BIOTROPICA 41(5): 563–570 2009 10.1111/j.1744-7429.2009.00559.x

Beyond Just Research: Experiences from Southern Africa in Developing Social Learning Partnerships for Resource Conservation Initiatives

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ABSTRACT

There is a well-acknowledged communication or knowledge gap between scientists and decision-makers. Many scientists who take on the challenge of narrowing this gap operate on the understanding that their role is to communicate their findings in a one-way flow of information: from science to decision-makers. However, to be effective scientists must engage in an ongoing social learning process with decision-makers, and regard themselves as facilitators, and also as one among many stakeholders who have valid and important ecological knowledge. The developing world poses some particular challenges in this regard, specifically in terms of the large number of local level subsistence resources users who are important *de facto* decision-makers. We examine four natural resource management case studies from South Africa that differ in spatial scale and complexity, ranging from a single village to a whole biome. We distil seven lessons to help guide development of social learning processes and organizations in similar situations relating to natural resource planning and management. The lessons pertain to: maintaining 'key individuals' within social learning processes; the role of researchers; the formulation of research questions that social learning processes require adaptive long-term funding and capacity support; that local resource users are key decision-makers in developing countries; some perspectives on knowledge; and the need to measure research success.

Key words: communication gap; knowledge gap; South Africa.

NATURAL RESOURCE MANAGEMENT OCCURS in contexts of incomplete knowledge and high levels of uncertainty (Walters 1986, Gunderson & Holling 2002). Management actions do not always lead to predictable outcomes. Responses tend to be complex, and may be subject to delays, sharp increases, slow declines or even cyclical change (Walters & Holling 1990). Appropriate decision-making and action is dependent on the knowledge, skills and behaviour of the individuals involved. Thus, learning provides the basis for shaping and creating appropriate actions for dealing with uncertainty (Lee 1993, Fazey *et al.* 2007). In many instances scientists have valuable knowledge that is relevant to decision-makers under these circumstances. However, there is a well-acknowledged communication gap between science and decision-makers. This gap is widely acknowledged in many disciplines as hindering the translation of information, knowledge or research outcomes into actions and activities toward desired goals (Pfeffer & Sutton 1999). While the disciplines of environmental science, natural resource management and nature conservation have a history of documenting experience and synthesizing lessons (Knight 2006), management science, in particular, has devoted considerable time and effort toward understanding why knowing what to do is not enough when seeking to achieve goals (Pfeffer & Sutton 1999).

The research–implementation gap occurs when the scientific process fails to be usefully or gainfully translated into effective actions (Roux *et al.* 2006, Knight *et al.* 2008). Often it is used in reference to the science conducted for mission-driven disciplines, including management and organizational science (Pfeffer & Sutton 1999, Starbuck 2006), environmental psychology (McKenzie-Mohr 2000, Sommer 2003), ecology (Ehrlich 1997), restoration ecology (Higgs 2005), landscape ecology (Opdam *et al.* 2001), spatial conservation prioritization (Prendergast *et al.* 1999, Knight *et al.* 2008) and ecosystem management (Roux *et al.* 2006, McNie 2007). It manifests in several ways, notably, the failure of (1) peer-reviewed journal papers to lead to action (Fazey *et al.* 2005, Knight *et al.* 2008); (2) research to be effectively targeted (Linklater 2003); (3) implementation processes to employ scientific recommendations or best practice (Rohlf 1991, Tear *et al.* 1993); and (4) educational institutions (especially universities) to train students effectively in skills for translating research into action (Cannon *et al.* 1996, Saberwal & Kothari 1996, Baxter *et al.* 1999). If science is to engender change in practice then scientists must seek approaches and outcomes that promote wide understanding and implementation. More specifically, if ecological and conservation sciences are going to be useful for natural resource management, then research must embrace a range of different approaches. However, the complexity of the common hypothetico-deductive approach to research, of the ecological systems and of the nature and intensity of links with social systems requires that multiple interacting factors be considered and addressed by multiple actors.

Lessons from the field of education are emerging that can help scientists to engage more effectively with decision-makers, engaging in learning processes that build adaptive capabilities and the ability to cope with uncertainty. Social theories of learning are based on active participation, and the idea that learning is not so much a cognitive process as it is a social practice that shapes what we do, who we are and how we interpret what we do (Wenger 1998). Social learning emphasizes participation, communication and interaction as key elements of the learning process. Perhaps the best-recognized definition of social learning is that offered by Bandura (1963), who described it as the learning that individuals obtain through their interaction and observation of others in a group. This definition has, however, been criticized as too narrow to encompass all of the different forms of learning relevant to natural resource

Received 23 July 2008; revision accepted 14 January 2009.

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