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Community-based approaches to strategic environmental assessment: Lessons from Costa Rica

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ABSTRACT

This paper describes a community-based approach to strategic environmental assessment (SEA) using a case study of the Instituto Costarricense de Electricidad's (ICE) watershed management agricultural program (WMAP) in Costa Rica. The approach focused on four highly interactive workshops that used visioning, brainstorming and critical reflection exercises. Each workshop represented a critical step in the SEA process. Through this approach, communities in two rural watersheds assessed the environmental, social and economic impacts of a proposed second phase for WMAP. Lessons from this community-based approach to strategic environmental assessment include a recognition of participants learning what a participatory SEA is conceptually and methodologically; the role of interactive techniques for identifying positive and negative impacts of the proposed program and generating creative mitigation strategies; the effect of workshops in reducing power differentials among program participants (proponent, communities, government agencies); and, the logistical importance of notice, timing and location for meaningful participation. The community-based approach to SEA offers considerable potential for assessing regional (watershed) development programs focused on sustainable resource-based livelihoods.

1. Introduction

Environmental assessment (EA) is now more commonly being used as part of development activities, even when those activities are in response to natural disasters such as the Asian Tsunami (Spaling and Vroom, 2007). It is also now increasingly common for planners of development programs to be faced with the question of how to assess the sustainability of a proposed development program at the regional scale in order to comply with donor demands, regulatory requirements and with the complexity of multiple household and community interventions (McDonald and Brown, 1995; Randolph, 2003; Prachoom, 2005; Perlack et al., 2001). Practitioners of strategic environmental assessment (SEA) may be quick to offer a solution to this problem—after all, SEA is a formalized, systematic and comprehensive process of evaluating the environmental impacts of a policy, plan or program and its alternatives. As Partidário (1999, p. 64) notes,

> [It] is a systematic, ongoing process for evaluating, at the earliest possible stage of publicly accountable decision-making, the environmental quality, and consequences, of alternative visions and development intentions incorporated in policy, planning, or program initiatives, ensuring full integration of relevant biophysical, economic, social and political considerations.

Some also feel that sustainability goals, such as those held by governments and donor agencies, are more likely to be advanced and realized if SEA is implemented (Lawrence, 1997; Partidário, 1999; Petts, 1999; Thérivel and Brown, 1999). Noble (2006, p. 9) purports in this regard, that "[A]dvancing the sustainability initiative will require increasing the application of EA principles beyond the project level to address environmental issues at the strategic levels of policy, planning and program decision-making. This can be accomplished through strategic environmental assessment (SEA)….SEA is based on the notion that the benefits of sustainable development trickle down from policy decisions to plans, programs, and eventually to individual projects" (see also Partidário, 1999). Further, Vicente and Partidário (2006, p. 698) indicate that SEA has the potential to help decision-makers to identify options that meet sustainability aims…"

As such, SEA is "generally presented as the assessment tool that addresses the environmental implications of decisions made before or 'above' the project level" (Partidário, 1999, p. 60; see also Connelly and Richardson, 2005; Vicente and Partidário, 2006). It is an extension of EA, but has to be "resource-led rather than activity-led, not least because it is emerging in response to the challenges of sustainable development. SEA deals with concepts rather than particular activities and has to provide for cross-cutting environmental and sustainability

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objectives to be achieved" (Petts, 1999, p. 7; see also Partidário, 1999; Vicente and Partidário, 2006).

In practice, however, SEA is "still quite new and relatively limited in terms of its adoption" (Noble, 2006, p. 196). Various reasons have been offered as to why this is the case despite the noted perceived benefits of implementing SEA as part of the policy, plan and program development processes. These include reasons such as: the lack of political will to subject policy, plan and program decisions to such an invasive public process; lack of a common understanding of the roles SEA can play and should play in decision making; challenges in meaningfully engaging the public in such a forward-looking process, especially when there is no immediate project at hand; lack of approaches and methodologies for how to do SEA; financial constraints; lack of agreement around the need for, and benefits of, SEA; and, problems finding a government authority willing to co-ordinate and take responsibility (Noble, 2005, 2006, in press; Partidário, 1996; Petts, 1999).

It has been suggested that solutions to some of these problems may in fact rest in how SEA is implemented. As Connelly and Richardson (2005, p. 397) note, there are evident weaknesses in the technocratic approach to SEA and they contend that perhaps "good SEA is participative". They point out that participatory, deliberative approaches to EA is asserted as the new orthodoxy, and that the social learning that occurs through such approaches help in the shared understanding of values. Partidário (2006) establishes further that there is likely a greater underlying need for open deliberation in SEA as compared to EIA. Connelly and Richardson (2005, p.398) indicate that such a "deliberative approach is characterized by an openness to different views, rational argument, and usually a presumption that the outcome will and should be a consensual decision, which incorporates gains for all involved".

We have contributed to and support this line of thinking in relation to the need for more deliberative participation in EA and the positive learning benefits of such an approach (Doelle and Sinclair, 2006; Sinclair and Diduck, 1995, 2001, 2005; Sinclair et al., 2008). Within this context we have also tested community-based approaches to EA (CBEA) in the development scenario. In contrast to the assessment approach often used for large projects, CBEA "has been adapted in an innovative way to smaller, community-based projects that utilize natural resources for basic livelihood needs" (Spaling, 2003; also CIDA, 2005; Neefjes, 2000; Pallen, 1996). Typical projects include boreholes, gravity water systems, small reservoirs, agro-forestry, fish ponds, construction of latrines, clinics, schools, and small bridges.

> Since these projects interact directly with bio-physical systems, many already stressed, there is potential for resource degradation through over-extraction, land-clearing, soil erosion, contamination and other forms of exploitation. Application of EA to these projects is emerging as a way to facilitate management of local resources and ensure continued project benefits (Spaling, 2003, p. 152).

In community-based approaches to EA, a participatory forum facilitates a process of communal dialogue and collective decision-making that includes: the development of goals, the sharing of knowledge, negotiation and compromise, problem-posing and problem-solving, the evaluation of needs, the definition of goals; and research and discussion usually around questions of justice and equity (Ameyaw, 1992; Meredith, 1992; Neefjes, 2000, 2001; Spaling, 2003). This process helps communities clarify values, be more adaptive and pro-active, respond to change, develop an appreciation for the human/ecological interface, set personal and communal goals, and participate in a process where they are heard (Keen and Mahanty, 2006; Meredith, 1992).

Various practical guides and best practice suggestions also now support the emergence of CBEA. The CIDA (2005) handbook for EA of community development initiatives offers guidelines on using participatory rural appraisal tools for conducting EAs of small community projects. The USAID (2007) has also developed guidelines for small project activities that hold similar adaptations. In their report for small-scale activities in Africa, best practices are laid out for effective environmental management, in which they state that community participation is critical to each practice (USAID, 2007). Finally, the Calabash project, which has been largely supported by the World Bank and CIDA, has developed a set of policy guidelines for southern African countries regarding EA processes for development projects and public participation (SAIEA, 2005). It emphasizes integrating community consultation into the EA process with special consideration given to traditional knowledge.

With this positive experience at the project level, and given some of the challenges in implementing of SEA—particularly the participatory challenges and the lack of techniques and methods—the purpose of our work was to consider whether a community-based participative approach to strategic assessment could work and if so what lessons might be gained from using this approach in the development context. It seemed reasonable to us as well, that if community support for SEA was forthcoming, it may become more politically palatable. Finally, given our experience working with CBEA, we wanted to test the same approaches at the strategic level, in part because we could see the clear potential of one of the touted benefits of SEA—that being demonstrated added value at the downstream project-assessment level.

2. ICE case context

The *Instituto Costarricense de Electricidad* (ICE) is a publicly-owned electrical and telecommunications company whose stated goal is to sustainably develop the existing energy sources in the country (October 19, 2005, grupoice.com). Since ICE's formation in 1944, it has brought electricity to approximately 97% of the population. Costa Rica is currently self-sufficient in its electrical energy needs, generating 81% of its power by way of hydro developments.

In 1998, ICE created the watershed management agricultural program (WMAP) to address erosion and contamination problems caused by conventional farming practices (i.e., planting homogeneous crops, a heavy reliance on chemicals, and regular tilling) in watersheds where they have hydro projects. The WMAP has been an attempt to minimize these problems that negatively impact ICE's hydro production. Through the WMAP, ICE proposes a more sustainable approach to farming through the implementation of a variety of projects at an individual farm level. The projects are established technologies (e.g., a biodigestor) that are designed to address the specific needs (e.g., waste management) of certain production sectors (e.g., dairy production). They are characterized as being sustainable, easy to learn, inexpensive, robust and profitable. The initial most viable options to address the problem included projects like vermi-composting[1] and planting trees. The interventions have expanded to include biodigestors,[2] semi-stabling animals,[3] forage (tall-grass) crop varieties,[4] and integrated farming,[5] amongst others. Although ICE was not legally bound to do so, and because it had limited resources for the watershed management plan, it implemented some (but not all) of the projects. In terms of implementation, ICE collaborates with the Ministry of Agriculture (MAG) to raise awareness, promote the projects, choose participants, implement projects, and provide follow-up. The positive economic, social and environmental benefits of the projects and the support provided by ICE to collaborate in the WMAP act as intrinsic and extrinsic motivators for

[1] Vermi-composting uses the natural biological activity of worms to transform organic waste into high-quality organic fertilizer thereby eliminating sources of environmental contamination on the farm.

[2] A biodigestor, used with stabled or semi-stabled animals, sanitarily manages manure by transforming it into biogas (often used for cooking) and organic fertilizer. It is a sealed system where naturally-occurring bacteria decompose animal excrement.

[3] Semi-stabling of animals is where, instead of putting cows to pasture for the whole day, they are stabled for part of the day and fed forage crop. This involves more manual labour but reduces erosion and allows the same land to support more animals.

[4] Forage crops are grown as animal feed and are often harvested manually. Growing them reduces erosion.

[5] Integrated farming involves growing a variety of crops and having some livestock.