

**Approaches to Communication in Risk-Based Decision-Making: Putting Theory  
into Practice**

**Part 2**

**Draft**

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**by**

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## **Approaches to Communication in Risk-Based Decision-Making: Putting Theory into Practice**

### **Introduction**

This paper presents two approaches that scientists, agency staff, and others can use to facilitate communication and participation in projects related to contaminated soils or risk-based decision-making. Both approaches work to provide maximum involvement of affected communities. These approaches are based on several assumptions: 1) the resolution of public problems is episodic, taking place in multiple meetings, get-togethers, and telephone calls over a long-period of time 2) the wide range of events that occur in formal and informal settings provide a form of continuing education or learning opportunities for those who participate 3) the same events provide multiple opportunities for participants to influence or shape policy or site-specific solutions and 4) the episodes -- from the beginning to resolution -- should be open to the affected communities. These approaches are also predicated by the belief that changes which are made voluntarily are more readily accepted and that not all projects or policies should go forward from the conceptual stage; abandonment is an option.

The first approach details involvement in the decision-making process on a project-by-project basis. The second approach takes a long term view and considers the potential for creating a system of community based research centers in Florida counties that might be modeled after the existing agricultural or marine extension programs.<sup>1</sup> Both approaches focus on the process and do not focus on individual events or individual messages.

The paper contains two sections. The first section describes two communication models that can be used to visualize the stages of decision-making or the expectations that might accrue in communities left out of the process. The second section sets out two approaches to communicative practices that can be used on the ground to foster inclusion of affected communities.

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<sup>1</sup> The first approach is based on work conducted or observed by team members. The second approach was suggested in a recent article on "Democratization of Science" that appeared in *Science News*. The full text of the article is available via the Internet at [http://www.sciencenews.org/sn\\_arc98/11\\_7\\_98/bob1.htm](http://www.sciencenews.org/sn_arc98/11_7_98/bob1.htm).

## **Foundations: Visualizing Communication in the Decision-Making Process**

Risk-based corrective action (RBCA) is a kind of decision-making model that is based on criteria that is established in a decision-making process separate from individual projects. RBCA is prescriptive and provides a kind of "cookbook" approach for individual projects. RBCA is not intended to describe a decision-making process.

Models that focus on the flow of human activities and the opportunities that humans have to communicate or interact provide more insight into the process of creating public policy or solving public problems. These models form a foundation for the practical approaches that are suggested for individual risk-based projects and for long-term learning and participation. Each of these models is described below.

### ***Communication Model 1. Collaboration, Deliberation, and Decision-Making***

This model recognizes three stages in public decision-making and considers the participants and roles in each of the separate stages.<sup>2</sup> The three stages are:

collaborative inquiry  
deliberation  
decision-making

The activities that take place in the first stage -- collaborative inquiry -- include problem identification, research, and option or alternative development. Participants are most likely to be governmental staff, scientists, planners, consultants, or representatives of industries or non-governmental groups (NGO). The second stage -- deliberation -- is marked by discussion and, eventually, includes elimination of some of the options or alternatives. Participants generally include the individuals or groups that participated in the collective inquiry and, in the later phases of deliberation, the general public.<sup>3</sup> The activities that occur in these two stages include a myriad of decisions that ultimately affect the definition of the problem and narrow the choices from which the final decision-makers must select. The third stage -- decision-making -- focuses on the final parts of the decision. This stage is where "the" decision is made. Participants generally include members of the public-at-large and the elected or appointed decision-makers, e.g. elected officials, appointed boards or commissions.

### ***Model 2. Feed-forward, Feedback: A Community Perspective on the Policy***

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<sup>2</sup> Barrett, David A. 1988. "Facilitating Government Decision Making: Distinguishing between Meetings and Nonmeetings under the Federal Sunshine Act." *Texas Law Review* 66, no. 6: 1195-1228.

<sup>3</sup> This group -- the Contaminated Soils Forum -- appears to be engaged in collaborative inquiry and deliberation.

## ***Making Process***<sup>4</sup>

The second model depicts the flow of activities in a policy making process from the perspective of a community. See Figure 1. This model describes not only the activities that may occur but also calls attention to community expectations.<sup>5</sup>

This model describes a system that is composed of a "study population" or site where "researchers" collect data about a particular problem. The study population, the researchers / scientists, policy makers (staff or elected), granting or funding agencies, and a host of other individuals or groups all have a stake in the ultimate policy decision.

The activities shown in Figure 1 begin with the research or collection of data; this represents the beginning of a new episode and reflects the fact that the problem was decided in another episode, most likely at some distance -- either social or geographical -- from the community. The data are collected through what this particular community labeled "the wall of objectivity" then fed forward to groups similar to the Contaminated Soils Forum or staff groups who are involved in collective inquiry to identify the problem and generate alternatives, as described earlier. In Figure 1, the data or its derivatives eventually make their way along a chain to decision-makers who create policy which then goes to enforcement, if a permit or regulation is involved. The researchers go on to another project. The community gets feedback from the original research in the form of a policy / regulation.

In this model, the community's role is largely limited to that of "subject" in the data collection phase or "responder" in the final decision making phase. While the model emerged in work with coastal communities, the path of policy making and its outcomes may be applicable to other communities, e.g. communities that host brownfield sites. In this model, the data and the decision-making process are disconnected from the community. The community is held in an almost parent-child relationship and is assumed to have little to offer in the determination of problems or the generation of solutions that affect their lives.

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<sup>4</sup> ***Lampl, L. L. 1995. "On the Subject of Shellfish, Water Quality, and Human Groups," in Improving Interactions between Coastal Science and Policy: Proceedings of the Gulf of Mexico Symposium. New Orleans, Louisiana, January 25-27, 1995. Committee on Science and Policy for the Coastal Ocean. Washington, D.C.: National Academy Press.***

<sup>5</sup> This model was developed after listening to individuals and groups in Franklin County (Florida) in the course of work with a community group to develop what was known as the Fishery Options Plan. Early on in the work, after brief introductions, an oysterman stood up in a public meeting and began to shout: "You people, you come down here and get paid to do research, then you take the information and all we get back is another regulation..." The oysterman's point-of-view is often repeated in coastal and other communities in Florida.



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These models depict the activities that occur in the course of making public policy or attempting to solve public problems. Both models underscore the episodic or long-term nature of the process. The models call attention to the extent of activities that take place over the course of policy making and the kinds of interpretations that may be assigned by communities to these activities -- interpretations that may generate negative expectations and foster a lack of trust.

The public at large is commonly held to the deliberative and decision-making phases of the first model, as noted above. Public hearings are the rule of the day at this point; individuals and groups are invited to respond to alternatives or options developed by others in collective inquiry -- options that are many times based on research and the assumptions that underlie the research from which the public at large is commonly excluded. Individuals and organizations are treated as "audience" who receive a truth created elsewhere; the public at large is generally not invited to participate in the episodes in which new futures are constructed.

### **Communication and Risk**

The two models describe communication in the public arena, the place where public problems are discussed and resolved. The public hearing is the primary mode of communication between agencies, project-sponsors, and communities. Alternatives modes are emerging from various camps. Concepts such as stakeholder, co-organization or partnering are being raised as ways to involve more of the players in the entire process or episode.

Yet these more innovative approaches still fail to recognize several key factors. One of these is that the various organizations involved -- from governmental to corporate to community -- may well have differences in how they communicate and make decisions on a routine basis; such differences can undermine any well-meaning attempts to be inclusive. Another oft-overlooked factor is that success at the community level does not mean success for the project. All projects are subject to the pull and power of players not typically necessarily identified as participants. Decisions made at the community level still have to be approved by the chain of command in agencies, corporations, and non-governmental organizations (NGO). New approaches must take into consideration the complexity of the decision-making system.

## ***Project by Project Communication<sup>6</sup>***

This approach sets out five steps that can create a climate for openness and foster trust for individual projects -- if all parties are committed to the idea of involvement, learning, and collaboration. The steps are:

Identify the Purpose or Goal of Communication  
Community Due Diligence  
Implementation  
Continuous Learning  
Budget

Each of these steps is discussed below and includes consideration of the kinds of issues that need to be addressed at each step. This process will be iterative throughout the life of the project; some steps may need to be repeated depending on changes in the project and depending on changes in participants.

### Identify the Purpose or Goal of Communication

The individuals or organizations that intend to enter a community need to examine the purpose or goal of communication. In other words, what are the expectations of the project proposers? The sponsoring organization needs to be clear with itself about its intent. While many questions can and should be generated during this step, starting questions are set out below.

Is the term "communication" synonymous with "education" or the idea that the host community needs to understand the outsiders point-of-view or information; that once the community understands, then the community will agree with proposals or projects

Is the intent to learn about the host community, how it might fit into the overall project or issue, the community's insights and understandings of the project or issues

What decisions are to be made; who will make them; and how

What are the consequences of the decisions and who will reap the benefits and bear the challenges

Is there any intent to develop a long-term relationship; partnership; if not, why

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<sup>6</sup> ***The approach is set out in skeletal form and will need to be developed on a project-by-project basis. Similarly, the questions set out below are not intended to be comprehensive but rather to create a starting point and introduce the kinds of topics that should be considered.***

What are the expectations of the community, based on past history with similar projects, similar organizations / agencies

Is communication intended to convince community members of the value of a position or is it intended to involve the community in the project

Will the proposing organization's communicative style be didactic, suasive, command and control, or collaborative; what is this organization's traditional style?

Seeking this kind of clarity illuminates the need for additional information. The second step provides a framework for getting this information. Note carefully that the host community and other participating groups or organizations are not the only subjects of inquiry; that all organizations that intend to be effective conduct the same kind of "due diligence" on its own organization.

### Community Due Diligence

The concept of due diligence is used widely in the financial / lending community. Mergers, acquisitions, and loans hinge on financial and, increasingly, an environmental due diligence is required before property changes hands. Due diligence may be defined as

...the care that a reasonable person exercises under the circumstances to avoid harm to other persons or their property.<sup>7</sup>

Organizational or cultural due diligence is an emerging concept that is favored by stockholders who will be affected by the merger of two -- possibly incompatible -- corporations. The concept of organizational or cultural due diligence includes considerations of topics that are commonly thought of as "soft" and unimportant -- beliefs, values, and attitudes; leadership and management styles; structures; expectations; work flow, and rituals and other formal or informal ways of integrating the organization. Yet incompatibility in these areas can lead to organizational chaos and financial losses.

The same concept may be applied to communities -- in part to avoid harm and in part to know the socio-cultural territory in which a project and its planning will unfold. The community may be defined by geo-political boundaries, neighborhoods, governmental units, professions, and / or businesses and industries.

A community due diligence should be conducted of the host community, the project provider, participating industries, and / or participating governmental organizations. The first task in this type of due diligence is to identify all of the players or potential players with an interest -- direct or indirect -- in the project. The second task is to

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<sup>7</sup> Merriam-Webster Inc. 1993. Merriam-Webster's Collegiate Dictionary, 10<sup>th</sup> ed. Springfield, MA.



conduct the due diligence. The idea is to gain knowledge of the system and its parts, particularly those that can or should be interacting with one another, e.g. the host community and an agency. A due diligence can provide insights such as:

who is the community; what are its parts, organizationally and spatially; what defines the community; what are its boundaries<sup>8</sup>

how and where do individuals and organizations congregate in the host community, formally, informally, occasionally, regularly; what do they do there

what individuals / organizations may be assigned to the project, what individuals may be interested in the project, directly or indirectly

communicative practices, e.g. where and how do people get information, including word-of-mouth; what languages are spoken, written; is the Internet or other forms of telecommunication viable; do people get together in large groups or small groups

decision making styles, e.g. command / control, collaborative, consensus; what are the traditional practices, what are the expectations

what are the official and the tacit rules that govern interaction or decision-making

what is the calendar of the community; when do people get together, why, where; what holidays are observed and therefore outside the realm of time available for the project

who are the spokes persons in the community; what role will these individuals take in the project; at what points will these individuals be active -- throughout, at the beginning, at the end

who is conducting community based research on any topic in the host or surrounding communities<sup>9</sup>

what happens if this project succeeds or fails; what do the various communities see as the consequences of this project -- positive or negative

who has the final authority; will this person / group be involved in the overall process or will they only be involved in the final decision; does this person / group have a commitment to a partnering or collaborative approach.

Some of this information can be collected via secondary or archival sources, participant observation, informal interviews with individuals and groups; use of more than one kind of data source will allow triangulation and increase the likelihood of reliability and

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<sup>8</sup> This type of information helps to remind participants that no community -- whether bounded by geopolitical or disciplinary lines -- is a monolith.

<sup>9</sup> Community based research will be discussed in the second approach.

validity. Such information should be gathered not only for the host community but for all participating groups or organizations. The due diligence can be conducted by outsider or an insider, with the caveat that the insider may not "see" the internal processes.

A community or organizational due diligence can identify differences in expectations, e.g. in decision-making styles, that could undermine a project in the planning stages or once the project is under way. Ideally, this information will be shared between the parties to the greatest extent possible. Such openness will help foster trust and can be used to develop a partnership between all participants; it can also be used to develop communicative events appropriate to the expectations of all participants, thereby increasing the likelihood of participation. Further, the due diligence reduces the need to make assumptions. The information gained through an organizational or community due diligence can be used to create a decision-making process that is acceptable to all, opportunities for participation for virtually all members of a community, and to create a mechanism for effective communication.

### Implementation

By now, it should be obvious that there is no clear-cut step for implementation. Each project is actually an episode that begins long before a policy is declared in force or the first shovel of dirt is turned. The same processes used to develop effective communication processes and practices in the first two steps can be applied time and again over the course of the project.

### Continuous Learning

The first two steps are set up to create a foundation for learning, first about the participating organizations, second about the project itself and all of the factors that go into the project. In this format, individual and collective messages about risk and risk-based decision making are included in the context of a project that is relevant to the community. Opportunities for questions and challenges to information are all made in context. In addition, all participants are exposed to differing points of view.

### Budget

The budget for a collaborative or community based project is front end loaded; the majority of the costs come from setting up the project, evaluating its options, and then deciding whether to go forward as planned, make changes, or consider abandonment. While the actual costs of each project will differ, the following kinds of costs and benefits should be considered:

In house meetings to establish goals and intentions of proposing organization  
Field Research for initial Community Due Diligence  
Community Assessment  
Organizational Assessment  
Agenc(ies)

Corporate  
NGOs  
Special services, e.g. facilitators, conflict resolution specialists  
Events such as  
Meetings -- Travel (as needed and scheduled)  
Small group get-togethers  
Advisory Groups composed of community members  
Informal meetings  
Open Space Conferences  
Teleconferences where accepted and accessible  
Telephone Calls  
Web-Based Conferencing  
Faxes  
Additional research

This kind of process has a high potential for creating social capital in the form of trust and enduring long-term relationships that can be reconnected for future projects.

For clarity, any project budget should include the monetary and social costs of other options, e.g. the more traditional approach that limits participation of communities and the general public to specific events. The costs for meetings or specific events may be the same, given that staff and project sponsors may meet numerous times in the traditional way; the primary difference would be that larger group of people would be likely to attend in the suggested approach. In addition, costs for enforcement or security should be added to this consideration, particularly in the event that the community is an unwilling host; likewise, add the costs associated with civil action in the form of lawsuit. Unlike the collaborative approach, the limited access model will continue to foster distrust and do nothing to create social capital.

### **Community Based Research: a Long-Term Contribution to Inclusiveness and Effective Communication<sup>10</sup>**

Community-based research (CBR) is an alternative approach that begins in a community in response to a locally identified problem.<sup>11</sup> CBR projects operate under a number of different formats, e.g. the university linked "science shops" in the Netherlands, independent centers in the U.S. CBR recently gained attention in *Science News* and *Chronicle of Higher Education* in articles that advocate "democratization of science."<sup>12</sup> CBR-type projects offer potential for creating a bridge between scientists

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<sup>10</sup> **This approach is not developed in this paper but is offered for informational purposes.**

<sup>11</sup> Discussion of this model does not suggest that all science / research would originate in local communities. In other words, we do not suggest that a "bottom up" approach should replace the current "top down" but rather that a new collaborative approach should emerge in many cases.

<sup>12</sup> The role of science in decision-making in a democracy is issue of importance to the

and communities and, as such, may be worth consideration by the Department of Environmental Protection (DEP) as a model for inclusivity in the long-term. See *Science News* article at::

[http://www.sciencenews.org/sn\\_arc98/11\\_7\\_98/bob1.htm](http://www.sciencenews.org/sn_arc98/11_7_98/bob1.htm)

CBR projects could be collaborative, an approach similar to that suggested above; such a process would lend itself to mutual learning experiences and the development of trust between geo-political and science communities.

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topic of risk and communication. Recall that the National Research Council publication cited in the first risk / communication presented to the Contaminated Soils Forum is titled *Understanding Risk: Informing Decisions in a Democratic Society*." A extensive literature focuses on this topic.