

Current Conceptual Frameworks for Understanding the Practice of Public Participation

While much of the 20th Century involved the creation and expansion of a technocratically-grounded government that was to objectively employ the scientific method to make optimal and effective decisions about environmental issues, the governmental decision-making process has become mired in controversy. Based on what we currently know about science-intensive controversy, public decision-making processes must address more than just the scientific and technical challenges. Public decision-making on issues of concern to the public must be able to integrate people's diverse perspectives about the issues and how public participation should be conducted. Better processes are sought for bringing citizens, experts and decision-makers together in a manner that allows the important technical and social issues to be expressed, evaluated and made relevant to decision-making. Also, to effectively bring parties together, the process must be recognized as fair and mutually beneficial (Paterson, 1995). Methods of decision-making are sought that better meets the diverse needs and perspectives of those affected by the decisions in a diverse and democratic society (Fischer, 2000; Slovic 2000; Leighninger, 2006; Brown & Mikkelsen, 1997; Carpenter & Kennedy, 2001).

There are many ways whereby citizens may interact with government. These may include participating in special interest groups, taking legal actions against government, holding demonstrations, producing media messages or politically motivated art, and many other related actions (Cox, 2006; Carpenter and Kennedy,

2001). However, the term public participation has become recognized as a specialized form of government interaction, although specific definitions vary. A recent publication by the National Academy of Sciences (NAS, 2008, p. 11) defines public participation as:

“organized processes adopted by elected officials, government agencies, or other public- or private-sector organizations to engage the public in environmental assessment, planning, decision making, management, monitoring, and evaluation...any of a variety of mechanisms and processes used to involve and draw on members of the public or their representatives in the activities of public or private-sector organizations that are engaged in informing or making environmental assessments or decisions.

The International Association for Public Participation (IAP2, 2006, p. 3) has adopted a similar definition of public participation as:

“Any process that involves the public in problem solving or decision making and uses the public input to make decisions. While there is an element of dispute resolution in all public participation, the essence of public participation is to begin a participatory process before disputes arise. Public participation includes all aspects of identifying problems, developing alternatives, and making decisions.”

Current EPA policy for public participation in Superfund is found on their web site⁷:

“The goal of Superfund community involvement is to advocate and strengthen early and meaningful community participation during Superfund cleanups. Superfund community involvement staffs at Headquarters and in the Regions strive to:

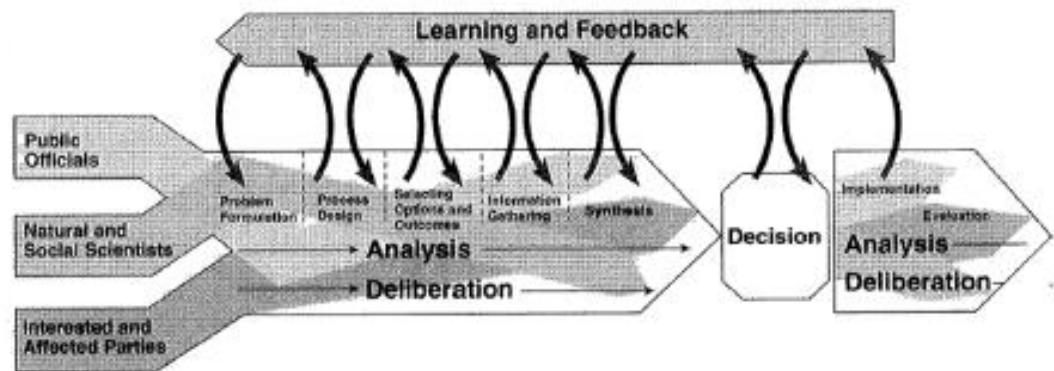
- Encourage and enable community members to get involved.
- Listen carefully to what the community is saying.
- Take the time needed to deal with community concerns.
- Change planned actions where community comments or concerns have merit.
- Keep the community well informed of ongoing and planned activities.
- Explain to the community what EPA has done and why.”

⁷ See <http://epa.gov/superfund/community/>.

Common themes to these definitions of public participation is the focus on processes that seek to involve the public in agency decisions, yet stopping short of conceding any direct control or authority for the decisions. Various general conceptualizations for how this should be done have been advanced.

The analytical-deliberative model established by the National Research Council (1996, Figure 2) is an often referenced general framework for representing how public officials, scientists, and the affected public should work together.

Figure 2. Analytic-Deliberative Framework Proposed by U.S. National Research Council



Source: National Research Council, 1996⁸

Figure 2 illustrates how various participants are to engage jointly in a structured process that leads to a decision and also carries forward through implementation and evaluation of the decision. The steps in the structured process leading up to a decision are:

⁸ This is the most readable version available in documents retrievable electronically through the internet.

- problem formulation,
- process design,
- selecting option and outcomes,
- information gathering, and
- synthesis.

Importantly, as the participants move through the process, they jointly engage in analysis and deliberation. Analysis is used to organize and evaluate the data in a scientifically rigorous way, while deliberation enables scientists, public officials and affected parties to interact, learn, and provide feedback throughout the stages of project.

Another conceptual framework for understanding how participants should work together to conduct risk assessments was prepared by a Presidential/Congressional Commission on Risk Assessment and Risk Management (Omenn et al., 1997). This framework, shown in Figure 3, shows all stakeholders centrally engaged in all steps of risk assessment and risk management.

Figure 3. The Presidential/Congressional Commission Risk Management Framework



Source: Omenn et al., 1997

Of course, it is one thing to establish such generalized conceptions of how participants should work together, and quite another thing to find ways to make it work in practice. The challenge involved was effectively captured by the Presidential/Congressional Commission (1997, p. 39):

“Risk assessment can provide valuable information to those who set environmental, health, and safety regulatory priorities, allocate resources within regulatory agencies, and make regulatory decisions. ... After a decade of research at leading universities and experiences at all levels of government, much has been learned about how to enhance effective risk communication to gain the confidence of stakeholders, incorporate their views of knowledge, and influence favorably the acceptability of risk assessments and risk management decisions. That knowledge is not reflected commonly in practice, however.”

Not only are these conceptual frameworks for conducting public participation uncommonly practiced, criticisms remain that these frameworks are fundamentally flawed. While recognizing value in having public officials, scientists, and other affected

parties engage jointly in a structured process leading to a decision, Fisher (2000, p. 250) argues that this approach continues to characterize science as purely objective, and that the process of applying scientific principles on projects is still only in the domain of scientists. Deliberative participation, he argues, remains outside of science. Rather, what is needed is a conceptual framework for public participation that perceives science and multi-stakeholder deliberation as a continuation of the same activity – namely that of creating mutual understanding.

While there is reasonable agreement on what public participation is and to some degree at least agreement about how it should work, differences are more problematic concerning the purpose for conducting public participation. IAP2 (2006, p. 5) identifies four reasons why managers may want to involve the public:

- “It is required.
- You are frustrated or even desperate.
- You believe there is some value.
- You will get some advantage from doing so.”

However, the regulatory requirements to conduct public participation are often more limited in scope. Similar to what was described in Chapter 1 in terms of the minimum public involvement requirements for the EPA, public participation can often be limited to intermittent opportunities for the public to comment on agency documents or to express themselves at public hearings. These minimums may be appropriate in circumstances where little demand for public involvement exists.

However, the application of such minimalistic approaches in the face of higher levels of

public interest can lead to legal or political quagmires for agency managers that can frustrate efforts to move forward.

Where increased levels of public interest in a decision exist, managers may recognize certain value or advantage in applying more involved and appropriate forms of public participation. Such value or advantage is commonly recognized to involve improved decision quality, increased legitimacy of the decision-making organization, or improved decision-making capacity of the engaged public (NAS, 2006). Within these rather broad and general categories lay a host of more specific benefits for public participation such as:

- Embracing democratic principles and philosophies,
- Improved integration of diverse perspectives into decisions,
- Improved sharing and distribution of key information,
- Increased mutual understanding of and transparency in the basis for a decision, and
- Improved relationships between people that carry into future work.

Considerable discretion exists within agencies about when and how public participation is implemented that allows agency managers to respond to the varying degrees of complexity and public interest that may exist on any specific issue. However, that discretion can also extend to and draw from the different goals managers may have for public participation. Agency officials may not be explicit about the purpose for public participation, and the real intent or perspective of any individual manager in any specific situation can vary considerably from the broadly stated policy objectives of the

agency and the public participation objectives of the affected public. As indicated by the NAS (2008, p. 43), “this situation leaves considerable room for ambiguity, misunderstanding, and contestation over who should participate, how, when, and with what kind and degree of influence.” In short, opportunities exist to improve the knowledge and practice of public participation.

Major Strands of Public Participation Research

Currently, a number of different strands of research exist for integrating science into public participation. These were recently compiled by Webler and Tuler (2002) into the following typology, which is delineated in further detail below:

- Management Theory seeks improved understanding of effective decision-making from the manager’s perspective and is concerned with strategies for balancing the need for quality against the need for public acceptance.
- Collaborative Learning is method of practice based on learning theory as applied to collaborative contexts; it also is attentive to the broader societal and human development benefits of public participation that go beyond the issue or decision at hand.
- Decision Analysis is supported by decision theory and responds to a technical persons’ desire for quantitative clarity and optimal outcomes in the decision making process.
- Procedural Justice seeks to provide an ethical foundation for the practice and evaluation of public participation and somewhat assumes fair process will result in fair outcomes.

- Democratic Theory provides a political philosophy and political science foundation for public participation.
- Evaluation seeks to induce some commonly recognized and useful metrics for assessing the quality of public participation outcomes in different contexts.
- Communication Theory seeks to provide a normative foundation for public participation that is grounded in theories pertaining to effective communication and that emphasize fairness and competence as key variables of effective communication that achieves mutual understanding.

As proposed by Webler & Tuler (2002), the different strands of public participation research involve a range of conceptual, theoretical and methodological bases that suggest the possibility for further debate and refinement. For example, where the communicative approach seeks to establish a normative theory of what constitutes effective communication, procedural justice provides a conceptual framework for understanding concerns for fairness, and decision analysis seeks to establish criteria for evaluating complex decisions. Accordingly, the typology is perhaps reflective of the multiple ways by which public participation is understood, studied, and practiced. Moreover, much public participation research has been descriptive in nature, seeking to observe and distill best practices, rather than theoretical. As stated by Webler and Tuler (2002, p. 179), “the need for better conceptual and theoretical understandings of public participation has become clear.” As the first known effort to establish a typology of public participation research, the current typology reflects the diverse and sometimes overlapping perspectives of public participation research. A

typology has yet to be proposed that establishes a clear or thorough history of descriptive, normative, and explanatory research on public participation.

Regardless of any present shortcomings, the typology of public participation first identified by Webler and Tuler (2002) is adequately organized to support a review of the major literature on the topic, and it is well suited to identifying the reasons for selecting the communicative approach for use in this research. Accordingly, this typology, which was only briefly described by Webler and Tuler, is described in greater detail and applies additional references. Moreover, each framework is concluded with a personal critique which supports the rationale for selecting the communicative approach as an appropriate framework for approaching this research.

The communicative approach, which seeks to provide a normative basis for what constitutes effective communication in a public participation process, is selected as an appropriate framework for approaching this research because it provides a logical and more politically neutral foundation for advancing a theoretical framework for public participation than the other theories and concepts of Webler and Tuler's typology. As will be demonstrated throughout this subsection, the current state of research suggests the need for research that can help to establish a more consistent and broadly recognized basis for understanding why public participation is important and how best to do it. While "theories of public participation have traditionally not received great attention, and few theories have been proposed and tested", theory is "key for unlocking the puzzle of public participation" (Webler and Tuler, 2002, p. 180). As summarized by Webler and Tuler (2002, p. 181), theory can inform practice by:

- “Generalizing knowledge beyond each practitioner’s experience.
- Highlighting preconditions that can influence the process.
- Focusing attention on intermediate indicators of desired outcomes.
- Helping match method with purpose.
- Helping predict outcomes of interventions.”

This subsection concludes with an explanation of the theoretical foundation that supports this research. I argue that, among the various strands of public participation research, the communicative research approach is the most appropriate basis for conceptualizing my research. Moreover, I explain how this research contributes to the communicative research tradition by providing much needed additional empirical assessment. In particular, this research evaluates the different perspectives people have of the important technical and social issues surrounding their public participation decisions within a Superfund context.

Management Theory

Management theory is based on observations on how managers make effective decisions (Vroom & Jago, 1978; Vroom & Yetton, 1973). Most notable as applies to the environmental realm, John Thomas (1990, 1995) developed a decision process flow chart that allows the choice of a public participation process to be selected based on seven needs of the agency official (quality requirements, information needs, availability of solution options, need for public acceptance, the potential for public acceptance to be achieved, the alignment of agency versus public goals, and the potential for conflict

to emerge). The theoretical framework upon which the flow chart is premised is identified by Thomas (1995, p. 36) as follows:

“Where the needs for quality are greater, there is less need to involve the public. Where on the other hand, the needs for acceptability are greater, the need to involve the public and share decision-making authority will be greater.”

As my own critical reflection, this approach presupposes that the agency manager’s needs supersede those of other stakeholders and that the agency manager has the best perspective from which a public participation decisions should be based. It is difficult for me to imagine that all of the questions deemed relevant to the decision-making process can be answered in a complete way without first seeking some preliminary involvement from those affected by the decision. While the framework for decision-making that Thomas proposes may aid an agency manager, the systematized process that has been derived from management theory seems to fall short of the broader principles relating to democratic theory. Citizens are not afforded an adequate opportunity to participate in the scoping of the decision-making process.

Collaborative Learning

Developed by Daniels and Walker (2001), this method of practice for conducting public participation emphasizes the importance of learning through collaborative processes and emphasizes the goal of improving the situation. Although some methods of public participation practice do not have a strong theoretical underpinning, collaborative learning is notable herein for the degree to which practice is informed by theory. As noted below, it is also noteworthy for utilizing a mental models methodology

that is closely related to the mental models methodology used in this research. It draws upon the following principles, theory and techniques:

1. Conflict management principles: Collaborative learning emphasizes a deliberative process that is integrative rather than distributive in its orientation to negotiation, and that strives for consensus outcomes (Daniels and Walker, 2001).
2. Collaborative learning theory: Collaborative learning theory sees learning as an active process of creating meaning whereby the learner tries to make sense of something on their own and the teacher serves as a resource or guide to help the learner. This is in contrast to having someone tell you how to do something (Atherton, 2009; Brooks and Brooks, 1993). In applying this theory, the Collaborative Learning focuses most on adult learning and experiential learning. According to Daniels and Walker (2001, p. 79), adults bring more experience, less patience, and little tolerance for being “taught”; they want to learn actively while they are working on the issues important to them.”
3. Soft systems methodology: “Soft Systems Methodology” was originally developed in the late 1960’s by Peter Checkland as a modeling tool, but has become increasingly recognized as a learning and meaning development tool. The technique has application to situations where there are divergent views about the definition of the problem (Adrien et al., undated). A seven step process is used to conceptualize the problem, develop a model of the

problem (which are very similar in nature to the mental models presented in this research), and ultimately arrive at solutions to the problem. As described by Williams (2005):

“although soft systems methodology develops models, the models are not supposed to represent the ‘real world’, but by using systems rules and principles allow you to structure your *thinking about* the real world. The models are neither descriptive nor normative, though they may carry elements of both.”

Daniels and Walker (2001) integrated conflict management principles, collaborative learning theory, and soft systems methodology to develop a five step process that defines the Collaborative Learning methodology:

1. Assessment: understanding the nature of the situation and the stakeholders.
2. Training: formal instruction on the principles, processes, and outcomes of Collaborative Learning.
3. Design: developing a situation-specific strategy for meaningfully involving stakeholders.
4. Implementation/Facilitation: use of a third-party neutral to engage the stakeholders in various workshops, meetings, field trips, etc. as defined by the design.
5. Evaluation: Data gathering from participants to generate lessons learned.

As a critical reflection, the goal of establishing an environment within which collaborative learning occurs is certainly worthwhile. This kind of learning objective has applicability to the “human development” aspect prevalent in democratic theory as previously discussed (NAS, 2006; see Public Participation as a Response to Controversy).

However, in my opinion the Collaborative Learning methodology may undervalue the real reasons people seek to become involved in government decisions – they seek to affect outcomes! While learning may be a frequent benefit of public participation, by itself, the collaborative learning approach does not appear to adequately encompass the reasons why public participation is necessary.

Decision Analysis

Decision analysis provides a method of practice for evaluating complex decisions and determining an optimal solution. Commonly called Multi-Criteria Decision Analysis (MCDA, Kiker et al., 2005) or Multi-Attribute Decision Making (Harvey et al., 2004), the methodology generally requires the quantification of value judgments by assigning scores to various criteria of interest to a particular decision. Decision analysis is based on decision theory, which is concerned with identifying the values, uncertainties and other issues relevant in a given decision, its rationality, and the resulting optimal decision (Peterson, 2009). The notion that value judgments can be systematically structured makes this method of practice worthy of mention within the typology.

As described by Linkov et al. (2004), “The common purpose of MCDA methods is to evaluate and choose among alternatives based on multiple criteria using systematic analysis that overcomes the limitations of unstructured individual or group decision-making.” The process can be as simple as assigning weighting scores to various criteria. This most simplified approach is typically performed during the Feasibility Stage of the Superfund process (see A Superfund Focus in Chapter 1). Often times each proposed remedy will be scored against the various required criteria such as cost or long-term

protectiveness, and the scores are added up for each alternative to determine the overall best option. In a more complex form, weighting mechanisms can be used to favor some criteria more than others. Advanced mathematical methods may be applied within available software applications to support more complex assessments (Linkov et al., 2004).

In my own assessment, MCDA has been developed into a practical tool that can be used to break a large problem down into its component parts, and it can be used to make the basis for a decision quite transparent. It also provides an engineering-oriented efficiency to establishing values and supporting the decision-making process. However, such efficiency can circumvent the kinds of deliberative processes that are necessary to get people to work through their differences in a true spirit of collaborative problem solving.

Procedural Justice

Procedural justice provides a conceptual framework that focuses the practice and evaluation of public participation on concerns for fairness in the processes used to achieve outcomes. Political philosopher John Rawls (1999) defines a “perfect procedural justice” to consist of an independent criterion for what constitutes a fair or just outcome of the procedure, and a procedure that can help assure that the fair outcome will be achieved. This contrasts with a “pure procedural justice” system in which there is no criterion for what constitutes a just outcome other than the procedure itself.

While not specifically mentioned by Weblor and Tuler (2002), Environmental Justice is an important expression of the procedural justice approach as applies specifically to hazardous waste issues that are regulated by the EPA and in part by Superfund legislation. Environmental justice concerns grew out of awareness that hazardous waste treatment and storage sites are often located in low-income and minority communities, likely because of cheap land prices and less political opposition (Saha and Mohai, 2005). The response to these social injustices seeks to more fairly distribute the “goods” and “bads” of the industrial processes that caused the contamination, seek fair procedures that provide greater voice to all members of the community including the politically powerless, and otherwise reduce or eliminate the exposure to pollution (Bryner et al., 2001).

In 1991, delegates to the First National People of Color Environmental Leadership Summit drafted and adopted 17 principles of Environmental Justice that has served to define many of the aspirations of the environmental justice movement⁹. In summary, the 17 principles address:

- ecological integrity and sustainability,
- environmental quality,
- social discrimination,
- cultural self-determination,
- access to decision-making processes,

⁹ See <http://www.ejnet.org/ej/principles.html>.

- compensation and access to health care when human health or ecological integrity are compromised,
- enforcement of informed consent procedures and a halt to the testing of experimental reproductive and medical procedures and vaccinations on people of color,
- destructive operations of multi-national corporations generally,
- opposition to military occupation, repression and exploitation of lands, peoples and cultures, and other life forms,
- education that appreciates diverse cultural perspectives, and
- wise consumer choices that conserve resources and minimize waste.

Also seeking to provide greater awareness of what the term environmental justice means to adversely impacted people of color and lower income communities, Kuhn (2000) proposed a four-part categorization of environmental justice issues. While Kuhn goes to great length to capture the rich heritage of ideas behind each of these four issues, for the purposes herein they are briefly and simply defined as follows:

1. Distributive justice: the equitable distribution of social goods and bads.
2. Procedural justice: how procedures are implement to help achieve fair outcomes.
3. Corrective justice: processes that restore victimized persons.
4. Social justice: addressing the underlying racial, economic, and political factors in ways that hold privileged classes accountable.

Kuhn concludes his paper by stating: “Compliance with the law, while perhaps sufficient to gain necessary government approvals or avoid the imposition of legal liability, is no longer sufficient if one wishes to achieve environmental justice.” Accordingly, greater discernment in agency decision making processes is called for in order to achieve the aspirations of the environmental justice movement.

Procedural justice is ethically grounded within the ideals of political equality. As Webler (2002) notes, a variety of criteria have been proposed for measuring adherence to procedural justice ideals, such as accurate information, representativeness, participation in decision-making, and the suppression of bias. In my own view, these are practical and necessary standards to consider in a legal or political setting. However, the implementation of this approach in its ‘perfect’ sense does not by itself consider the hidden biases, prejudices, and other difficult to recognize differences between people (such as the psychological and cultural influences on risk perception previously described) that can make it difficult to establish a commonly recognized norm for what constitutes a fair and ethical process or outcome. Processes such as those described under Collaborative Learning above are needed to help elucidate hidden biases where they exist.

Theories of Democracy

Democratic theory is normative in nature, and most often consists of a political philosophy that expresses the values believed to be inherent to democratic governance. While public participation in governance is intrinsic to democratic principles, there is no single theory of democracy from which a normative theory of public participation can be

based (NAS, 2006). In evaluating the many theories that have been posited over the years, the National Academies of Science in their report titled *Public Participation in Environmental Assessment and Decision Making* concludes that there are three “broad headings” by which various theories of democracy tend to converge: “political equality, popular sovereignty, and human development” (NAS, 2006, p. 46). Political equality refers to the inalienable right of citizens to participate in making public policies. Popular sovereignty refers to the principle of self government and the notion that government authority derives from the governed. Human development refers to the perhaps less well recognized idea that through democratic involvement people not only advance their interests but come to understand their interests and how those interests relate to others. Through democratic involvement, people learn about each other and become socialized. This learning process is thought to be important in developing private individuals into public citizens (NAS, 2006).

Collaborative governance is an emerging conceptual framework for leadership intended to achieve democratic ideals that has received much recent attention (Ehrmann and Birkhoff, 2005; Leighninger, 2006; Susskind et al., 1999). Collaborative governance is intended “to build the capacity of citizens and officials to engage people with diverse viewpoints in constructive forums with good information” (McKinney and Harmon 2004, p. 232). This statement embodies three of the most basic principles of alternative dispute resolution today; that it is informed, inclusive and deliberative. The underlying ideals of collaborative governance are integral to notions of democracy, and

are not new. Thomas Jefferson is quoted as saying, "...whenever the people are well informed, they can be trusted with their own government..."

Today, collaborative governance is seen to have emerged as a practical and constructive response to the gridlock and public dissatisfaction with prior and present forms of governance of environmental resources (Bolten and Connaughton 2005). It embodies the ongoing challenge facing many public officials today, namely that of assimilating the conflicting values and interests of citizens within science-intensive environmental decisions (McKinney and Harmon 2002). This approach, which has received widespread recent interest, is firmly grounded in the common American values inherent to our democratic form of government – a government that is of, by and for the people.

To summarize the democratic theory in my own terms, it is similar to procedural justice in that it is grounded in political philosophy. As such, it is subject to similar kinds of contested notions and norms, in this case concerning what constitutes an appropriate or right form of democracy. Again, Collaborative Learning type methodologies are needed to elucidate the contested notions and norms in an effective learning forum.

Evaluation

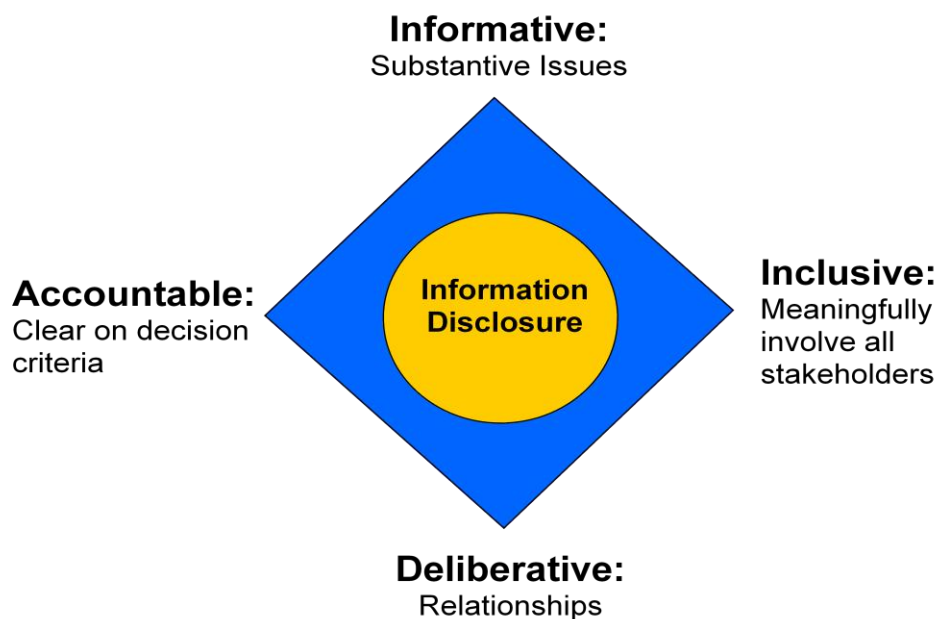
Public participation research is also supported by efforts that seek to inductively derive criteria or processes by which the effectiveness of public participation can and should be evaluated. For example, Bradbury and Branch (2006) evaluated the effectiveness of public participation at a U.S. Department of Energy and U.S. Department of Defense hazardous waste cleanup sites to derive an "acceptability

diamond” framework for evaluation. The acceptability diamond (Figure 4) involves four main points:

- Informative: addressing the substantive issues.
- Inclusive: meaningfully involving all stakeholders.
- Deliberative: addressing relationship needs among the stakeholders.
- Accountable: being clear on the decision criteria.

At the center of the four points of the acceptability diamond is the need to transparency or information disclosure.

Figure 4. The Acceptability Diamond



Source: Bradbury and Branch, 2006.

This evaluative structure proposed by Bradbury and Branch is similar to the “informed, inclusive, and deliberative” framework previously discussed for Collaborative

Governance in the Democratic Theory section above, and can thereby be readily recognized as drawing from democratic philosophy.

Part of the evaluative literature is also focused on relating certain public participation techniques to certain process or outcome objectives that can be measured. Chess and Purcell (1999) provide a widely referenced review of the evaluative literature that reveals the challenges inherent in trying to establish static and objective norms for evaluating public participation. These authors concluded that the form of public participation does not necessarily determine either process or outcome success, but rather how the agency uses a particular process may have as much or more influence on the effectiveness. The authors point to the need for additional research to better understand the association between process and outcomes.

Any decision-maker benefits from having clearly established criteria by which success can be measured. In the Superfund program for example, the EPA must ultimately be accountable by some measure of performance for having involved the public in their decision-making. However, any form of evaluation must align itself with some philosophical or ideological foundation. The Acceptability Diamond for example, draws much support from the previously described Democratic Theory of public participation. Therefore, while the evaluative research tradition can provide insights that utilize theoretical principles, evaluative research is not in itself a theoretical foundation for understanding public participation.

Communicative Theory

Communicative theory seeks to provide a normative foundation for public participation that derives from a recognized ideal of what constitutes effective communication. This approach is presented last in the series to allow it to be compared and contrasted to the other strands of public participation research. Communicative theory seems best suited to transcend political orientations and philosophical orientations that are intertwined with the Procedural Justice and Democratic Theory perspectives on public participation. It does not seek to apply a particular technique, like Decision Analysis, nor does it presuppose needs for certain selected outcomes like Collaborative Learning (i.e. improved shared understanding) or Management Theory (i.e. management efficiency). It does seek to establish certain norms for evaluating effective public participation that are rooted in the essence of the constitutive elements of effective communication.

The prevailing line of research in the Communicative Theory tradition posits that fairness and competence are the most relevant core variables for achieving effective communication within a public participation process (Webler & Tuler, 2000). This line of research applies concepts advanced by Jürgen Habermas (1973, 1979, 1984, 1987, 1991, and 1992) who sought to define the “ideal speech situation” necessary to effectively achieve mutual understanding. Thus, effective communication is understood to be that which achieves mutual understanding. Habermas believed that it was only through communicative actions that commonly recognized standards for reason develop that are needed to achieve mutual understanding. Habermas asserted that the ideal speech

situation involves four validity claims that comprise these commonly recognized standards. As simplified and refined by Webler & Tuler (2000), a valid statement must:

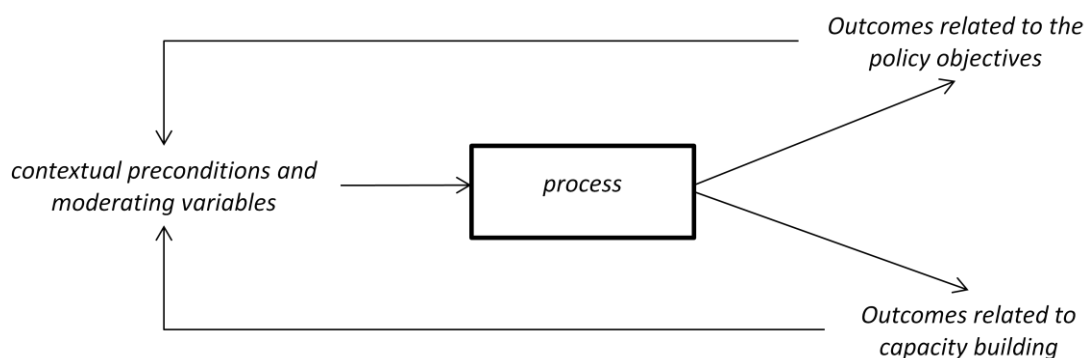
1. make sense,
2. be factually correct,
3. be morally right, and
4. be sincere.

Statements that parties recognize as achieving these four validity claims support effective communication. Free and un-coerced rational discourse between interested parties is recognized by Habermas to provide the conditions necessary for creating mutual understanding and reaching consensus. They must have the right to assert, defend or question any factual or normative claim. This interaction also must not be constrained by activated role or status differences. In short, the interested parties must perceive to have a fair opportunity to contribute to the discourse. Habermas's theories are thereby understood to advance two meta-principles of effective communication: fairness and competence. Habermas asserted that given enough time, fair and competent communication will always produce agreement (Renn et al., 1995; Jaeger et al., 2001).

While Communicative Theory provides a logical and politically neutral foundation for establishing a theoretical framework for public participation, limited research has evaluated the soundness of the theory in practice. Webler and Tuler have conducted two empirical studies of participatory decision-making process that began to explore the strengths and weaknesses of fairness and competence as a theoretical

framework (Webler & Tuler, 2002). In the case of a forestry planning process in New England, the authors came to recognize that a focus on good process as an adequate predictor of good outcomes was not enough for participants. Participants wanted good process and good outcomes to be considered in parallel. In the case of a watershed planning process in Massachusetts, the authors came to recognize that a normative theory of public participation cannot rely only on fundamental principles, but must also accommodate the contextual features of the specific project. In short, the authors recognize that more research is needed that links fundamental principles with “the complexity of people’s motives and behavior” and “the historical context” within which the public participation process is embedded (Webler & Tuler, 2002, p. 186). In support of their ideas, the authors proposed a simplified schematic depicting how different elements of public participation are iteratively connected (Figure 5).

Figure 5. Iterative Connection of Public Participation Process with Preconditions and Outcomes



Source: Webler & Tuler, 2002

Summary and Conclusions

Controversy seems to be inextricably intertwined with science-intensive public decision-making. As described throughout this chapter, existing research indicates that different people may apply different perspectives to understanding science and different people have different ideas about what public participation is, how it should be conducted, and what its goals should be. As people with such differences come together to solve problems, these differences can lead to communication barriers and otherwise frustrate efforts to work together.

There are many competing and sometimes overlapping or interdependent conceptual frameworks, theoretical frameworks, philosophies, and methodologies that can be applied by public agency managers, legislative overseers, and affected citizens to making decisions about how to conduct or engage in public participation. Each has applicability within a particular perspective: Accordingly, the variables deemed relevant to defining a 'good' public participation process appear to be at least somewhat contingent upon the perspective one takes toward public participation. Webler and Tuler (2002, p. 179) similarly recognized the need for theory to "acknowledge that different people have different beliefs about what public participation should accomplish." Notions of what constitutes good public participation are evolving and commonly recognized and measurable norms for evaluating public participation effectiveness have not been established in practice (Webler et al., 2001; Chess, 1999).

This research responds to the previously identified call by Webler & Tuler (2002, p. 186) for more research that links fundamental principles with "the complexity of

people's motives and behavior" and "the historical context" within which the public participation process is embedded. Moreover, Webler and Tuler (2002, p. 186) identify a need for additional research that addresses "a broad landscape of variables, from preconditions and moderating variables, to variables that depict the deliberative process itself, to processes that capture the significance of the outcomes of the process."

Accordingly, the primary goal of this research is to empirically identify how different people who are actively engaged in controversy think about their public participation decisions. More specifically, this research expands upon the basic conceptual framework presented in Figure 5 by adding significant specificity and detail to the contextual preconditions, process (i.e. methods of interaction and communication), and outcomes that comprise our understanding of the public participation process. This increased understanding is applied in Chapter 7 to advance communicative theory of public participation and offer practical advice to researchers, policy makers, and those engaged in the public participation practices.

This research takes the position that much of the controversy involved in science-intensive public decision-making originates from the diverse perspectives of those engaged. The communicative research tradition provides an effective and theoretically-grounded perspective from which these differences can be understood and responded to. The essential objective of the communicative research tradition is to find ways that better enable people to meaningfully and effectively communicate and

otherwise constructively work through shared problems and make well-informed decisions.

The Superfund program is selected as an ideal research context for contributing empirically derived knowledge to the communicative research tradition. As described in Chapter 1, Superfund projects are often highly complex and involve considerable controversy. Accordingly, they involve a large number of preconditions that must be considered in a public participation process. Moreover, the Superfund program evokes disparate perspectives among participants about how best to conduct a public participation, and about what outcomes should be achieved both in term of the environmental improvements and the expected benefits from public participation. Projects within the Superfund program invoke considerable complexity across all elements of Figure 5, thereby providing an ideal source of empirical knowledge by which each element of Figure 5 can be assessed in detail.

Consistent with the objectives of the communicative research tradition, this research seeks to explore how people engaged in controversy on Superfund projects think about their public participation decisions. Consistent with Figure 5, this thinking is generally understood to involve contextual preconditions, process alternatives, and outcome objectives. To achieve this objective, this research seeks to apply a novel application of an established and effective methodology for understanding the thought processes people use to make public participation decisions.