

Democracy and Participation in Environmental Decision-Making

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Our Nation's environmental knowledge base and our skills at using what we have are not now sufficiently well-developed to permit us to formulate the coupled environmental and economic strategies that will be needed in the 21st Century.

(PCAST 1998)

More and more the decision makers and affected parties engaged in solving environmental problems are recognizing that traditional [decision making] strategies are insufficient... they suffer from a lack of popular acceptance ... and they slight the local knowledge of people most familiar with the problem.

(Renn et al. 1995)

Introduction

The central theme of SHE XI was Democracy and Participation. This theme prompted informative, substantive and engaging discussions on a wide range of subjects. Environmental decision-making (EDM) is certainly amongst the subject areas where the issues of democracy and participation are most exposed (q.v. Sexton et al. 1999). Our environment anchors and shapes facets of our lives from basic health to our sense of aesthetics and spirituality. We shape and are shaped by our environment, and we are increasingly aware of the need for both a science that describes the interconnections between humans and the environment, and an art that allows us to improve these interconnections or at least to steer away from making them worse. This is the core issue of research in human ecology.

What we have learned so far includes at least two disparate elements. First, the human-environment interconnection is immensely complex. It is, in fact, the subject of the natural sciences and the social sciences, and as these sciences advance, so do increases in the amount of data and information that we are required to marshal if EDM is to be informed. Second, the art of managing human-environment interconnections is enmeshed in human values. No technocratic fiat will ever solve the "environmental management" problem. Democracy and participation are essential to EDM.

The challenge posed by the juxtaposition of these two elements was the subject of a series of papers at SHE XI:

How can we ensure democracy and participation at the same time as we make use of the best available science and technology in environmental decision-making? The papers that follow arose from those sessions.

An exciting research agenda derives from the recognition that we have entered both an environmental crisis and an information revolution. The former is largely a social crisis, the later is largely a technology driven event. Geographic information systems bring the power of the latter to the battlefield of the former at a critical time. Because of the urgency of the environmental crisis, it is imperative that every effort be made to scrutinize, develop, and refine the power of geographic information management and analysis (Kellogg 1999; Craig et al. in press). But because of the social nature of the environmental crisis, it is equally critical that the social implications of GIS be included as part of the refinement.

This Human Ecology Forum addresses the challenge of matching the wealth of scientific and technical data with the recognition that the general public should be involved in environmental decision-making if the decisions are to be locally relevant, gain local acceptance and have lasting impact. This raises two specific questions:

- 1) *How do we make the benefits of accumulated scientific research available to the public in a way that it can be incorporated by the public in environmental decision-making?*
- 2) *What is it that natural and social science have so far failed to grasp about the complexities of local human ecologies, and can these missing aspects of human ecology be factored into structured, institutionalized, EDM by enhancing public participation?*

For these papers, authors were asked to address four points arising from their experiences with decision-support: 1) *The context*: What is the perspective that is driving the initiative to be described? What is the problem that the initiative is attempting to solve? 2) *The program of action*: What has been done? This should give a clear picture of a process or approach and allow interested readers to determine if they should be approaching authors for further details (this is not the place for full technical reports on research). 3) *The experiences*: What are the successes and/or failures? What practical lessons have been learned? 4) *Next steps*: What plans or approaches have arisen from the research? What does this imply for democracy and participation in local environmental decision-making?

Although many papers presented at SHE XI made contributions to this theme (and readers are urged to examine the abstracts of the sessions on EDM for details on other initiatives), four papers, representing five from the conference, are presented here. The first, by Thomas Gunther (U.S. Department of the Interior), describes the unique attributes of “place-based” decisions and provides a theoretical framework for defining optimal environmental decision on a surface subtended by ecological, economic and human value parameters. He goes on to describe elements of a place-based decision-support system.

Herman Karl and Christine Turner (U.S.G.S.) describe a particular process of place-based decision-making. In their application (called INCLUDE), the main challenge is to reconcile the wealth of scientific expertise with the need to have local decisions reflect local values. They argue this requires new ways of making data and information available to the public but also, and perhaps more significantly, a new class of professional and a new commitment from institutions. The case they describe deals with local watershed management, and so their experience will have wide applicability.

In the third paper, Thomas Meredith (McGill University) describes an application of a collaborative GIS-based decision-support process. The case involves an expert workshop on biodiversity conservation and, because all participants were senior researchers, managers or administrators, it provided an excellent opportunity to test the robustness of a GIS-based mechanism for managing environmental information through a multi-stakeholder decision making process. This paper discusses what was learned about decision-support procedure from that expert workshop. This workshop was in marked contrast to the situation described in the final paper.

Meredith and Gisela Frias describe a collaborative environmental decision-support initiative that rests on a partnership between citizens in a Mexican rural community and researchers from Mexican and Canadian universities. In this case, the process of building the partnership was the most important and instructive element of the decision-support initiative. But here as in the preceding case, the major lesson is

that a decision-support initiative has to be flexible enough to evolve in response to the input of the participants. If this does not happen, participation is, at best, superficial; at worst, illusory. If participation is not effective, the notion of democracy in the most essential of human endeavors — living adaptively and sustainably in a community, in an environment — is fiction.

These papers are part of a decentralized and multi-faceted initiative to improve human ecology by improving the capacity for human beings to understand the land that supports them, and to exercise their care and concern for those life-support systems through better local environmental decision making. The Society for Human Ecology and the readers of *Human Ecology Review* have a role to play in this. It is hoped that these four papers help stimulate dialogue and action concerning environmental decision-making.

Endnote

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