

COMMUNICATION, RISK, AND PUBLIC POLICY: A WORKING DOCUMENT

The Contaminated Soils Forum

The Contaminated Soils Forum is a series of communicative events that provide an opportunity for individuals and representatives of organizations to talk about the "evolving science associated with risk assessment and Risk-Based Corrective Action (RBCA)."¹ The forum was created in the summer of 1998 at the request of environmental groups and representatives of the chemical industry.

The August agenda initially focused on the topics of policy, science, and application. Focus groups were created to consider topical subsets, e.g. clean up, reuse, and environmental equity and justice. A focus group was also organized to develop a framework for additional discussion on the topic of communication and risk.

The communication-related topics that emerged during the August meetings include:

Trust. The issue of trust came up within the context of environmental justice / environmental equity. The discussion involved the question of what is the level of trust between affected communities and government or scientists? Do community members believe what government employees or scientists have to say? Or, do developers or other industry type participants believe what government employees or community members have to say? If trust is low to non-existent, how might trust be created? Trust is an implicit component of effective communication.

Community Involvement. This topic emerged in discussions related to environmental justice / environmental equity. Community involvement or citizen / public participation typically refer to communicative processes that have recognized participants, goals, and mechanisms. For example, the Contaminated Soils Forum is a kind of involvement that is designed to engage members of the regulated and environmental activist communities. This aspect focused primarily on communication at the community level; however, at least one person raised the question of public involvement in policy discussions such as the Forum. Involvement -- whether labeled community or industry -- requires the commitment of organizational resources (government, industry, community) to orchestrate.

¹ Minutes, July 2, meeting.

Public Awareness of Risk Analysis. This issue came up in discussions related to the assumptions that underlie risk analysis research. The questions were: how can the results of emerging science be communicated to the general public; how can the lay-public best be shown the meanings of "threshold protection levels" or persuaded to believe that the conservative nature of the assumptions made in research design incorporated the concerns of special populations?

Peer Review. Peer review is a type of communicative process that defines participation by expertise not by citizenship.

The Communication Focus group drafted the following sections to 1) provide a common framework for talking about "communication" and 2) provide an introduction to the current thinking or models applied to communication and risk in the U.S. The intent is to set the stage for communication-related discussions at the September-October meetings in Orlando.

Communication: Establishing a Common Framework

The concept of communication is invoked in all kinds of settings, including the policy arena, particularly when individuals or groups believe that "others" do not understand or agree with a particular message or, worse yet, believe that they have been left out or excluded from the process. Calls go up for "more," "better," or "accurate" communication. Committees are formed, more meetings called. Yet little time is devoted to consideration of the underlying concepts associated with communication or how these might be applied or made useful to understand and take action on the problem.

What do we mean by "communication?" While numerous definitions are available, the following covers the essentials of communication as the act:

Communication refers to the act, by one or more persons, of sending and receiving messages that are distorted by noise, occur within a context, have some effect, and provide some opportunity for feedback.²

Communication may also be described as a process of exchanging information with the intent to reduce uncertainty or ambiguity, that is to say sending and receiving information with a goal in mind. Communication may also take place in order to establish relationships, change attitudes and / or behaviors, or to accomplish tasks. Several key dimensions of communication acts and processes include context (physical and social), time, and power. In addition, communication is governed by several principals that include:

² Joseph A. DeVito. 1988. *Human Communication*. 4th ed., pp. 14-15. New York: Harper & Row, Inc.

- Meaning is in the sender and the receiver, not in the words
- Communication cannot be reversed
- Communication cannot be repeated
- You can not communicate

More communication is not necessarily better, and communication per se will not necessarily reduce friction or resolve disputes.³ The potential for effective -- read communicative acts in which the sender and receiver gain some understanding of one another (not necessarily agree) -- is affected by the life experiences of each / all participants. Similarly, life experiences, communication styles, individual and / or organization goals or motives, and power all influence the believability of the message and whether or not a trust relationship develops between the communicating parties.

In summary, communication consists of messages (content) and opportunities to relay or send messages (processes), methods or opportunities for delivery and receipt (channels), setting or context, senders and receivers, noise, personal or group experience, purpose or goals, and some type of outcome or effect.

The Communication Focus Group

The communication-related topics from the August forum dealt with risk and the policy decision-making process. While numerous models attempt to describe "risk communication" or policy making, four models are briefly discussed here. Three of the models associate risk communication with some type of educational process, while a fourth model suggests an inclusive participatory process that integrates the concepts of risk analysis and public policy decision making.

Conduit Model. In some situations information related to risk standards or risk-based methods is delivered via what is know as the conduit model of communication. Messages are simply sent toward the intended recipient with little or no opportunity for feedback to the sender. What feedback is accepted may be taken in highly controlled environments or settings such as a public hearing. The intent or purpose may be linked to "notification" or "education." In notification, legal requirements must be fulfilled; in education the intent is more likely to be to persuade the recipients of the validity of the information.

Hazard + Outrage. Peter Sandman, founder of the Environmental Communication Research Program at Rutgers' Cook College, developed a

³ Ronald B. Adler and Neil Towne. 1990. *Looking Out, Looking In.* 6th ed.. Chicago: Holt, Rinehart and Winston, Inc.

model of risk communication that focuses on the dimensions of outrage and hazard. Sandman considers hazard as a "technical issue" linked to the extent of damage that has been or will be done and / or mitigated and outrage as a "moral-emotional issue" linked to fairness, trust, and choice. Sandman holds that the public reacts to risk messages with outrage because of a lack of trust, in part because of the use of unidirectional communication described above in the conduit model. As an alternative, Sandman suggests a two-way communicative process that assigns the technical domain to experts and the emotional-moral to the public. The idea is that the experts should provide the education to the public on the technical aspects of risk -- and that the public should listen -- and that the public should educate the technical decision-makers about the degree of outrage involved with the decisions.

Several papers Sandman's approach to risk communication may be found at <http://www.qest.com.au/QestPeterSandman.htm>.

Analytic-Deliberative. The National Research Council has undertaken several studies over the last 10 years to address risk and communication. *Understanding Risk: Informing Decisions in a Democratic Society*, published in 1996, departs from more commonly used models of risk communication which tend to follow a linear path in which risk characterization is completed by experts, then delivered in some form of educative process to decision-makers.⁴ Stern and Fineberg, writing for the Committee on Risk Characterization, suggest that a more appropriate process in a democratic society would be as follows:

Improving risk characterization requires attention to two discrete but linked processes: analysis and deliberation. Analysis uses rigorous, replicable methods developed by experts to arrive at answers to factual questions. Deliberation uses processes such as discussion, reflection, and persuasion to communicate, raise and collectively consider issues, increase understanding, and arrive at substantive decisions. Deliberation frames analysis and analysis informs deliberation. Thus risk characterization is the output of a recursive process, not a linear one. Analysis brings new information into the process; deliberation brings new insights, questions, and problem formulations; and the two build on each other. The analytic-deliberative process needs input from the spectrum of interested and affected parties...⁵

⁴ Paul C. Stern and Harvey V. Fineberg, eds. 1996. *Understanding Risk: Informing Decisions in a Democratic Society*. Committee on Risk Characterization, Commission on Behavioral and Social Sciences and Education, National Research Council. Washington, D.C. National Academy Press.

⁵ *Ibid.*, 20.

The Committee's "analytic-deliberative" approach to risk and communication urges the use of a pre-work diagnosis to assess the decision-making "landscape," to determine what decisions will be made and who will be affected. The process calls for early and frequent interaction between the participants of the technical-analytical sphere and the participants in the policy making arena. The keys to success for this method include: "getting the science right -- getting the right science" and "getting the right participation -- getting the participation right." Participation becomes an educational benefit for both the scientists and the policy makers; the policy makers or shapers may represent governmental organizations, industry, and communities. The actual categories of participants are determined on a project-by-project basis.

The full-text of this report is available online in the Reading Room of the National Academy Press at <http://www.nap.edu/readingroom/reader.cgi?auth=free&label=ul.book.030905396X>. The full text of an earlier National Research Council investigation, *Improving Risk Communication*,⁶ may be found at <http://www.nap.edu/readingroom/reader.cgi?auth=free&label=ul.book.0309039436>.

Capacity Building. Mike Hartman, a member of the Communication Focus Group, proposed a proactive model that might be coupled with the analytic-deliberative process or some other participatory method. Hartman's model is intended to build the capacity of the lay public to participate effectively in decision-making processes that would occur at some point in the future. The plan evolved as part of his work with the Jacksonville Greenfields Coalition Public Affairs Committee. Hartman intends to offer workshops on the concept of risk to residents in brownfield neighborhoods in the Jacksonville-Duval County area. Hartman drafted an overview of the "Basic Elements of Health Risk Assessments" to distinguish characteristics of risk: hazard identification, toxicity assessment, exposure assessment, and risk characterization, as currently practiced. The workshops are intended as an introduction to the concept of risk and will place the risks associated with contaminated soils in context with other kinds of risks faced by urban participants on a daily basis. Audrey Peterman, a second member of the group who is also a journalist and publisher, will "translate" the lecture / message into a form suitable for mass media distribution.

This approach anticipates the decision-making process and provides educational information to improve individuals' abilities to understand the overall content. In this sense, the capacity building model differs from a simple conduit or "education" model of communication that focuses on delivery of a message to

⁶ Committee on Risk Perception and Communication. 1989. *Improving Risk Communication*. Committee on Risk Perception and Communication, Commission on Physical Sciences, Mathematics, and Resources, Commission on Behavioral and Social Sciences and Education, National Research Council. Washington, D.C.: National Academy Press.

educate or change a specific audience. See attachment for a copy of the Hartman draft lecture.

Keep in mind that these models are not academic abstractions. With the exception of the capacity building workshops, these communicative practices can be found in policy making arenas. The conduit model is probably the most commonly used, although Sandman's model of hazard + outrage appears to be in wide use. The analytic-deliberative model is newer but has been applied in some form in a several settings; this model is in use in the US Man and the Biosphere Program project for a sustainable South Florida.

This paper is intended to act as a springboard for dialog within the Contaminated Soils Forum about communication and risk. Participants are encouraged to draw from each of the preceding models to create a format or process that is appropriate to the goals of the group. Several questions are set out below to initiate the discussion. The questions may be used in any order.

Discussion Questions

1. What does this group mean by "communication?"
2. What is the purpose or intent of the communication?
3. Who should be involved in the communication process and at what stages?
4. What kinds of communication plans, techniques, mechanisms are now in use for risk communication, e.g. notices, announcements, public hearings, advisory committees, Contaminated Soils Forum?
5. What impediments, barriers, or facilitators are currently influence risk communication?
6. What statutory impediments, barriers, or facilitators are in place re risk and communication?
7. What funding is available or is needed for risk communication activities?
8. Can / should topic-specific workshops be offered in communities prior to the need for project specific decision-making?
9. How does the group judge whether communication is trustworthy or complete?

