

Who Should Deliberate When?

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King Arthur and his 150 knights sitting around a 200' diameter table is a potent metaphor. Unfortunately, we do not see the image of "fellowship" among scientists and stakeholders that Carolyn Raffensperger (this volume) does. Rather, we see participatory problems akin to those encountered in environmental problem solving: What was the protocol for handling commoners who wanted to sit at the table? How did knights converse across that expanse? Did the table provide merely an illusion of equality? Undoubtedly King Arthur needed Merlin for a facilitator.

The National Research Council's (NRC) report *Understanding Risk* (Stern and Fineberg 1996) advocates that agencies consider *how* to involve stakeholders in the risk characterization process, rather than *whether* to do so. Agencies should operate from a default assumption that such deliberation is "necessary and appropriate" at each stage of the process, according to the NRC. However, the report does not provide much practical guidance to agencies that want to develop deliberative processes about risk characterization, let alone to approach environmental problems more broadly, as Raffensperger eloquently advocates. As the report acknowledges, there is little systematic knowledge about what works in public participation or other deliberative processes. Therefore, *Understanding Risk* does not include step-by-step instructions (which would be unsubstantiated).

Calls for scientist/citizen deliberation in environmental policy have been made since the passage of ground breaking environmental legislation in the 1970s (e.g., Cramer et al. 1980, Dietz 1984, 1988), including recently from prominent institutions other than the NRC (e.g., National Environmental Justice Advisory Commission 1996, Presidential/Congressional Commission on Risk Assessment and Risk Management 1997). Analysts have also provided compelling reasons for such deliberation,¹ not only around issues of risk, but around critical environmental issues, such as biodiversity (Dietz and Stern 1998), climate change and sustainable development (Jaeger 1998, Rothman and Robinson 1997). But with progress has come more responsibility for those advocating deliberation. Scientists and agency managers

point out they cannot possibly involve outsiders in all agency decisions, even if they wanted to. For example, routine functions, such as approving permit applications, would be unwieldy if review of each application required broad-based deliberation.

So agencies need guidance on when and how to deliberate. If we are to be true to the relative dearth of research on what kinds of deliberative processes work under what circumstances, we have to avoid glib answers that presume more knowledge than we have. But we also have to do more than mumble about the need for context sensitive approaches. Recently, members of a subcommittee of the Environmental Protection Agency's Science Advisory Board essentially told those of us advocating deliberation to "put up or shut up." Our colleagues accepted the potential of deliberation in the abstract, but noted that a broad recommendation of "deliberate early and often" was of little practical value.

Following is broad guidance about when and how agencies should deliberate. Our guidance consists of two key questions about the policy under consideration and a typology of deliberative processes that follow from the answers to those questions. It should be seen as a prologue to further discussion, research, and innovation rather than a rigid set of guidelines. In addition, because the guidance was developed to aid EPA, it may not generalize to other agencies and types of policies. However, we hope it is at least another step toward the critical task of helping practitioners implement deliberative processes.

We suggest that in selecting deliberative processes the agency should answer two questions:

1. *To what extent is the agreement on values (e.g., fairness, sustainability, efficiency etc.) and on appropriate trade-offs among them sufficient to reach a decision?*

The relative importance of efficiency, fairness, sustainability and other concerns may vary among scientists and stakeholders. When agency decisions require tradeoffs among these dimensions, and the decisions are likely to lead to conflict, agencies are often forced to make judgments that cannot be based solely on knowledge. The selection of an

appropriate type of deliberation will depend on where the extent of agreement falls on the continuum between high and low.

2. *To what extent is the state of knowledge sufficient to address the problem at hand?*

By knowledge we mean information and understanding from the biological and physical sciences, engineering, economics, human ecology and the other social sciences. The answer to this question depends on the extent of knowledge about information critical to making a particular decision. In many situations, knowledge from environmental sciences, such as information about environmental system processes and the nature of potential threats, may play a decisive role. In others, knowledge about economic costs and benefits may be decisive. Social science knowledge may also be decisive, for example by providing an understanding of communities where demographics or ethnic composition must be given serious consideration. It is also critical to differentiate knowledge about the local situation from more abstract knowledge developed in other locales. Agency diagnosis of a situation, and the form of deliberation needed, will depend, in part, on its assessment of the extent to which available information is adequate for making a decision. When the state of knowledge is insufficient or controversial, or when there is lack of agreement about the state of knowledge, more extensive deliberation will be needed.

We appreciate that agency decisions may be constrained by regulations, resources, and court decisions. These limitations should be made clear to participants in any deliberative process. Yet, agencies usually have latitude. Thus we believe agencies can use deliberative processes in most circumstances when they are needed, although, as the NAS report points out, deliberative processes can present formidable challenges. The following typology provide guidance as to what kinds of deliberation are appropriate under what circumstances, as shown in Figure 1.

Oversight Deliberation

When agreement about values is high and the state of knowledge (relevant science, economics, and social science) is sufficient (and/or non-controversial), agency decision making is likely to be routine. Deliberation will only be needed periodically for oversight.

Most agency decisions are routine administrative ones that conform to existing regulations and policies. Such decisions may include non-controversial permitting and minor shifts in administrative procedures. In such situations, oversight deliberation, the periodic conferring of scientists to assess a program and potential modifications, is appropriate. However, if conflict develops around multi-dimensional

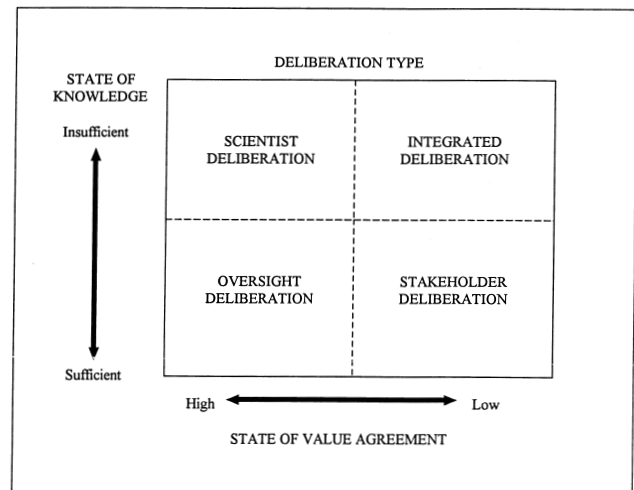


Figure 1. Typology of Deliberation Processes with Stakeholders and Scientists.

tradeoffs or the state of knowledge, the type of deliberation will need to move toward another quadrant.

Stakeholder Deliberation

When agreement about values is low, but the state of knowledge is sufficient (and/or non-controversial), agency decision making will require multi-dimensional tradeoffs.

In such situations, the state of knowledge is sufficient to inform multi-dimensional tradeoffs, but there is little agreement about which tradeoffs to make. Because the conflict usually is based fundamentally on values, not knowledge, the deliberation can involve primarily stakeholders who will evaluate tradeoffs in light of their priorities. Stakeholders, informed by available knowledge, can craft options that vary in their mix of impacts and risks. Scientists may provide information about the potential impacts of various options, but they need not be as extensively involved as in integrated deliberation, noted below.

Scientific Deliberation

When agreement about values is high, and the state of knowledge is insufficient (and/or controversial), agency decision making is likely to be experimental and iterative.

In such situations, making decisions is difficult primarily because of the state of knowledge. For example, there may be limited knowledge about the impact of human management on a particular environmental system. Scientific deliberation — on-going conferring among scientists (often from different disciplines, including social science) — is needed to develop appropriate monitoring processes and to interpret results. Based on the results, scientific deliberation may

result in recommendations for changes in management of the environmental system. The recommendation for such situations is adaptive management with scientific deliberation at intervals determined by the nature of the experiment. For example, monitoring the impact of reducing water flow to an environmental system may require scientists to confer at regular intervals to review monitoring data and determine if water flow should be changed. However, if value-based conflict arises over the results of such iterative decision making, the situation will require integrated deliberation, involving scientists and outside stakeholders working together to make multi-dimensional tradeoffs on the basis of limited knowledge.

Integrated Deliberation

When agreement about values is low and the state of knowledge is insufficient (and/or controversial), agency decision making is likely to require multi-dimensional tradeoffs based on insufficient knowledge. Then integrated deliberation involving both scientists and outside stakeholders is needed.

These decisions are usually the most difficult for agencies because there is little confidence in the state of knowledge about the impacts of tradeoffs on economic efficiency, fairness, sustainability, risks and other concerns. In such situations integrated deliberation may be needed. By integrated deliberation we mean deliberation requiring on-going interaction among scientists and stakeholders. The involvement usually will be needed throughout the stages leading to decision making including problem formulation, collection of information, and development of options (Stern and Fineberg 1996, Presidential/ Congressional Commission on Risk Assessment and Risk Management 1997). Integrated deliberation may also be needed during implementation and may take the form of adaptive management with stakeholders and scientists reviewing the results and suggesting iterative changes. The nature of integrated deliberation depends on the situation, but, in general, the greater the conflict (or potential conflict), the more extensive the deliberation needed.

Conclusions

No doubt King Arthur did not think about such issues when he convened his roundtable. Unfortunately social scientists cannot summon Merlin's abracadabras to make deliberation easier for agencies — although many of us have been asked for the equivalent many times. Now that institutions such as the NRC are calling for more deliberation (including most recently to inform priorities for medical research) (Institute of Medicine 1998) social scientists have an obliga-

tion to provide more empirical research about how to effectively implement such processes and ways to handle their limitations. In particular, further exploration of methods and criteria for evaluation of deliberation (e.g., Chess et al. 1995a, Dietz 1994, Dietz and Pfund 1988, Fiorino 1990, Rosener 1981, Webler 1993, 1995, 1997) will be essential to progress. To implement the suggestion of *Understanding Risk* — that agencies build organizational capability for deliberation — additional research on related issues will also be useful (e.g., Hadden 1989, Chess et al. 1995b, Chess 1997, Shannon 1989, forthcoming). Given the amount of research needed (and the limited funding for it), social scientists, including those of us in human ecology, may want to work with agency practitioners and stakeholders to develop tools so those involved in deliberative efforts can document them. Finally, more interaction is needed among the disciplines that contribute to the thinking on deliberation, such as sociology, social psychology, anthropology, political science, conflict analysis, communications, policy, and planning.

Those advocating benefit-cost and risk analysis have been successful in part because they have provided practical guidance to busy managers and scientists constrained by budget and regulation. Those advocating deliberative approaches need to do the same, based on empirical research and constructive self-criticism.

Endnote

1. The NAS' report *Understanding Risk* explains the use of the term "deliberation" as a way to avoid connotations of the term "public participation": proforma efforts to ask for reactions from an unspecified population to agency proposals. However, the term public participation is still used in the research literature to imply, as the NAS does, meaningful involvement of interested and affected parties early in agency efforts to develop evaluations of environmental problems, proposals, policies, decisions, etc. (e.g., Renn et al. 1995). There are also similar discussions related to participatory risk communication efforts (e.g., Chess et al. 1995a). Hence in this commentary we refer to articles discussing similar issues, regardless of nomenclature.

References

- Chess, C. 1997. Risk Communication As An Organizational Response: The Cases Of Three Chemical Manufacturers. Doctoral dissertation. Syracuse: State University of New York Environmental Science and Forestry.
- Chess, C., K.L. Salomone, B.J. Hance, and A. Saville. 1995a. Results of a national symposium on risk communication: Next steps for government agencies. *Risk Analysis* 15(2), 127-138.
- Chess, C., M. Tamuz, & M. Greenberg. 1995b. Organizational learning about environmental risk communication: The case of Rohm and Haas' Bristol plant. *Society and Natural Resources* 8, 57-66.

- Cramer, J. C., T. Dietz, and R. Johnston. 1980. Social impact assessment of regional plans: A review of methods and a recommended process. *Policy Sciences* 12, 61-82.
- Dietz, T. 1984. Social impact assessment as a tool for rangelands management. In *Developing Strategies for Rangelands Management*. National Research Council (ed.), 1613-1634. Boulder, CO: Westview.
- Dietz, T. 1988. Social impact assessment as applied human ecology: Integrating theory and method. In R. Borden, J. Jacobs, and G. Young, (eds.) *Human Ecology: Research and Applications*, 220-227. College Park, MD: Society for Human Ecology.
- Dietz, T. 1994. What should we do? Human ecology and collective decision making. *Human Ecology Review* 1, 301-309.
- Dietz, T. and A. Pfund. 1988. An impact identification method for development program evaluation. *Policy Studies Review* 8, 137-145.
- Dietz, T. and P.C. Stern. 1998. Science, values and biodiversity. *BioScience* 48, 441-444.
- Fiorino, D. 1990. Citizen participation and environmental risk: A survey of institutional mechanisms. *Science, Technology and Human Values* 15, 226-243.
- Hadden, S. 1989. Institutional barriers to risk communication. *Risk Analysis* 9(3), 301-308.
- Institute of Medicine. 1998. *Scientific Opportunities and Public Needs: Improving Priority-Setting and Public Input at the National Institutes of Health*. Washington, DC: National Academy Press.
- Jaeger, C. 1998. A tested procedure for public participation in science based decision making on complex problems. Paper presented at the 1998 meeting of the American Association for the Advancement of Science, Anaheim, California, January 10, 1998.
- National Environmental Justice Advisory Committee. 1996. *The Model Plan for Public Participation*. Washington, DC: U.S. Environmental Protection Agency.
- Presidential/Congressional Commission on Risk Assessment and Risk Management. 1997. *Risk Assessment and Risk Management in Regulatory Decision-Making* Final Report. Washington, D.C.
- Renn, O., T. Webler, and P. Wiedemann (eds.) 1995. *Fairness and Competence in Citizen Participation: Evaluating Models for Environmental Discourse*. Boston: Kluwer Academic Press.
- Rosener, J. 1981. User oriented evaluation: A new way to view citizen participation. *Journal of Applied Behavioral Studies* 17(4), 583-86.
- Rothman, D. and J. Robinson. 1997. Growing pains: A conceptual framework for considering integrated assessment. *Environmental Monitoring and Assessment* 46, 23-43.
- Shannon, M. 1989. Managing public resources: Public deliberation as organizational learning. Syracuse, NY: SUNY College of Environmental Sciences and Forestry.
- Shannon, M. (In Press). Social organizations and institutions. In R.J. Naiman and R.E. Bilby (eds.) *Ecology and Management of Streams and Rivers in the Pacific Northwest Ecoregion*. New York: Springer-Verlag Publishing.
- Stern, P. C. and H. Fineberg (eds.) 1996. *Understanding Risk: Informing Decisions in a Democratic Society*. Washington, DC: National Academy Press.
- Webler, T. 1993. Habermas put into practice: Democratic discourse for environmental problem solving. In S. D. Wright, T. Dietz, R. Borden, G. Young, and G. Guagnano (eds.) *Human Ecology: Crossing Boundaries*, 60-72. Ft. Collins, CO: Society for Human Ecology.
- Webler, T. 1995. 'Right' discourse in citizen participation: An evaluative yardstick. In O. Renn, T. Webler, and P. Wiedemann (eds.) *Fairness and Competence in Citizen Participation: Evaluating Models for Environmental Discourse*, 35-86, Boston: Kluwer Academic Press.
- Webler, T. 1997. Organizing public participation: A review of three handbooks. *Human Ecology Review* 3(1), 245-254.