

Response comments to:

The Problem of Fit between Ecosystems and Governance Systems – Insights and Emerging Challenges by Galaz, Olsson, Hahn, Folke, and Svedin

Presented by

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Galaz et al's paper, "Problem of Fit between Ecosystems and Governance Systems – Insights and Emerging Challenges" provides a valuable sequel to Folke et al (1998), allowing us to appreciate the problem of ecosystem-governance fit in conditions of dramatic social-ecological change. Some of my own thoughts on this paper come after appreciating the good work of the Folke et al (1998) paper and using it successfully with graduate students of our Resilience and Adaptation at the University of Alaska Fairbanks. The current paper raises the bar for our analysis of social-ecological governance by posing a new set of questions that will undoubtedly keep many institutionalists busy with research for some time to come. By forcing us to think of the challenges of governance in a rapidly changing world, the authors move beyond a functionalist analysis of fit to highlight some of the feedbacks between social, economic, and ecological subsystems. To help us stay focused on that dynamism, the authors suggest that we think of "interconnectedness" rather than "linkages" of social-ecological systems. The proposed change in language seems like a good idea.

As I read the paper, I reflected on my own work with Human-Caribou Systems of the North and the extent to which climate, land-use, and economic changes are changing the distribution of these animals, people's understanding of caribou herds, and the fit of institutions for co-management with dynamic ecosystems. For example, the Thelon Sanctuary of Northwest Territories Canada, the location of the calving grounds of the Beverly Caribou Herd, has been an area recognized for its high habitat value and set aside from development since 1922. Calving is partially located northwest of the sanctuary's boundary. Recently this area has become of interest because of its rich uranium deposits and many mining claims. In response to these economic changes, the co-management board responsible for the Beverly herd is struggling to address its conservation implications. The effectiveness of institutions for protecting important caribou habitat with co-management has been further confounded by the recent findings of biologists that there is significant overlap of the region's caribou herds during winter months; what were once simple maps delineating herd ranges are now a complex story of intermingling stocks. Consequently, the co-management board that has been organized for more than two decades around herd-specific management mandate is somewhat disoriented. As a result, some suggest that we revisit the concept of herd as an organizing principle for caribou co-management. While that is a good idea in principle, the prospects of institutional change are daunting to those who may have to renegotiate a new arrangement. We also find that some herds without co-management ownership ("orphaned herds") are not receiving adequate attention (i.e. in monitoring and research). These northern examples illustrate how ecological change (in this case climate and development) AND changes in how humans conceptualize and understand a resource (what is a caribou herd?) can separately and together create additional problems of fit.

At the risk of oversimplifying the very complex story presented in the Galaz et al paper, I respond to three of its aspects below. They include 1) the development of a theory of adaptive co-management; 2) the hypothesis that the trend towards devolution in governance increases the vulnerability of society to abrupt ecological crisis and cascading social-ecological effects; 3) the role of leadership and the steering of networks of networks in dramatic ecological change.

Towards a theory of adaptive co-management: The concept of adaptive co-management (ACM) is part of an emerging discussion on governance of social-ecological systems that captures the ideas of resilience thinking. As noted in this and other papers (Berkes 2002, Folke et al. 2002, Berkes et al. 2005, Folke 2006), adaptive co-management is governance that facilitates social learning within and across scales. The authors state that the use of the term ACM is, in part, intended to address the theoretical weaknesses of the older ideas, adaptive management and adaptive co-management. As we consider the idea of adaptive co-management, it is important to remember that ACM is still in its nascent stages of development as a concept and is thus, relatively weak theoretically. As we move forward in the effort of theory building, I suggest that it is helpful to reflect on the past intellectual challenges associated with the development of adaptive management and co-management studies.

The concept of adaptive management was described initially as an idealized system by small number of authors (Holling 1978, Walters 1986, Lee 1993), several of whom later noted that adaptive management has proven unsuccessful in practice (Lee 1999, Walters 2000). Some of the problems stem from the role of politics in resource management, and how it interferes with “the science of learning by doing.” In the case of co-management studies, we find that there are many examples of successful power sharing, but very little agreement among scholars on a common theoretical framework for co-management analysis. The development of a common framework for co-management has been suggested (Pinkerton and Weinstein 1995), yet there is no consensus on how to achieve that goal. I mention the failures of adaptive management and the absence of a unifying theory of co-management because both have significance as we try to articulate a framework for understanding ACM. The Folke et al (1998) and the Galaz et al papers lay an excellent foundation for moving us ahead. As we do move forward, I believe we face the challenge of thinking less about idealized systems and more about key relationships and mechanics of change that will help us avoid the ambiguity between typological models and real world cases. I also suggest that we keep issues of power and power sharing front and center in our discussion, and think carefully about what indicators are measurable through empirical research. It will be interesting to watch and see in the future if ACM develops as a theory and in practice, is discarded because of its failures to live up to its ideals, or is left as a set of case studies without a common framework for analysis.

Greater devolution of governance increases vulnerability to ecological crisis and cascading effects— This hypothesis is for me the most interesting and perhaps the most provocative idea of the paper, and opens a host of interesting questions regarding the relationship between institutional design and conditions of abrupt ecological change and cascading events. The problem of fit forces us to revisit Young’s original (and more static) concept of “resource regime” to consider institutions for the management of common pool resources as sets of arrangements that must co-evolve with changing ecological conditions. As I read the paper, I found myself returning to the authors’ critique of the language of “social-ecological linkages,” wishing that we could elaborate

more exactly what is meant by the idea of “cross-scale linkage.” Successful “links” depend on specific bundles of property rights, the allocation of those rights and duties across scales, and in particular, the systems by which formal and informal institutions obligate national and sub-national governments to support regional and local entities. Thus, I am suggesting that the extent to which devolution causes greater vulnerability is related to the extent to which there are clear lines of accountability between scales. Of course, in a world of polycentric institutions, cross-scale accountability is at best difficult. Let us hope that this area of analysis will encourage policy makers to consider the unimaginable (i.e. expect surprise) in a more systematic way.

The authors also suggest that crisis events may lead to a greater need to control by central authorities and “man-on-horseback” solutions that will undermine the self-organizing features of local systems. The aftermath of the Prince William Sound spill provides a counter point example with the post-spill creation of a highly effective Citizen’s Oversight Council, which has established an arrangement that has added to resilience of the region through environmental scanning, emergency crisis planning, and systematic research. In that case, a well funded and well crafted system of accountability with clear lines of authority connects public, private, and community entities. I would expect that this system will go along way in buffering against future crises. The trend towards devolution is a new one that comes with many benefits, and I suggest that we remain circumspect when evaluating its downsides.

Leadership and Steering Networks of Networks

The authors make the point that leadership is critical to governance in conditions of dramatic change, particularly where devolution and rapid change put greater pressure on quick decision making. They also raise the question of how policy networks will be coordinated given their transient nature and the high transaction costs of achieving consensus among groups. These points are well taken. The discussion on leadership and the emergence and performance of policy networks appears to be the least developed aspect of the paper, and represents an important area for future research. What are the characteristics of leaders operating in policy networks and across scales that make them successful in achieving consensus and building resilience during conditions of rapid directional change? We should remember that the trend towards devolution and the increased role of policy networks is concurrent with the on-going development of formal governance systems (agencies, co-management boards, First Nations, etc). That is to suggest that policy networks and formal government agencies will together face future ecological crisis and cascading effects. These challenges will also occur in a world of greater connectivity (Young et al 2006), which potentially may dampen the coordination problems of policy networks.

The point is also made in the paper that formal (government) representatives will be needed to take key leadership roles in conditions of dramatic ecological change, because they will be the only with legitimate authority. Legitimacy is a complex human construct that is subject to forces for change (Kofinas 2006). It is interesting to point out that in the United States we are currently experiencing a leadership crisis – a popular rejection of formal leaders in governance, business, the media, and the non-profit sector. The crisis of “not-leadership” seems to be driven in part by the capricious and irresponsible actions of recent formal leaders in an increasingly individualized and globalized system. It is not clear to me whether this trend is a US phenomenon or something more global. In China I observe how a centralized government is dealing with Panda conservation problems by making grand decrees that relocate people of entire

regions, and how people are accepting these decrees without challenging government. My point here is that we need to think carefully about the cultural dimensions of leadership, social capital, and the behavior of social networks in our study of adaptive governance, remembering that transactions of all social institutions unfold as a part of systems of values and beliefs, both of which affect institutional performance (Douglas 1986).

In conclusion, I deeply appreciate the authors of the paper for providing us with new insights and new directions to pursue.

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