Social-Ecological Resilience: Persisting or Resisting?: Connecting the theoretical, methodological, and policy dimensions of resilience

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The issues that arise at cross points of public health, the environment, the economy, and human development are not only fascinating, they can and often do provide the basis for groundbreaking research and policy making. Resilience research is situated at the boundary of research and policy in a way that makes possible movement and transition between the two. Theoretical work about the capacity of social-ecological communities to change, both in response to and in anticipation of a shift in the broader system, can be used to develop a set of interrelated concepts and empirical ways of measuring these concepts that are concretely applicable for policy, as well as for developing intervening programs for social change.

As some of the most intractable problems occur at the points of intersection between human communities and natural environments, an integrated approach is demanded. Such an approach includes concepts that extend between the two spheres, previously separated by academic disciplines, research programs, and language, among other things. One way to address this separation is to develop and clarify concepts that are already in existence and use on both sides. The right concepts will fill the theoretical gap, but will also fill the gap in practice by being applicable beyond metaphor. Social-ecological resilience is one such concept.

Though the concept of social-ecological resilience is the focus of this work, a number of other concepts are closely related. This enhances the potential utility of social-ecological resilience as a concept that links to a number of distinct disciplines and fields, but poses definitional problems, some of which this essay attempts to clarify. The measurement of social-ecological resilience is also challenged by these cognate concepts and their often-confused relationships. By exploring the relationship of resilience to such concepts (e.g. community capacity, human well-being, social capital, vulnerability, adaptive capacity), as well as the use of resilience across disciplines, a more coherent understanding of resilience in social-ecological systems can emerge.

Aside from the conceptual work of analytically relating complex concepts like social-ecological resilience, the methodological challenges to developing theoretically based indicators are, in large part, the reason that resilience research has not advanced to empirical measurement. Furthermore, there is the challenge of reaching consensus within the diverse resilience research communities about the major factors that contribute social-ecological resilience. Confronting these issues is pre-requisite to the measurement of social-ecological resilience and its effective application in policy and practice.

While the current usage of resilience remains highly abstract, a well-developed conceptual framework and a consistent set of valid empirical indicators would allow researchers and policy makers to evaluate a community's potential to implement, adapt, and/or support change with recommended policies. A measure of social-ecological resilience would also assist decision makers in identifying the factors that threaten community sustainability and stability. By aligning policy impacts and outcomes with a community's social-
ecological resilience, both policy and the state of communities can be dramatically improved.