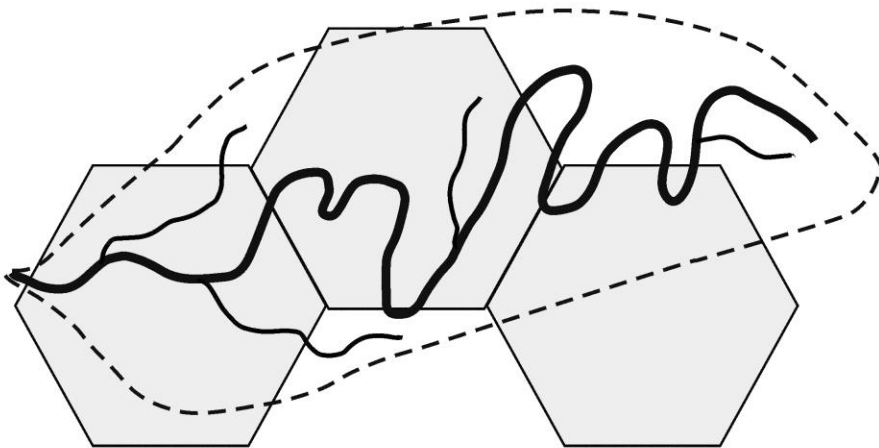


1. Problems of fit
2. Problems of interplay
3. Problems of scale

Problems of fit

“Problems of fit”

Problems of incompatibility between institutional arrangements and biogeophysical systems

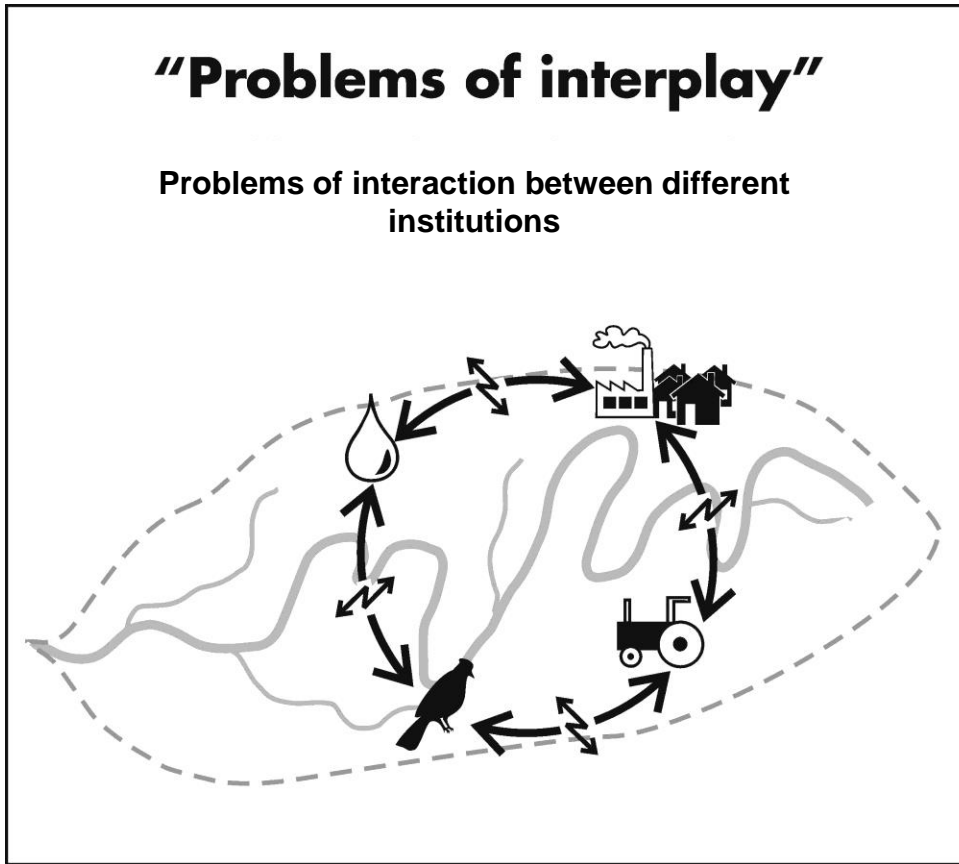


- **“The effectiveness of social institutions is a function of the match between the characteristics of the institutions themselves and the characteristics of the biogeophysical systems with which they interact” (Young 1999:57)**
- **Example: spatial misfits (Ekstrom & Young 2009)**
- **River basin management as classic response to problems of spatial fit**

Problems of interplay

“Problems of interplay”

Problems of interaction between different institutions



- “The effectiveness of specific institutions often depends not only on their own features but also on their interactions with other institutions” (Young 1999:60)
- Example: Integrated Water Resources Management designed to overcome problems of interplay

Problems of scale

“Problems of scale”

Challenges of upscaling from local to global



- **“The transferability of both empirical generalizations and causal inferences from one level to another in the dimensions of space and time” (Young 1999:65)**
- **Example: From the local catchment, via the transboundary river basin to national and transnational water regulations**

2. The illusion of perfect spatial fit

- Problems of spatial fit a focus of research at IDGEC/SES/IAD interface (Young 2005, Folke et al. 1998, Galaz et al. 2008, Ostrom et al. 2002)
- Quest for the optimal spatial unit of resource management:
 - Designing institutions to match geography of natural resource or ecosystem
 - Managing water around river basin as prominent case:
 - unitary river basin agency as ideal organizational form for solving problems of spatial fit
- Older literature: deterministic tendency in ascribing environmental problems to spatial misfits
- Problems in promoting optimal spatial fit in practice reveal limitations of over-simplistic assumptions

- Criticisms from recent literature:
 1. Determining territorial boundaries of ‘natural’ resource often not straightforward
 - ecosystems spatially neither closed nor static
 - differences between surface and groundwater catchments (Moss 2003)
 2. Resolution of one boundary problem often creates a new one
 - “When restructuring organizations, boundaries or edges are moved, not removed” (Mitchell 2005:1341)
 3. Upscaling resource management to cover larger spatial scope of a problem increases transaction costs significantly
 - Increased number of actors, scales, interaction (Galaz et al. 2008)
 4. Spatial fit is not a physical given
 - Focus on ‘natural’ boundaries overlooks political, socio-economic or cultural geographies of a social-ecological system (Biswas 2004)
 5. Problems of accountability beyond territorial jurisdictions

- Ways forward:
 - Spatial fit valuable less as normative category, more as analytical frame for revealing multiple geographies of resources, problems these generate and options for addressing them
 - Beyond simple institutional panaceas towards more flexible, integrative, context-sensitive solutions that reflect complexity of fit
 - Beyond techno-managerial quests for the spatially perfect organisational structure towards more inclusive and participatory modes of resource governance across multiple boundaries
- Resonates with literatures on polycentric governance, adaptive (co-)management, boundary organisations, social learning (Galaz et al. 2008)

3. Interdependencies of fit and interplay

- Resolving problems of fit at the expense of interplay?
 - Reordering institutions around one resource or ecosystem can generate problems of interplay
 - E.g. Problems of interplay between river basin institutions and other institutions crucial for water policy objectives but organized around different territories: land-use planning, agriculture, forestry, transportation, energy, nature conservation etc. (Moss 2003)
 - E.g. Lack of legitimacy and authority vis-à-vis democratically elected government bodies organized around territorial jurisdictions (Mostert et al. 2007, Pahl-Wostl et al. 2007)

- Fit and interplay distinct analytical categories, but often interlinked in practice
 - River basin management, to be effective, needs good institutional interplay
 - E.g. Co-existence of river basin and jurisdictional institutions of water resources management in Germany, post-WFD >>> water management authorities plan around river basins, but implement in cross-sectoral collaboration (Hüesker & Moss, in press)
 - To overcome legitimacy problem river basin authorities dependent on support from political jurisdictions >>> incentives for greater interplay and new modes of cross-sectoral governance (Moss 2003)
- Institutional misfits between different policy fields
 - Different policy mechanisms, legal structures, spatial scopes, ...
 - E.g. diverse institutional logics of policy fields relevant to water resources management: nature conservation, agriculture, hydroelectricity, land use planning, ...

4. The dynamic and contested nature of scale

- Problems of scale narrowly defined by IDGEC framework as transferability of institutional models across scales
- Literatures on scalar dimensions of human-environment relations much broader:
 - Multi-level governance (political science)
 - Optimising scales of political regulation, inter-scalar action, different governance modes (Hooghe & Marks 2003)
 - Participatory governance (political science)
 - 'democracy dilemma' and appropriate scalar level for participatory decision-making (Koontz 1999)
 - Environmental institutions (SES)
 - Vertical institutional interplay from local to international (Adger et al. 2003)
 - Politics of scale (human geography)
 - societal production of spatial scales via rescaling, reordering of scalar power relations (Smith 1984, Swyngedouw 2004)

- Broader perspectives on scale from these literatures:
 1. The constitution and construction of scales: scale as a social and relational concept and practice
 2. Scalar fixes and scalar dynamics: old scales versus new scales
 3. Processes of rescaling: reordering of scalar relations as scale-making 'from above' meets scale-working 'from below'
 4. Power reconfigurations and scale: winners and losers of rescaling processes
 5. Scalar trade-offs: balancing legitimacy, effectiveness and efficiency
 6. Impacts of scalar politics: material, institutional and spatial effects

1. Multiple geographies of natural resources:
 - Quest for perfect spatial fit fundamentally flawed
 - View river basin in broader context of overlapping social, economic, political and physical spaces (Lipschutz 1999) and interdependent scales of action (Hüesker & Moss, in press)
 - Pay less attention to structure of a river basin authority and more to (horizontal and vertical) interactions between multiple organisations affecting water use in a basin (Schlager & Blomquist 2008; Huitema et al 2009)
2. Boundary work and organizations:
 - Explore ways of working within and across boundaries, rather than trying to remove them
 - Target 'boundary organizations' striving to span various geographies, policy sectors, scales of resource management

3. Power asymmetries and politics of resource use:

- View water resources management as inherently political and contested (Allan 2003, Molle et al. 2008)
- Explore power asymmetries within and beyond the river basin: cf. 'politics of position', 'politics of place' (Lebel et al. 2005; Lee & Moss 2014)
- Pay more attention to (shifting) power constellations

4. Connectivity between fit, interplay and scale:

- Treat 3 themes as analytically distinct, but interdependent in practice: resolving problems of fit demands good interplay
- Conceive of them as complementary dimensions of collaborative resource management (Moss 2012)

Thank you!

Further reading:

Hüesker, F.; Moss, T. (in press): The Politics of Multi-Scalar Action in River Basin Management: Implementing the EU Water Framework Directive, *Land Use Policy*.

Lee, F.; Moss, T. (2014): Spatial fit and water politics: Managing asymmetries in the Dongjiang River basin, *International Journal of River Basin Management*
doi:10.1080/15715124.2014.917420.

Moss, T. (2012): Spatial Fit, from Panacea to Practice: Implementing the EU Water Framework Directive, *Ecology and Society* 17(3): 2 URL:
<http://www.ecologyandsociety.org/vol17/iss3/art2/>.

Moss, T. (2003): Solving Problems of 'Fit' at the Expense of Problems of 'Interplay'? The Spatial Reorganisation of Water Management following the EU Water Framework Directive. In: Breit, H.; Engels, A.; Moss, T.; Troja, M. (eds.): *How Institutions Change. Perspectives on Social Learning in Global and Local Environmental Contexts*. Leske + Budrich, Opladen, pp.85-121.