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WORKING PAPER #2

ALTERNATIVE DISPUTE
RESOLUTION SERIES

PUBLIC INVOLVEMENT; CONFLICT MANAGEMENT; AND DISPUTE RESOULTION IN WATER RESOURCES AND ENVIRONMENTAL DECISION MAKING

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The Corps Commitment to Alternative Dispute Resolution (ADR):

This working paper is one in a series of working papers describing applications of Alternative Dispute Resolution (ADR). The working paper is part of a Corps program to encourage its managers to develop and utilize new ways of resolving disputes. ADR techniques may be used to prevent disputes, resolve them at earlier stages, or settle them prior to formal litigation. ADR is a new field, and additional techniques are being developed all the time. These working papers are a means of providing Corps managers with examples of how other managers have employed ADR techniques. The information in this working paper is designed to stimulate innovation by Corps managers in the use of ADR techniques.

These working papers are produced under the proponency of the U.S. Army Corps of Engineers, Office of Chief Counsel, Lester Edelman, Chief Counsel; and the guidance of the U.S. Army Corps of Engineers Institute for Water Resources, Fort Belvoir, VA, Dr. Jerome Delli Priscoli, Program Manager.

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PUBLIC INVOLVEMENT; CONFLICT MANAGEMENT; AND DISPUTE RESOLUTION IN WATER RESOURCES AND ENVIRONMENTAL DECISION MAKING

Alternative Dispute Resolution Series

Working Paper #2

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Introduction

Many professionals see public awareness primarily as educating the public. This is understandable, afterall, most of the public and many decision makers understand little about water resources. However, experiences of the last 15 years in the United States indicate that public awareness, in its broadest sense, is more than educating publics and officials or providing information to such officials and publics. Public awareness also includes receiving information from and being educated by various publics and officials.

The process of providing information to and receiving information from publics has come to be called public participation or public involvement. To some, public involvement is a stronger term than participation, because it ultimately means sharing power or, at least, influencing decisions traditionally in the purview of technical experts.

Since the National Environmental Policy Act (NEPA) 1969, we in the U.S. have moved from public involvement that meant informing and educating the public to involvement that means receiving information from, and being educated by, the public. Today, the major concern is how can interested parties agree? In short, we have moved from educating the public to being educated by the public to now mutually deciding with the public.

This paper outlines six important concepts of public involvement and conflict management. I will begin by asking, "Why do public involvement and conflict management?" A discussion of the six key concepts will follow. Finally, I will briefly outline ways these concepts have been applied.

Why Do Public Involvement and Conflict Management in Water Resources and Environmental Decision Making?

One can answer simply, "Because the law mandates public involvement." But what is behind the laws? To begin with, NEPA introduced an era of environmental concern. Values throughout industrial societies have been shifting. There is increasing concern for environmental quality and public health (Milbraith, 1984). These concerns have manifested as new demands on the technical decision makings in the water resource field. Environmental values must now be integrated into actual engineering design and not simply as afterthoughts for predetermined solutions. This has meant broadening the alternatives considered from traditional structural measures to non-structural and behavioral measures.

Initially, public involvement was greeted with skepticism within technical agencies and a naive euphoria among environmental interest groups. With more experience, the subtleties of public involvement have become apparent. What happens after everybody has articulated their interests? What happens after we have listened to the different and competing views? These questions have been prominent for the last four or five years. Can public involvement by raising and articulating interests lead to consensus or agreement sufficient for action? Many in the environmental community have been surprised that public involvement does not always lead to ideal environmental solutions. Many professionals in technical agencies have seen public involvement as producing more legal stalemate by providing access for new

**The views presented are those of the writer and do not necessarily reflect those of the U.S. Corps of Engineers*

interest groups. Many have seen public involvement as a means to stop or stalemate decision processes. As such, public involvement has become another straw on the camel's back burdening the legal court system. Indeed, the courts have become the major instrument for resolving environmental disputes. However, the court system in the U.S. has become overloaded. Litigation takes a long time and rarely produces solutions that are satisfying to any of the parties involved. Also, solutions are reached in a way that separates rather than brings together those with substantive technical environmental expertise. Even though the court system or adversarial process predominates the U.S. System, more than 80% of those cases that start in the adversarial process are solved outside of court. So public involvement and conflict management have taken on a new meaning, that is, to "off-load" the legal system.

Throughout the western democracies, administrative processes, which some once thought to be purely technical, are more clearly recognized as having political dimensions. Many decisions thought to be purely technical are actually political, that is, they affect the distribution of values throughout society. Most managers in administrative agencies are actually managing the gray area between technical and political. While asked to be technically competent, they must be politically realistic. Public involvement has become a means for managing this gray area between the technical and the political.

Within the U.S. Corps of Engineers organization, one of the largest public engineering organizations in the world, contract claims have doubled in the last 8 years. At any given month, there can be hundreds of millions of dollars in construction claims against the organization. The same organization issues close to 20,000 permits for construction in the navigable waters and wetlands throughout the United States. These permits can generate enormous amounts of conflict which carry high administrative overhead for both Government and the private sector. So, in a utilitarian sense, the agency is seeking alternatives to the strong adversarial system for resolving disputes. Such alternatives are essentially negotiations, involvement or other ways of coming to agreement.

Generally, the following six goals for public involvement and conflict management are the most common. While all are rarely achieved, mixes of these goals may be achieved.

- To build credibility with those who will be affected, those who will pay and those who will use the project. While the point doesn't need to be elaborated, many recognize that a credibility gap has existed among the policymakers and significant segments of the public.

- To identify public concerns and values. There are many techniques that do this in a form that is relatively open and straightforward.

- To develop consensus among the impacted parties, users and those who pay. In difficult controversies, consensus is rarely achieved, but it is satisfying when it is.

- To create the greatest number of "unsurprised apathetics." What do I mean by this? In many cases, not everybody needs to be involved or wants to be involved in every issue, all of the time. Most people are partially involved, but these people should not be surprised. They should be kept informed, in other words, "unsurprised."

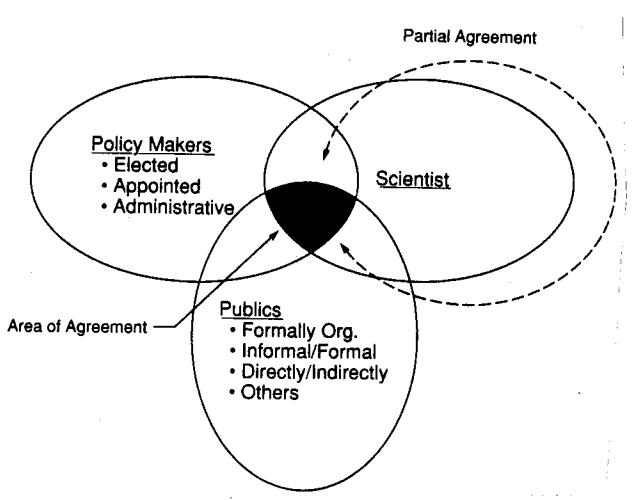
- To produce better decisions. Public involvement can often produce better "technical decisions" than a strictly technically oriented decision process.
- To enhance democratic practice.

Six Concepts of Public Involvement and Dispute Resolution

Levels of Conflict

In this conference we have divided the policy world into policymakers, scientists and publics. Through public awareness, public involvement and conflict management, we seek to find agreement among these three divisions of the world. Figure 1 outlines this world. As we can see, the policymakers are not one entity. They include elected officials and administrative officials of various types. We all know that elected officials can have tremendous disagreements among themselves. This is also true of administrative officials and professional civil servants who frequently represent agencies with different missions. Indeed, scientists themselves often disagree. It doesn't take experience with too many controversies until one can recognize a variant of Newton's Second Law, "For every Ph.D., you can find an opposite and equal Ph.D."

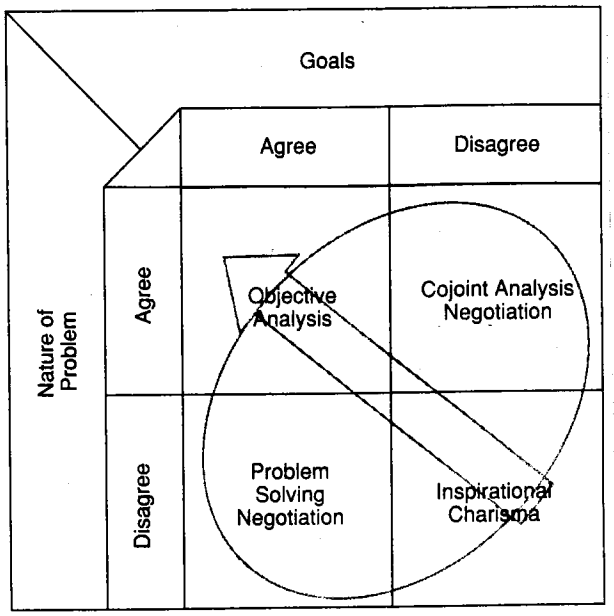
Figure 1
Policy World



There are many ways of looking at the public. Indeed, there is no one public but rather, many publics. For a controversy, we might find formally organized publics or informally organized publics. We may find publics who are directly affected and those who are indirectly affected. I am sure we can draw clearer distinctions; however, the point for this conference is that we are seeking to understand how public awareness helps us reach some agreement among these three elements, no matter how we subdivide them. This agreement is represented by the shaded area in the middle of these circles. However, agreement itself should be explored further.

Figure 2 explores the nature of agreement in a simple two-by-two table presented by Dr. Vlachos (Vlachos, 1988). This table outlines agreement or disagreement among these three distinct groups over either the goals or the nature of a problem. Depending on the nature of agreement, different analytical activities on policy processes are called for. As the table demonstrates, Cell 1 is called Objective Analysis. Such analysis is appropriate here because agreement on the goals and the nature of the problem exists. Cell 4 indicates disagreement on the goals and disagreement on the nature of the problem. Such a situation requires some type of inspiration or other charisma. While we frequently act, as if we are in Cell 1, the normal condition for water resource situations is Cell 4. While frequently not conscious of our behavior, we usually seek to move

Figure 2
Nature of Agreement in Policy World



immediately from Cell 4 into Cell 1; however, this doesn't work and usually we are frustrated.

Cell 2 represents a disagreement over goals but a general agreement on the nature of the problem. In this cell, we use analysis or other forms of negotiations. In Cell 3, we find disagreement on the nature of the problem and some general agreement over the goals. In this case, we look at joint problem solving, negotiations or other collaborative approaches.

The point is that to get to Cell 1 -- that place where most technical people are most comfortable -- we must usually move through either Cell 3 or Cell 2. This is true because much of the environmental conflict we encounter is not based primarily on "facts" but values. Resolution depends on dealing with the interest and values or other causes at stake in a controversy. These causes usually are beyond facts. Actually, we usually spend much time moving between Cell 2 and 3, that is, discussing goals, coming to agreement on the goals and then redefining the nature of the problem and then going back to goals. This iterative process is the crux of planning. It is not possible to state how much iteration is necessary between 2 and 3. It is only important to know that we must move through analytical activities implied by Cells 2 and 3 before we move to what is identified as Objective Analysis in Cell 1. In other words, we must understand the sources of conflict and design processes to deal with these sources. That is what is implied by moving between Cell 2 and Cell 3.

The conflict management literature distinguishes four main causes of conflict (Negotiating, 1986). The first is conflict over data. Data conflicts result from a lack of information, misinformation, different interpretations of data and different views of other relevant data. For example, controversy often develops because of failure to exchange information, necessary to fully understand issues. Government agencies and technical groups are inclined to dispense material written so as to be unintelligible to the average people. Companies prepare reports according to Government regulations, but often exclude information that is not required by law but may be necessary for citizens or the agency to understand the rationale for actions. Public interest groups frequently express their views of a situation in such apocalyptic terms that the information is lost in the actual way it is delivered. Disputing parties often have different standards for evaluating information and different views of the relevance of data.

Conflicts generated by data disagreements are the easiest to solve.

The second cause of conflict is called interest conflict. Conflicts can develop over seemingly incompatible interests. Interests or needs are tangible results that are satisfied through the outcome of a dispute so that the settlement will be satisfactory and durable. Interests can be substantive in nature. They may refer to the process by which a settlement is reached, or they may refer to the psychological needs of the people in the conflict.

Conflicts may also be generated by value differences. Value conflicts develop when disputants use different criteria for evaluating conflicting outcomes, espouse different lifestyles or goals or they profess diverse idealogies, different religious beliefs or views of the way the world ought to be. Values are the foundation for interests and needs.

Conflicts can also be generated over relationship issues. Relationship conflict often results from the build-up of poor expressions, strong emotions, stereotyping, poor communication skills and of repetitive negative behavior. The resulting disputes are often unnecessary because they are not based on substantive disagreements.

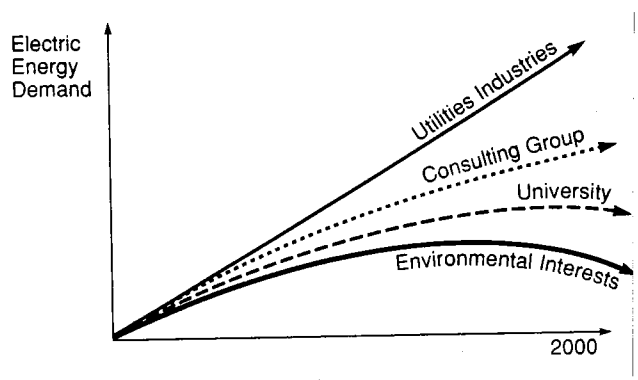
Relationship conflicts require us to focus on building positive relationships or good feelings, anchor positive perceptions and productive communications. Because personal relationships are of primary importance, relationship conflicts must be dealt with "up-front" before dealing with substantive issues. Throughout the conflict resolution process, we must constantly attend to relationship conflicts. Technical professionals frequently want to treat conflicts in their technical area of expertise as primarily data conflicts. In other words, they prefer to be in Cell 1 of Figure 2. However, in most water resource disputes, we find ourselves in Cell 4 or perhaps 3 and 2. In any of these situations, the primary cause of the conflict is rarely data. It is more likely values, interests or possibly relationship issues.

Let me summarize the first concept. Conflicts are generated for at least four reasons. We must understand these reasons and design public involvement and conflict management processes appropriate to them. We cannot expect that conflicts will be resolved by processes adequate for one cause of conflict when, indeed, most conflicts are being driven primarily by totally different causes.

■ Design to Values

Experience has shown that values are a primary source of environmental conflicts. Figure 3 outlines a recent case where water resources planners needed a projection for electrical energy demand in

Figure 3
Electrical Energy Needs in the Year 2000 for the Pacific Northwest



the Pacific Northwest of the United States to the year 2000. Four professional projections were available (Delli Priscoli, 1987b). Each projection was internally consistent and done by fine modeling methods.

Not surprising, utility interests projected an increased need, while environmental interests projected a decreased need for electric energy. Projections made by a major university and a consulting firm fell inbteween. Although one cannot predict the absolute number, by simply knowing who made the projection, one can easily project their relative positions of the projections. Essentially, these professional and technical projections are elegant statements of how these organizations feel the world "ought to be." That is, they contain a political message.

Even if rarely acknowledged, it is no surprise that projections are value based and assumption driven. However, to engage in the crucial assumption game requires a working knowledge of modeling and technical proficiency. Consequently, those whom these projections serve, are frequently excluded from the game. Therefore, it is little wonder that the people whom the projections serve feel no ownership in the projections and subsequently either ignore or reject the projections.

In short, the projections are neither purely technical nor political. They are a hybrid. The water resources professional must now be able to both draw the lines that we see in Figure 3 and to encourage a broadly based value consensus around the assumptions underpinning these lines. It is the second point which we ought to emphasize. The professionals must understand values underlying the conflicts. Once understanding these values, alternatives must be designed which service the range of values. It is these alternatives which then can be used to negotiate consensus. That is, we must start our engineering design only after understanding the range of values. Designs and alternatives must be created for the different values. We must understand that traditional technical alternatives frequently carry with them sets of values which represent a far more narrow set of values than is necessary to satisfy this requirement. So, the second major concept is that we must design to values rather than unconsciously dictate values through advocacy of narrow technical and predetermined solutions.

■ Visibly Isolate Extremes

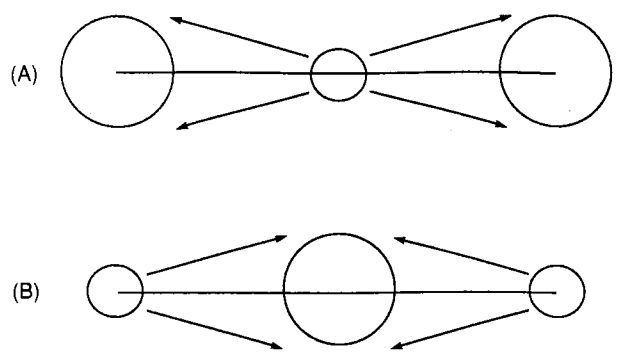
Practically, public involvement and conflict management programs should visibly isolate extremes. This sounds manipulative and somehow distasteful. Let me explain. Programs should create incentives for participants to find and move to a middle ground. Public involvement programs should facilitate a shared ownership of solutions, alternatives and recommendations such that alternatives may be implemented. This means create an environment where compromise is acceptable. As we have learned, public awareness rapidly becomes more than public information. Public information and public relations are critical skills to be used by doing involvement but they are not sufficient in and of themselves.

While practical people understand that all conflict will not always be solved short of court, war or other adversarial methods, public involvement programs seek to solve as much conflict as possible without going the expensive route of litigation. Public involement and conflict management programs attempt to create an environment where the clash of alternative viewpoints are synergized into creative solutions

solutions which have not been previously conceived, rather than cancelling out one another.

Figure 4 graphically outlines this concept. In a traditional adversarial model, as shown in Figure 4(A), the only way to play is to be "for" or "against." The pressures are to move to the extremes and out of the middle ground. Those in the middle will either drop out or gravitate to the extremes. We hire our lawyers to characterize and to do battle for us. There is little reward to be in the center.

Figure 4
Visibly Isolating Extremes



But the successful resolution begins with finding shared middle ground and creating alternatives, as represented in Figure 4(B). To a great degree, excessive reliance on the adversarial paradigm excludes building the shared ground. Although useful and necessary, the adversarial model is not always useful. In planning water resources development, once we assume that we will resort to the adversarial model or to the courts, all of our planning documentation subtly transforms our professional problem analysis into building a "case" under the legal "rules-of-evidence." In short, the means -- litigation -- has become the end. It has become the pervasive normative guide for data collection across disciplines. Polarization is thus assured. The system, whose conflict resolution ability we strongly believe in, begins to generate more intractable conflict than it solves.

So what do we do? First of all, extremes exist; we all know it and we should recognize them. Ignoring extremes does little good. Figure 4 seeks to show that we should visibly isolate such extremes. That is, we should recognize and publicize such extremes. In so doing, those who participate at the extremes do so publicly. That is, the cost for participation at the extremes is to be identified with extreme position. By providing "reasonable" alternatives to what appear to be "irrational" extremes, it is hard for extreme positions to maintain broadly based constituencies.

Many who are at the extremes are committed and have valid and important reasons for being at such extremes. One of the more important reasons is that by so locating themselves, they help move society's consciousness toward what they view are important and truthful values. However, for a public agency the objective is usually to find sufficient ground on which to build enough <u>will</u> to act. This means assuring that broadly based constituencies have alternatives. If there are broadly based constituencies supporting extreme positions, then, indeed, solutions will move in their direction. However, we have frequently found that the reliance on adversarial models allows the claim for broadly based constituencies by extreme positions without clear and visible proof of such constituency support.

To many, this model appears counter-intuitive. Afterall, it requires a certain faith in the ultimate reasonableness of humans. However, such faith and reasonableness is, to a great degree, what our democratic systems are about. Indeed, much of our public involvement, conflict management activities and administrative processes are about helping our democratic systems adapt to changing conditions. This adaption, itself, is built on such faith in reasonableness. Indeed, many of the decisions that we seek in the environmental area are, in fact, a search for the "reasonable" as opposed to some view of the "rational" decision.

So, my third point is to visibly isolate the extremes.

■ Negotiate on Interests Rather than Positions

Traditionally, negotiations have been viewed as moving from one position to a counter position and to a compromise settlement. However, our experience in the environmental negotiations and other areas has shown that the joint problem solving approach which attempts to identify interests prior to examining specific solutions can be beneficial. This approach has come to be called interest-based-bargaining (Fisher, 1982; Negotiations, 1986). It involves the collaborative effort to jointly meet each other's needs, interests and to satisfy mutual interests. After interests are identified, the negotiators jointly search for a variety of alternatives that may satisfy all interests rather than argue for any single position. Parties select a solution from mutually generated options. This approach is also frequently called integrated-bargaining because of its emphasis on cooperation, meeting mutual needs and the efforts by parties to expand bargaining options so that a wiser decision with more benefits to all can be achieved. In this sense, it is more than a simple compromise.

The approach depends on distinguishing among interests issues and positions. Issues are the what of our discussions. Interests are the why. The positions are the how. Throughout this approach to negotiations, participants and mediators constantly appeal to what has been called the best alternative to a negotiated agreement or BATNA (Fisher and Ury, 1981).

In this approach, negotiators constantly seek to educate one another on their interests. In this sense, negotiations are seen as a social learning exercise. It is also a creative exercise, in that it seeks to generate a range of options and to create options that no one party may have conceived of before negotiations. In such an approach to negotiations, resources are not seen as limited (Negotiations, 1985). Negotiators' interests must be addressed for an agreement to be reached. Throughout the process, the main focus is on interests, before positions. Parties often look for objective, verifiable or fair standards that all can agree to. There is a belief that there are probably multiple satisfactory solutions. Negotiators become cooperative problem solvers rather than merely opponents.

So, my fourth point is that negotiations should be conducted around interests rather than positions.

■ Durable Settlements Depend on Achieving Procedural, Substantive and Psychological Satisfaction

To achieve a durable settlement, there are at least three types of interests which generally must be met (Lincoln, 1986). These are:

- Substantive interests: that is, content needs, money, time, goods or resources.
- Procedural interests: that is, the needs for specific types of behavior or the "way that something is done."
- Relationship or psychological interests: that is, the needs that refer to how one feels, how one is treated or conditions for ongoing relationships.

These interests can be seen in Figure 5. This is often called the satisfaction triangle. The above interests are represented on three sides of the triangle. Ideally, any public involvement and conflict management process would be designed to seek point A. This point, in some sense, represents an optimal satisfaction of the procedural, psychological and substantive interests of each of the parties. Frequently, technical professional, in designing conflict management and public involvement processes, implicitly or subconsciously behave as if they are reaching for point B. This point represents a situation which is high on the substantive or content aspects of the situation but relatively low on the psychological and procedural aspects. The point of this triangle is that public involvement and public awareness require an explicit design that seeks to maximize procedural, psychological, as well as substantive concerns. This is often uncomfortable and, in fact, often beyond the skill of many water resources professionals.

We know we have achieved procedural satisfaction when the parties to the process say they would use the process again. We will speak in a moment of different process techniques that have been developed over the last 10 or 12 years. Substantive satisfaction is familiar to us. It is the water resources content with which we spend our lives. We know when we have achieved it.

Psychological satisfaction is a little more difficult to conceive. Figure 6 outlines one way to understand

Figure 5
Satisfaction Triangle

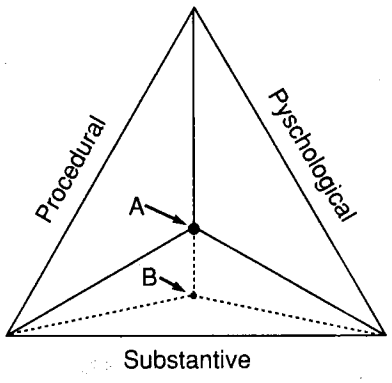


Figure 6
Defining Psychological Satisfaction

How One Felt When They:

(Won) (1)	(Lost) (2)
Great	Taken Advantage of
Victorious	Demoralized
Wonderful	Helpless
Superior	Inferior
Strong	Weak

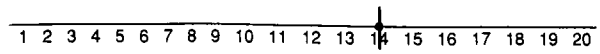
psychological satisfaction. The figure contains two columns; "Won" and "Lost." The words under each column indicate how one may feel when they perceive they have either won or lost in a dispute (Lincoln, 1986). As you read down each column, you probably can think of other words which express your own feelings when you have either won or lost in a dispute. Now, the following questions can be posed. What possibility exists for a durable settlement if one party feels the way that is described by the words in column (1) and the other party feels the way described by the words in column (2)? Can a durable settlement exist when both parties feel as described by the words expressed in column (2)? The answer in both cases, is little or no possibility! Parties must come close to feeling as described by the words in column (1) for durable settlements to exist. The point for us, as technical professionals in water resources, is that we must explicitly design processes which will result in such feelings.

The fifth point is that durable settlements depend on at least three dimensions: procedural, psychological and substantive satisfaction. We must design processes to assure satisfaction on these dimensions.

■ Use Techniques Which Help Parties to Own Both the Problem and the Solution

Figure 7 outlines a continuum of dispute resolution techniques. At the far left of the continuum we have what could be called the California "hot tub" approach. In this case we all jump in the hot tub and somehow reach agreement. On the right hand extreme we have the high adversarial approach. This is either going to war, court or litigation. And in-between these extremes we can see a wide range of alternatives. Close to the right-hand column we find familiar arbitration which can be court ordered, binding or non-binding. These cases, while not following the full legal model, in many ways reflect legalistic approaches. Somewhat near point 14 but to the right of point 14 we find what has been called the mediation-arbitration approach.

Figure 7
Dispute Resolution: A Continuum of Techniques



1. Hot Tub
2.
3.
4.
5. Negotiation
6. Facilitating/Collaborative Problem Solving
7. Mediation
8. Conciliation
9.
10.
11. Mini-Trial
12.
13.
14. Dividing Point Between Decisions Made by Parties of Interest and Decisions Made by Third Parties
15. Med-Arb
16. Arbitration
17. Court Ordered Arbitration
18. Rent-A-Judge
19.
20. Litigation/War

Point 14 represents a dividing line. This is the dividing line between decisions made by the parties of interest and decisions made by a third party. In principle we try to use techniques to the left of point 14. That is because techniques in this area still leave decisions in the hands of the interested parties. The techniques to the left of point 14 encourage parties to own and solve their own problems. Once we start moving to the right of point 14, the decisions and outcomes tend to be handed over to outside parties. To the left of point 14 we identify facilitation, collaborative problem solving, mediation and conciliation. Each of these techniques are built on the

principle that a third party can help the parties come to agreement by designing and nurturing a process of dialogue among the interested parties. The processes are fully voluntary and vary from informal to formal. The most informal is closest to the hot tub on the extreme left and the most formal is closest to point 14. However, in all cases they are built on the assumption that we separate the process by which we communicate and the content of the dispute. By bringing in a third party who is neutral and primarily concerned with process, we often liberate ourselves to more innovatively discuss the content of a dispute.

Facilitators are thought to be caretakers to the process. That is, they are pure process people. They engage in little or no discussion of the content. Their purpose is to suggest different ways of dialoguing so the parties may come to some agreement. Mediators, on the other hand, also take care of process, however they are more likely to engage in the content. They engage in content by listening to parties, by individually caucusing and perhaps helping the parties to develop substantive alternatives. The mini-trial is an interesting variation of these techniques which has gained popularity in the U.S. The mini-trial looks like a trial, however it is really a structured discussion among the various parties of interest. It is voluntary. Discussion is structured in a way that looks similar to the court. After evidence is presented by both parties, principles meet along to consider what they heard. Then a decision is hopefully reached among the principles. The whole process is managed by a neutral third party.

The sixth and final point is twofold. First, we should employ techniques which help parties to talk directly with one another. This is done to encourage parties to own both the problem and the eventual solutions. In the long run, shared ownership means that the solutions are more likely to be durable. It also means that the solutions are likely to be better technical solutions. Second, a range of alternative techniques exist to achieve this end.

Conclusions and Applications of the Concepts

Applying the concepts described above is rapidly growing throughout the U.S. However, three policy arenas can be used to illustrate how the concepts apply in a large water resources development agency. Over the last several years the Corps of Engineers has successfully used mini-trials several times in construction contract claims cases. Settlements in these cases have ranged from $20,000 to over $20M.

Typically, at the end of a large construction effort, a number of disputes are outstanding. These disputes have traditionally been handled through an adversarial legal process. In such a process, the case goes through construction claims court at which point the settlement can be accepted or appealed. During the last 8 years the number of claims against the Corps have been doubled. Also, the number of appeals of those claims settled by initial courts is also growing. Therefore, in the last 1-1/2 years the Corps has applied many of the ADR techniques identified above.

The mini-trial has been particularly successful in a number of contract claims cases. In the mini-trial, the parties prepare the cases and the best arguments for their positions. These arguments are presented much the same way they may be presented in a court. However, the case presentation and hearings are managed by a neutral third party. In reality,

mini-trial discussions are structured negotiation sessions. After hearing the cases, the parties meet and discuss what may be suitable claims. Usually the successful mini-trial cases last 1 or 2 days, at which time parties agree to settlement terms. This time can be contrasted to the typical minimum of 3 years for settlement under routine procedure.

Mini-trials have been used in cases where the conflict has ripened and been fairly well developed. However, we also desire to prevent conflict and to reduce the potential of conflict. One way to do so is through collaborative problem solving. One good example of such preventative collaboration can be seen on a $80M replacement lock and dam in the southern region of the United States. In this case, the Corps of Engineers' managers and executives sat down with the managers and executives of the contracting firms for 4 days before construction began. During these days, private and public sector managers identified their mutual or shared interests. They also identified the areas and situations which, from experience, they knew could generate conflict. Then the managers developed and agreed to a seven step process with time limits on each step, to resolve eventual conflicts.

During the process, the construction firm divulged their profit margin. This margin could be achieved at the end of the contract if there were no outstanding disputes. Therefore, a "bottom-line" shared goal of completing construction without outstanding disputes has been adopted. Achieving this goal will also maximize profit for the private contractor. If this goal of no dispute at termination is achieved, it will be the first time on any project of this scope. As a result of the collaboration, the project is ahead of schedule and the morale within both the public and the private contractor teams is high.

The regulatory program of the Corps of Engineers offers another example of applying collaborative problem solving. The Corps issues permits for construction in navigable waterways and wetlands. It issues close to 20,000 such permits a year. A number of these permits can be quite controversial. In a number of cases the Corps is allowed to issue what is called a general permit. A general permit can be issued for a certain type of activity in a region or the Nation. It can also be issued for a clearly defined region. A general permit consists of a list of technical specifications or conditions to be met for any work that is proposed. With a general permit, individual applicants may apply by simply signing a statement saying that they will conform to the specifications. In this way, the long permitting process can be reduced. Thus, the overhead to the permit applicant, as well as to the Government, will be reduced.

Environmental interests usually see general permits as a threat. However, the Corps has used the general permit as an opportunity for a forum in which parties that are likely to conflict over individual permits can come together and agree on technical specifications for an overall activity arena. Essentially, the Corps has said, "If the parties who are likely to be in conflict can agree on technical specifications, those specifications will be the general permit." In the cases where this has been tried, The Corps has used a facilitator/mediator approach. The facilitator, as a neutral third party, convenes the parties who will be in conflict. These parties then negotiate and agree to technical specifications. The reason parties agree usually revolves around certainty of the future for private applicants. This certainty can actually mean

increased profits. To environmental interests, this certainty means that energies can be devoted to other more important environmental conflicts without having to worry about a large number of individual cases. The success of this facilitated approach depends on the perceived fairness of the process. That fairness has been achieved by using a neutral third party as caretaker to the process.

These are general and brief descriptions of a few water policy arenas where the principles discussed above have been applied. My principle message is alternatives to resolving disputes exist; these alternatives have evolved from the experience of directly involving the public and interested parties in management and development decisions in water resources planning.

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This paper first discusses reasons and goals for doing Public Involvement and Conflict Management in Water Resources and Environment Decision Making. It outlines six concepts: 1) levels of conflict; 2) designing values; 3) visibly isolating extremens; 4) negotiating an interest rather then position; 5) achieving durable settlement; and 6) choosing appropriate techniques. The paper concludes with a brief discussion of how the concepts and techniques have been applied in the U.S. Army Corps of Engineers.

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