

Assessing the role of socio-ecological learning in participatory governance: Building resilience in six Brazilian river basin committees

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Brazil has embedded the socio-ecological learning process in the participatory management of river basin councils through its “sister laws” on water and the environment. GITHIDRO or, Grupo Transdisciplinar de Pesquisas em Governança da Água e do Território, a transdisciplinary group of researchers at the Federal University of Santa Catarina, has taken these laws and developed new interpretations of socio-ecological learning. As a result of their work with rural communities since 1983, they have incorporated an ethical component and a dynamic and complex program of participatory “cycles of learning” that brings committees and communities to a common understanding of socio-ecological processes, laws, and potential for collective action (factual knowledge). By “socio-ecological learning” we are using the model proposed by Pahl-Wostl and Hare (2004) that “embeds social learning in the socio-ecologic system where the outcomes of the participatory management process are of a technical and relational nature,” or, more simply “learning together to manage together” (Craps 2003; Ridder et al. 2005). The research team and the committees together have developed the committees’ capacity to value and respect each other and the natural environment in which they live through discussions about their historical and present experiences with land use and development and their world views of nature (social skills and cognition). Their goal is for the committee and the community to acquire a longer view of themselves in their environment and to shift from an over-riding goal of increased productive capacity to one of increasing adaptive capacity.

We apply resilience theory—especially “the capacity to buffer change, learn and develop”- as a framework for understanding how to sustain and enhance adaptive capacity in a complex world of rapid transformations” (Folke et al 20020). We use this theory’s emphasis on stimulating innovation and communication to build and maintain ecological resilience (Holling 2001). We examine the capacity of the river basin committees to adapt to drivers such as political and climate change in the context of food security and potential hazards such as flooding. We analyze the processes of socio-ecological learning, including focus groups, physical dynamics that blend the conceptual with the physical, visioning, socio-ecological mapping, project planning and community celebrations, through interviews, meeting notes, and written documents of the six case studies. We determine if resilience of the river basins to the original drivers has increased through a community empowerment assessment tool completed by the research team, and a post and antes spider web evaluation (Laverack 2005) completed by the river basin committees. This paper substantiates the potential for socio-ecological learning as a tool for building the capacity of watershed basin committees to plan and implement projects that support the resilience of the combined systems.