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FROM HOT-TUB TO WAR: ALTERNATIVE DISPUTE RESOLUTION (ADR) IN THE U.S. CORPS OF ENGINEERS

by
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Abstract

This paper reviews the U.S. Corps of Engineer Alternative Dispute Resolution (ADR) program. It begins by defining ADR. Then the paper outlines selected social and organizational trends which are encouraging the adoption of ADR techniques, and the guiding principles of the program. A brief description of a continuum of ADR techniques which is central to the program is described. This description is followed by summaries of selected Corps experiences using ADR in contract claims, Water Resources and other areas. The Corps three-tier approach to institutionalizing ADR is summarized. The paper concludes with five summary goals for the ADR program.

Introduction

A new age of resolving disputes has come upon us. Unless we find better ways to resolve disputes, we will be buried by them. Chief Justice Burger (1984) has stated, "Our system is too costly, too painful, too destructive, too inefficient for truly civilized people. To rely on the adversarial process as the principle means

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of resolving conflicting claims is a mistake that must be corrected." The Corps of Engineers has responded to this challenge by instituting a major alternative dispute resolution (ADR) program. This program is sponsored by the Chief Counsel and Senior Corps executives. It stresses internal development of ADR skills along with the use of external advisors and consultants.

The ADR program is important to other Federal agencies for a number of reasons. First, the Corps is using ADR in a variety of administrative functions such as regulating waterways and wetlands; planning water development projects; designing engineering solutions; constructing and implementing projects; and operating and managing completed projects. Second, ADR has been used in a variety of traditional engineering fields such as hazardous and toxic waste cleanup; traditional water resources development; and infrastructure development. Third, the Corps' applications of ADR in contracting offer new alternatives for improving government contracting, reducing contracting claims and increasing contracting efficiency.

I. What is Alternative Dispute Resolution (ADR)?

The term "Alternative Dispute Resolution" is imperfect because it defines the field in terms of what it is not, rather than what it is. ADR is not a replacement for our legal system. ADR is a means to "off-load" the pressure on that system so it may act more equitably and efficiently. This acronym, ADR, contrasts with normal litigation which is distinguished by: 1) an adversarial process; 2) a decision reached by a third party such as a judge; and, 3) an imposed decision whether or not it is acceptable to the parties.

In contrast, ADR strives for mutually acceptable decisions, although this sometimes occurs when the only remaining alternative is litigation. ADR rarely uses third parties who make binding decisions as a judge. ADR third parties are usually called "facilitators," "mediators," or neutral advisors and are used to facilitate and encourage resolution and to counsel on possible bases for resolution. But in ADR it is finally up to the parties to reach agreement.

Because the emphasis is on voluntary agreement, ADR processes emphasize mutuality and interdependence. Many of the adversarial practices associated with litigation such as formalized procedures, limited communication between actual parties, and efforts to withhold information, are not appropriate with ADR. ADR uses processes which are designed to increase communication, encourage informal discussion, reinforce relationships and build trust. The reason is simple; communication,

trust and improved relationships create a climate in which it is easier to reach a voluntary agreement. Also, if and when such agreement is achieved, it is more likely that the agreement will stick. And it is likely that the parties in the future will be better able to deal with one another.

II. Why is the Corps Interested in ADR?

Numerous broad social and more immediate organizational trends are converging to generate an interest in ADR. The following paragraphs describe a few:

a. Some broad social trends

o Our institutional means for achieving environmental quality are increasingly inappropriate to meet the needs of environmental and economic health. Public awareness and concern for the environment across all the industrial world continues to grow (Milbraith; 1980). While solutions to many of our immediate environmental threats require engineering skill, much of our public engineering resources are housed in traditional development agencies outside the mainstream of our public environmental organizations. The gap between growing public concern for environmental health and quality and our capacity to apply the Nation's public engineering resources to such concerns must be narrowed.

For example, look at the water resources field as described in Figure 1. The figure shows that water resources spending accounted for 61% of total Federal spending for natural resources and the environment in 1965. In 1988 it accounted for 27%. At the same time, pollution control and abatement has grown from less than 10% to approximately 33% of the total Federal spending for natural resources and the environment. In other words, the Federal concern for natural resources, a traditional concern for the civil engineer, is rapidly being defined in environmental terms. Yet, public engineering institutions seem not to fully reflect this shift.

The point can be stated more simply. To achieve environmental quality ends will require engineering means, and applying engineering means will increasingly be rationalized in terms of environmental ends. We are in a period of adjusting to a new public understanding of this environmental ends-engineering means continuum. ADR can be seen as a tool to adjust the institutional public engineering inertia to a changing sense of public values.

Beyond public engineering, the National Science Foundation (1979) and the National Research Council (1986) show that the science of environmental impact analysis is deficient and should be upgraded. Environmental impact statements (EISs) have become a major instrument in raising the environmental consciousness and leveraging environmental concerns in the decision processes. However, the EIS debate focuses primarily on procedure and, to some degree, inhibits the substance of scientific concerns from being considered. Posturing and positioning dominate the discovery of substantive interests (Stakhiv, 1988).

The EPA has begun to revitalize and change the contract management methods to better achieve environmental goals of the Superfund law. Similarly, the Department of Energy (DOE) is reconsidering its environmental management structure partly in response to recent criticism of environmental compliance. These are only a few examples beyond the Corps of how other agencies and instruments designed to deal with environmental health concerns are themselves becoming dated.

o We are increasingly mired in a psychology of constraints and limits. While reacting to and stopping projects has been useful in raising our environmental consciousness, or even as a precondition, it is not sufficient to achieve environmental and economic health. A "When in doubt do nothing," rule cannot be sustained forever. As long as we continue to make policy in the spirit of constraint and limits, we will be increasingly dominated by a fear of the future. Therefore, we must overcome that fear and act to create rather than simply react to trends.

Public policy must move beyond the "impact fixation" institutionalized in the alphabet soup requirements of impact assessment such as RIA, SIA, EIA, etc. Often, it appears that we have institutionalized negativism. That is, the way to be heard is to object. Many have the power to stop, but few seem to exercise the power to create. In a world of such fractionalized power, or to put it scientifically, reductionism, the power to stop seems to be "over" rewarded. Impact assessments are crucial for both informed technical and good moral decisions. We must know to the best of our ability the consequences of our actions. However, we must move beyond being paralyzed by our understanding of such consequences. The demand for ADR exists, in part, because of such paralysis. ADR offers a route out of paralysis toward action.

o There is a changing understanding of professionalism throughout society and the Corps of Engineers. This term, professionalism, is so often used

that we assume its meaning to be self evident and shared throughout the engineering community. But, it is not. There are many images of professionalism.

In the Corps many see themselves first as professional engineers; most see themselves as professional civil servants; some see themselves as military servants. As the Corps has evolved, lawyers, economists, new types of scientists, engineers and even social scientists have sought to blend their own professional images into that of the public engineering service the Corps provides. The reality of having to deliver goods, services and products has forced accommodation, if not synthesis, among these different professional images. It has also forced the organization to seek definitions of professionalism that transcend individual images. The psychiatrist R.J. Lifton (1987) notes that:

> "The history of the idea of a profession reveals that the pre-modern image of profession as advocacy based on faith gave way to the modern image of technique devoid of advocacy. What we need is a post-modern model of professions that would include both knowledge and skill on the one hand and specific advocacies and ethical commitments on the other."

Throughout society, the very meaning of professionalism is changing. Patients no longer say, "Cure me": they participate with doctors in their own diagnosis and treatment. Clergy may no longer maintain strict distinctions between the "lay" and "religious" and may no longer consider themselves the sole salvation mediators between heaven and earth. Lawyers can no longer neglect avenues of ADR or avoid linking their individual actions to the overall state of social justice. Should engineers be surprised when citizens who use a power plant exercise a right in influencing its design and location?

Professionalism includes not only the final goods and services provided, but also the means employed to deliver those goods and services. The means by which the goods and services are delivered establish a relationship with the public clients and our customers. ADR is once again a means to help professional engineers cope with these changing demands emanating from a new understanding of professionalism throughout society.

o <u>The changing nature of administrative processes in the democratic state</u>. Since the late 19th century, the United States has blended the separation of powers doctrine with a distinction between administration and legislation. Technical agencies such as

the Corps have come to recognize the blending as a distinction between technical versus political. Although this is theoretically plausible, the distinction rarely fits reality. Nevertheless, the Corps often holds an image of technically pure and competent professionalism with high integrity. Obviously, that is a good image and must be held. However, it cannot be held by retreating into narrow technicalism. Leaders have to publicly recognize that our "technical" agencies operate, more and more, in the area between technical and political. The integrity and professionalism of engineers in such agencies will be found in the way they explicitly blend, rather than separate, the issues as technical versus political.

The administering of laws has come to look increasingly political. Legislatures seem to write legislation that is more general than specific. Judges shy away from substantive judicial review and review procedure. Thus, technical agencies such as the Corps are placed in the position of distributing benefits and costs of the programs to the people. This is especially true in the environmental area. It is in the implementation of the programs that the distribution of the benefits and costs become clear. ADR offers tools to the administrators and managers for managing this gray area between technical and political. In fact, ADR may become some of the most important tools in the managers toolkit.

b. Some immediate organizational trends.

Beyond these external trends, the Corps, like many large organizations, is involved in numerous immediate disputes. As managers of construction for some of the largest public works projects in the world, the Corps is often involved in claims and disputes among the Corps, contractors and sub-contractors. These involve interpretations of the contract, differing site conditions, change orders, and the relationship between design and construction.

Beyond construction, the Corps' operations and maintenance program has steadily been growing. Today it is estimated to be over 60% of the total civil works budget of the Corps of Engineers. In managing many of the Nation's largest dams and locks, the Corps makes decisions which are potential sources of disputes, such as the level of flood protection provided, the available water supply for communities and industry, navigation rules along the river and the water level of reservoirs which are used for recreation as well as for flood protection. Indeed, projects which have existed for a number of years find themselves in new demographic situations and therefore confronted with new sets of

demands for the allocation of the resources they represent.

Because of its legislatively mandated role as regulator of the Nation's wetlands and the free flow of navigation, the Corps must often address disputes over how much development should be allowed in wetlands or in navigable waterways. Since the Corps receives over 14,000 permit requests a year, the opportunity for disputes and the need for efficient and equitable means of resolving those disputes is clear.

Even in its military construction role, disputes often arise between the Corps and its "clients" both within the Army and other service organizations. For example, there may be different expectations about what is required about the differing schedules and about different ways of operating projects. In the environment of changing military requirements and commanders, and satisfying clients, even if that client is another Federal agency, negotiations can become fraught with disputes.

Under the Defense Environmental Restoration Program (DERP), the Corps of Engineers represents the Department of Defense (DOD) in negotiating cleanup of hazardous waste contamination at current and former DOD installations. Representing DOD, the Corps will have to negotiate an allocation of responsibilities for cleanup with a variety of parties such as: previous site owners, current owners of parallel sites, various affected publics and others. Scientific studies and engineering analyses, alone, are unlikely to demonstrate responsibility. Supplemental negotiations will undoubtedly be needed.

Currently, many of the disputes arising in these areas are resolved through litigation or other highly adversarial processes. In the case of the Corps' relationship with its military "clients," disputes aren't resolved by litigation but may result in impasses which can pollute the relationship among the organizations. This can result in increased cost to the U.S. taxpayer.

Whether the result is litigation or impasse, there are costs to the organization and to the public. For example, contract claims against the Corps have more than doubled in the past eight years. This has created new costs for additional staff, attorneys, and courts. The contract appeals boards, which themselves were developed as an ADR mechanism, are overloaded. "Fast track" claims can take over one year and still be appealed. The average time for a claims settlement, including accelerated processes, is over 400 days. The

average time for claims not on the accelerated process can be two to four years. There may alsc be considerable delays in the completion of projects or cost overruns due to the failure to resolve issues in a timely manner. When disputes remain unresolved for prolonged periods, there is damage to important relationships.

There are also internal costs when disputes remain unsolved. For example, studies have shown that 30% of first line supervisors' time and 25% of all management time is spent in resolving disputes. More than 85% of those leaving jobs do so because of some perceived conflict. Almost 75% of job stress is created by disputes (Delli Priscoli, Moore, 1989).

III. Guiding Principles of the Corps ADR Program

The Corps ADR program has utilitarian, strategic and normative components. In the utilitarian sense, the program seeks to add "tools" to the "toolkit" of the manager. In the strategic sense, the program encourages executives to evaluate expected values generated by various dispute management approaches and to actively manage dispute, rather than routinely turning such management over to others. In the normative sense, the program actively encourages and assists Corps' managers and executives to embrace ADR. The Corps' ADR program is built on the belief that there are numerous advantages to using ADR techniques such as: (Delli Priscoli, Moore, 1989)

- Getting better decisions: because agreements reached between the parties meet the parties' interests, they are likely to do a better job of resolving disputes than the all-or-nothing court decisions.

- Creating a better climate for resolution: people use ADR techniques because they think they'll do a better job of resolving the dispute. No one is coerced and this in itself creates a better climate for dispute resolution. It may also create a better climate for the sharing of information.

- Expediting procedures: because ADR techniques are less formal and can be scheduled at the discretion of parties, they often result in considerable time savings. However, savings can be counterintuitive: "up-front" costs can be heavy, while the costs of implementing and maintaining a settlement once achieved should be reduced.

- o Reducing Costs: normally, ADR techniques can also save money particularly when they are compared to litigation.

- o Enhancing flexibility: because ADR procedures are under the control of the parties themselves, they can adapt to specific needs and circumstances.

- o Providing more control over the outcome: because the decisionmaking is retained by the parties rather than delegated to a judge or third party, the parties have more control and there is more predictability to the outcomes.

- o Encouraging control by managers who know the organization's needs best: ADR seeks to put control in the hands of the line managers who are best able to assess the impacts of any proposed decision in the organization and have the greatest flexibility in developing creative solutions.

- o Increasing the probability that decisions will hold up: because all parties have an interest in making an agreement work, mutual agreements are more likely to hold up over time and prevent future problems.

IV. From Hot-tub to War: A Continuum of ADR Techniques

Figures 2 and 3 describe a continuum of ADR techniques. This continuum is the central metaphor throughout the Corps ADR program. Figure 2 outlines a general continuum of ADR procedures while Figure 3 describes ADR procedures found in the middle third of the continuum, roughly from point 2 to point 17 on Figure 2. Turning to Figure 2, point A represents what is colloquially called the "Hot-tub Approach." That is, we all jump into the Hot Tub and somehow come to agreement. Point B represents the opposite extreme. That is, we go to war or use a highly adversarial approach. ADR addresses the numerous possibilities between these points. Some are well known, others are emerging and most make common sense.

Four points should be made about the continuum in Figure 2. First, as we move from move from point A to point B, we gradually give over the power and authority to settle to outside parties. A dividing line, roughly two-thirds of the way from A to B symbolizes that point at which the power to resolve disputes moves out of the hands of the disputants and into the hands of an outside party. The thrust of the Corps' ADR program is to encourage managers and executives to explore techniques

to the left of this dividing line which will enable them to retain decisionmaking authority and resolve disputes efficiently and effectively.

Second, the basic principles of interest-based negotiations and bargaining as explained in Fisher (1981), can be applied with any technique along this continuum. Interest-based bargaining, in contrast to positional bargaining, can be appropriate for facilitation, problem solving meetings, mediations, mini-trial deliberations, and fact finding.

Third, the unnamed points in the continuum are meant to indicate that there is much to learn. Possibilities exist to create new procedures across the continuum. The last word on ADR is not in. In fact, the Corps' program invites managers to innovate and to create new ADR procedures.

Fourth, since communications contain, at least, content and process, the way we talk, or our process of dialogue, often can determine how and if people listen to the content of that dialogue. A premise of ADR techniques is that by separating the process and the content roles in a dispute we can better manage the discussions and promote agreement. The separation of process and content roles often leads to using neutral parties, sometimes called "interveners." Such neutral parties, in a variety of ways, become caretakers to the process of dialogue in the dispute. Figure 3 describes techniques from cooperative to third party decision-making. It groups these techniques into the following categories: unassisted procedures; relationship building assistance; procedural assistance; substantive assistance; advisory and non-binding assistance; and binding assistance (Delli Priscoli, Moore, 1989).

To some, this continuum and categorization may seem either too discrete or overly defined. However, the point of the continuum is to show managers that numerous techniques are available. It also attempts to show managers that many possibilities for innovation also exist. In other words, the continuum tries to place techniques in a context which helps us to catalog and share our growing ADR experiences.

V. Selected Summary of Corps Experiences

In varying degrees the Corps has used techniques across this whole continuum. The following examples are meant to provide a flavor of the Corps' ADR activities. Under neutral party advisory and non-binding assistance (Figure 3), the Corps' primary experience has been with non-binding arbitration. While Federal agencies may not

use binding arbitration, they can participate in non-binding arbitration.

In arbitration, disputes are submitted to a neutral individual or panel for either an advisory non-binding or binding decision. The neutral parties are often technical experts, lawyers or judges, although this is not a prerequisite. At either a binding or non-binding arbitration hearing, each side's arguments are presented in a quasi-judicial manner. Time is allowed for cross examination and closing statements. After the case presentations, the arbiter issues an opinion which may be non-binding or binding depending on the prior agreement reached by the parties, or the conditions which have been set up by some other contract mechanism (Edelman; 1989). Non-binding arbitration has been used in a number of construction contract cases.

Of the substantive assistance procedures, the Corps has used the mini-trial, disputes panels, and fact finding. The mini-trial has become the best known of all Corps' ADR procedures. It is the first ADR method developed to resolve disputes in government contracting (Edelman, et. al,; 1989). The term mini-trial is somewhat of a misnomer. It is not a trial. Essentially it is a structured negotiations technique. The mini-trial is a process which is designed to expose the senior decisionmakers to the strengths and weaknesses of one another's case and to help bring them to the point of directly negotiating an agreement.

The mini-trial is a voluntary, expedited and non-judicial procedure. While the mini-trial is a flexible procedure, it usually involves the commitment of top management, a willingness to give authority to senior management to make a deal, and often a neutral advisor. A mini-trial process also usually includes development of a mini-trial agreement, discovery of information as defined in the mini-trial agreement, an exchange of position papers, a preliminary meeting between the neutral advisor and the management representatives, the mini-trial conference itself and, finally, negotiations following the conference and the documentation of any agreements reached (Edelman, et. al; 1989).

Neutral advisors in the mini-trial have been judges who are acting as neutral facilitators rather than judges, mediators and others. The role of the neutral party is flexible. For example, that party may or may not be present when the senior executives negotiate after hearing the positions.

Most mini-trials should be completed within three months. This includes time for the discovery and for the conference. Parties agree to limit deposition,

interrogatories and other discovery devices. The actual mini-trial conference is informal. Time allowed for case presentation and rebuttals is scheduled in advance and adhered to during the conference. No transcript of the hearing is produced and rules of evidence and procedure are not used. The mini-trial is not adversarial. It seeks to quickly establish the principles and facts underlying the dispute. The sides present their best case, but there is no attempt to limit the other attorney's presentations. The contents of the conference are kept confidential and neither party may use the hearing in subsequent litigation. At the end of the informal conference, the principals meet privately to discuss the dispute (Edelman, et. al; 1989).

The Corps has successfully used mini-trials in cases ranging from several hundred thousand dollars to several million dollar claims. Perhaps the best known case is a construction claim for 55.6 million dollars involving aspects of the Tennessee-Tom Bigbee Waterway construction. This dispute arose over differing site conditions. A three day mini-trial, followed by a one day mini-trial, was completed and a settlement of 17.25 million dollars was reached. The Defense Department Inspector General (IG) investigated this settlement. The IG found that the settlement was in the best interest of the government, and concluded that the mini-trial in certain cases is an efficient and cost effective means for settling contract disputes. After the Ten-Tom, the Corps has employed the mini-trial on several other contract claim cases. The Administrative Conference of the United States (ACUS) and others have reviewed these mini-trials (Crowell and Pou, 1987; Endispute, 1989).

Recently, the Corps used the mini-trial to reach agreement on responsibility for a toxic waste site cleanup under its new DERP responsibilities. The dispute was over the cost allocation for cleanup of groundwater contamination at the Phoenix/Goodyear Airport. The total cleanup estimate was to exceed 12 million dollars. The dispute include the Department of Justice, Environmental Protection Agency, Department of Defense and Goodyear (Endispute; 1989).

The mini-trial process began in January 1988 and was completed by the end of May 1988. This process started after a previous year of notices and discussions and failed attempts at negotiations. It used a neutral advisor who was a well known environmental mediator and resulted in an agreed assignment responsibility for cleanup costs. In this case, both Goodyear and the Corps, representing the Department of Defense, felt they had strong arguments for why the other should bear the

majority of the costs. This application demonstrates that the mini-trial is flexible and can be used beyond contract claims. This mini-trial demonstrates a model which could be used in other Superfund cases to perhaps break a deadlock and enhance the efficiency of cleanup.

Dispute panels, although new to the Federal government, have been used by several state governments on large construction projects. In this technique, a panel is chosen before construction begins and parties agree to let contract disputes be voluntarily submitted to the panel for an opinion as they occur during construction. Thus, the disputes panel acts to prevent unnecessary conflict and the aftermath of protracted conflict.

Under the Corps' ADR program, disputes panels will consist of three private technical experts. The government and the contractor each select one member of the panel and the third is selected by the agreement of these two members. The procedure provides for the disputes to be submitted quickly to the panel in time to make a non-binding, written recommendation to the contract officer and contractor.(Edelman, 1989) Unlike a mini-trial or other techniques, the disputes panel is composed of technical, not legal, personnel. Disputes panels, like non-binding arbitration, will probably be used on claims and cases involving lower dollar claim figures (Endispute, 1989).

Fact finding is the third of the substantive assistance procedures used by the Corps. Fact finding originated in the attempt to resolve labor disputes, and has been used in a number of other areas. Basically, an impartial and acceptable neutral party is selected by the disputant parties or by an agency or individual. This person is authorized to investigate the issues in the dispute and issue a report. This report could either be a situation assessment which organizes and describes issues, interests, potential settlement options and possible procedures to resolve the conflict, or a specific non-binding procedural or substantive recommendation about how the dispute may be settled (Delli Priscoli, Moore; 1989).

Ideally, the fact finding report would be seen as unbiased, fair and equitable and help parties move towards the acceptance of the facts and a negotiated settlement. In a recent case, the Corps participated in a fact finding surrounding the environmental cleanup of a chemical company's operations. More than four hundred potentially responsible parties (PRP) were identified and a neutral fact finder was appointed. The potential cleanup costs at this abandoned dump site were estimated at around 35.5 million dollars. The process presented

PRPs with the facts regarding involvement in the contamination and offered options for participating in the cost of the cleanup.

The Corps of Engineers has substantial experience in facilitation and mediation techniques which use neutrals to assist in the procedure or process of dialogue. Both are essentially "caretakers" to the process of dialogue. The mediator, however, may become more involved in the substantive settlements. For example, the mediator may call caucuses or help parties to formulate possible alternatives and to be a vehicle by which alternatives can be placed on the table. Mediation is most known in cases where there have been limited parties and limited clearly identified issues. Facilitation usually is used where there are multiple parties and multiple issues.

The facilitator is typically and primarily involved in the conducting of meetings among the parties. A facilitator will be sure that all parties feel listened to, will make sure that the meetings stay relevant, and may suggest procedures which are helpful in arriving at a solution. (Creighton, et.al, 1983) Actually, the distinction between facilitation and mediation is not always clear. An individual some people call a facilitator may actually engage in many of the behaviors of a mediator, depending on what the situation requires, and also what the disputant parties desire.

Facilitation and mediation have traditionally been used in civil works planning. The first known case of environmental mediation was used in the mid-1970s in the Corps' water resource development planning process. One of the most exciting uses of facilitation has been in the Corps' 404 permit program. Under its permit authorities, stemming from Section 404 of the Clean Water Act, the Corps must review permits submitted to it for projects involving the use of wetlands and navigable waters. (Lefkoff in Creighton, et. al, 1983)

For the Sannibel Island of Florida and for exploratory drilling for petroleum in the Gulf Coast region, the Corps used its authority to write general permits. Facilitation and mediation were used to bring potential disputants together, and reduce the amount of litigation and time required to issue these permits. Essentially, the Corps identified potential disputants and suggested that they come together and talk about their different interests and positions (Delli Priscoli, 1988). If the parties could come to some agreement on the acceptable conditions for individual permits in their various areas and activities, those conditions would then become the special conditions for a general permit.

Thus, individual permits would be facilitated without loss of environmental and other considerations.

Each case involved neutral facilitators, who acted as both facilitators and mediators. In both cases, agreement was reached among Federal, state, local, private, and public sector representatives. The neutral parties helped the representatives of the potential disputants to understand shared interests. For example, the private sector expressed an interest in a more certain future even if that would mean less development. Environmental groups also expressed their interests in a stable future, so that their limited resources could be spent in fighting battles in other areas. Both cases produced general permits which were in place for five years.

A general permit reduces the amount of time for individual permits. It can also reduce the number of conflicts that will arise surrounding an individual permit. In the case of exploratory oil drilling, officials could expect several hundred permit requests a year. In the case of the Sannibel Island, there were 11 to 12 requests a year. In both cases, the use of the neutral party helped potential disputants anticipate and thereby prevent unnecessary conflict by assuring that major interests would be met and served before they were solidified into public positions.

The Corps also has substantial experience with techniques further to the left on the continuum. One of the more interesting, and perhaps precedent setting uses of ADR, is occurring at this end of the continuum. At one 80 million dollar lock and dam replacement project, the Corps has, from the beginning of the project, fostered a new team building or partnering relationship between the contractor and itself. Typically, a project this size will have a large dollar value of outstanding claims at its completion. The Corps sought to finish the project on time without outstanding claims and at projected budget. To do this, the Corps, with the initial help of a facilitator, sat down with the contractor before the contract began. The purpose of this meeting was to discuss common interests, communication channels, the potential areas of disputes and how the Corps and the contractor would settle these disputes.

Several areas of shared interest were identified. Among them were the profit margin of the contractor. Clearly, it was in the interest of both the Corps and the contractor to make a profit. However, that profit could be made without outstanding claims at the end of the contract and undue delays. The Corps and the contractor developed a multi-step procedure by which disputes, once identified, would be handled. Also, the

Corps and representatives of the contractor would meet periodically to discuss their progress on the resolution of disputes and disagreements. In this way, a team building relationship--rather than an adversarial relationship--was set up from the beginning. Both the Corps and the contractor see themselves as "in it" together. To date, the contract is ahead of schedule with no outstanding claims. This is a case of anticipating potential conflicts and acting to prevent unnecessary conflicts, with the goal of achieving basic management objectives.

A number of other cases can be seen in our review of various Corps' publications. Overall ADR experience is growing. Also, ADR does not wholly mean dealing with conflict that has solidified almost to the point of litigation. It also means anticipating conflict based on experience of what may happen, and acting to prevent unnecessary conflict by identifying and addressing interests before disputes explode into extreme positions.

VI. ADR and the New Era of Water Resources Development

With the 1985 Supplemental Appropriations Act (P.L. 99-88), and the Water Resources Development Act of 1986 (P.L. 99-66), the Corps of Engineers entered into a new era of water resources development and planning. Local cooperation agreements (LCAs) now require a new mandatory cost sharing arrangement and consequently sharing of risks and responsibilities. Non-Federal sponsors are required to put more money up front for the project and to participate in the project planning. The costs to project sponsors can include items such as providing real estate interests needed for the projects, other non-Federal obligations including operating and maintaining the project after completion (except for navigation projects), and agreeing to indemnify the Corps for damage claims not resulting from negligence of the Corps and its contractor (Edelman; 1989).

This new era of local cooperation agreements has been called an era of partnership and planning. However, regardless of legal mandates, this partnership does not assure freedom from dispute, especially disputes among sovereign entities. With more sharing of cost and participation by sponsors, it is not difficult to see how traditional project management issues such as "project modifications, construction schedules, evaluation of real estate, accounting methods, and application of Federal social legislation in the local arena could generate disputes (Edelman; 1989).

To avoid unnecessary litigation and negative public reaction that could result from disputes among sovereign entities over project responsibilities, the Corps added

an ADR clause to all of the LCA project structuring agreements. This clause is general and simply commits the parties to trying an ADR mechanism before resorting to court. To date, this clause has not been activated since the LCA process is new. However, we can speculate that both procedural and substantive assistance techniques could be applicable here.

V. The Corps Program: A Three-tier Approach

The Corps has adopted a three-tier program to encourage the use of alternative dispute resolution techniques. The three-tier approach is based on the successful model to institutionalize public involvement that the Corps of Engineers used in the late 1970s and early 1980s. The three tiers are training; research and development and evaluation; and field assistance and, networking.

a. Training

If ADR is to be adopted, mindsets must change. The Corps has found that mindsets can be changed and that skillfully developed training is crucial to this change. The key is to reach a broad cross section of the organization. This cannot be done on a "one shot" approach. Therefore, the Corps developed an ADR training program which would become part of the mainstream training options for managers and executives.

Annually, over the last five years, the Corps has presented two to four sessions of a five-day conflict management and negotiations training course for mid-level to senior level employees. More than 350 Corps' employees have attended this course, which covers ADR philosophy, techniques, applications, negotiations and bargaining. The course is built on a "learn by doing" model.

The Corps has developed and begun a special two-day executive training course for all senior Corps' executives and commanders which will complement the five-day training. Over the years, many of the mid-level managers have responded positively to the training course, but also said that their senior supervisors would not let them implement the techniques and philosophies they had learned. Now since the Chief of Engineers has suggested that all senior commanders and senior executives attend the executive training course, this course exposes senior executives to the range of ADR techniques and asks them to encourage their subordinates to use ADR.

This executive course also uses case studies and hands on training. However, it is geared to the stra-

tegic management of conflict. The course is designed to acquaint managers with the strategic options available to them for resolving disputes. It also provides experience by which managers can choose various options in simulated case studies. The overall objective is to establish executive and mid-level management training that will be available on a routine basis and included in the core curriculum of managers as they progress up the supervisory ladder within the organization.

b. Field Assistance and Networking

Technical assistance is vital to adopting new ideas in any organization. Throughout the 1970s, the Corps instituted an effective technical assistance program to support the use of new public involvement technologies. A similar program for ADR is now being developed. This program supports Corps' field activities by:

- Designing special "on-site training", based on specific real time problems;
- Helping commanders prepare for negotiations by: scoping optional approaches to negotiations/ bargaining; identifying issues, interests and positions of major interested parties;
- Assisting in the development of single text negotiation techniques including drafting and revising text;
- Applying principles of interest based bargaining conciliation, mediation, and third party intervention to specific Corps functions;
- Mediating disputes both where the Corps is a party and where the Corps is a facilitator;
- Employing ADR techniques to internal Corps conflict situations where appropriate and requested by field offices and others;
- Assisting field offices in locating and employing credible third parties where needed.

c. Research and Evaluation

Like all programs, ADR evaluation and feedback is important, but rarely done. The ADR program is setting up a monitoring program to determine what works and what does not work, and how the costs and benefits should be assessed. A number of case study assessments have been completed and more are planned (Endispute; 1989). Success stories need to be documented and

disseminated throughout the agency and the government to show others the possibilities of ADR. Likewise, failures need to be documented to understand the risks associated with applying ADR within an organization. The focus of this evaluation program is case studies and retrospective assessments.

Institutionalizing ADR in the Corps is in many ways similar to institutionalizing public involvement in the 1970s (Delli Priscoli; 1978). Beyond writing guidance and regulations, there is considerable debate on a number of similar issues. For example, what is the best way for the agency to respond, through regulation, legislation, executive orders? Should there be some special organization instituted for ADR, such as special assistance for ADR or special offices? Is the best way to implement ADR from the top down or from the bottom up? How do we deal with the real needs expressed due to professional resistance to compromise or negotiation over "truth."

Like public involvement attempts in the 1970s, institutionalizing ADR constantly can appear to disrupt agency routine. The question underlying this perception is how to get ADR accepted as a mainstream and not an add-on to management's thinking. Finally, what is the appropriate balance between using outside or inside facilitators or mediators? These and several such questions once again have surfaced just as they did in the late 70s and 80s. This is because ADR cannot be reduced to just a set of techniques. ADR comprises a philosophy and an approach, and in this sense requires mindset and attitude change.

VI. Conclusions - Goals

The goals and expectations implied and expressed throughout this paper can be summarized in the five following points:

1. ADR seeks to change management culture. Managers must actively and strategically manage conflicts and not, routinely, hand them off to others for decisions.

2. ADR seeks to reduce the cost of litigation, appeals and other expensive adversarial relationships, while helping to build better relations with contractors and other potential disputants.

3. ADR seeks to improve public contract administration. The Corps' ADR experience may show how ADR is a way to regain control of contracts

and claims, and, thus, be a model for DOD and the Federal government.

4. ADR is a means to help one of the world's largest public engineering organizations cope with changing public values and with redefining public engineering services.

5. ADR is a way to forge a new synthesis between environmental quality ends and public engineering means.

BIBLIOGRAPHY

Bureau of National Affairs. ADR Report, "Practice and Perspectives," Volume II, October 13, 1988, pages 365-367.

Chief Justice Warren Burger. Annual Report on the State of the Judiciary, American Bar Association, February 12, 1984.

Creighton, James, Jerry Delli Priscoli, C. Mark Dunning. Public Involvement Techniques: A Reader of Ten Years Experience at the Institute for Water Resources, IWR Research Report 82-R1, May 1983.

Delli Priscoli, Jerome and Christopher Moore. The Executive Seminar on Alternative Dispute Resolution (ADR) Procedures: The U.S. Corps of Engineers, CDR Associates, Boulder, CO and Institute for Water Resources, U.S. Corps of Engineers, Fort Belvoir, VA, 1989.

Delli Priscoli, Jerome. "Conflict Resolution in Water Resources: Two 404 General Permits," Journal of Water Resources Planning and Management, Volume 114, No. 1, January 1988, pages 66-77.

Delli Priscoli, Jerome. "Enduring Myths of Public Involvement," in Citizen Participation, Spring, Lincoln Filene Center, Tuffs FTS, University, Medford, MA

Delli Priscoli, Jerome. "Implementing Public Involvement Programs in Federal Agencies," in Citizen Participation in America, Essays on the State of the Art, edited by Stuart Langton, Lexington Books, DC Heath & Co., Lexington, MA, 1978.

Delli Priscoli, Jerome. "Public Involvement, Conflict Management: Means to EQ and Social Objectives," Journal of Water Resources Planning and Management, Volume 115, No. 1, January 1989, pages 31-42.

Delli Priscoli, Jerome. "To Be Environmental Engineers for the Nation," Strategic Working Paper #89-3, Office of Strategic Initiatives, U.S. Corps of Engineers, Office of the Chief of Engineers, Washington, D.C., April 24, 1989.

Edelman, Lester. "ADR in Government: An Agency's Experience," address at the ABA Annual Meeting, Administrative Law and Public Contract Law Sections, Honolulu, 1989.

Edelman, Lester, Frank Carr, James L. Creighton. The Mini-Trial, Pamphlet One, Alternative Dispute Resolution Series, U.S. Corps of Engineers Institute for Water Resources, Fort Belvoir, VA, 1989.

Edelman, Lester. "Statement before the Committee on the Judiciary Subcommittee on the Courts and Administrative Practice," United State Senate, May 25, 1988.

Endispute, Inc. Using ADR and the U.S. Army Corps of Engineers, a Framework for Decisionmaking, Alternative Dispute Resolution Series, IWR Research Report 89-8-ADR-R-1, August 1989.

Fisher, Roger and William Ury, 1981. Getting to Yes: Negotiating Agreement Without Giving In, Huton Mithlin Co., Boston, MA.

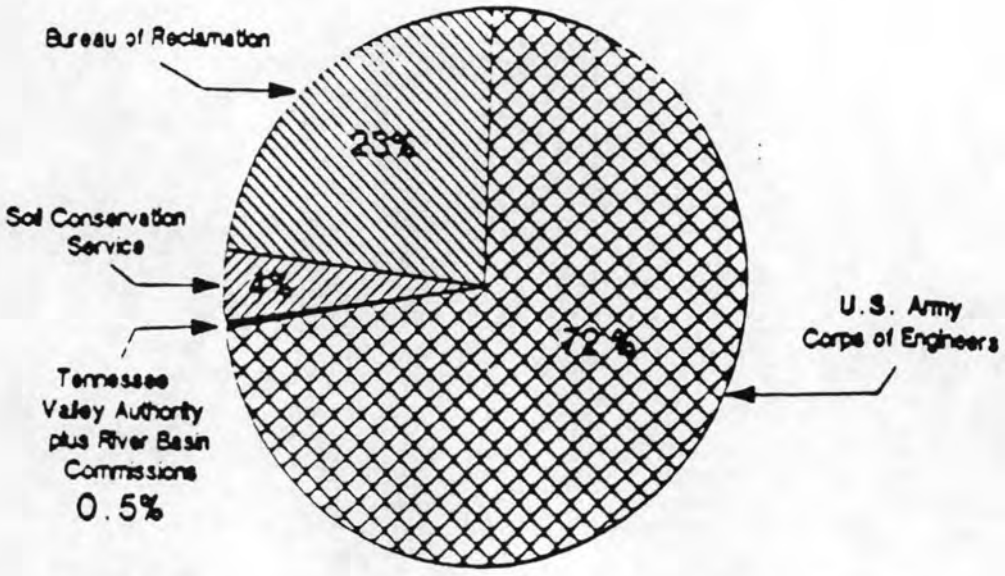
Lifton, Robert J., 1987. The Future of Immortality and Other Essays for the Nuclear Age, Basic Books, Inc., N.Y., NY.

Milbraith, L. (1984). Environmentalists: Vanguard for a New Society. SUNY Press, New York.

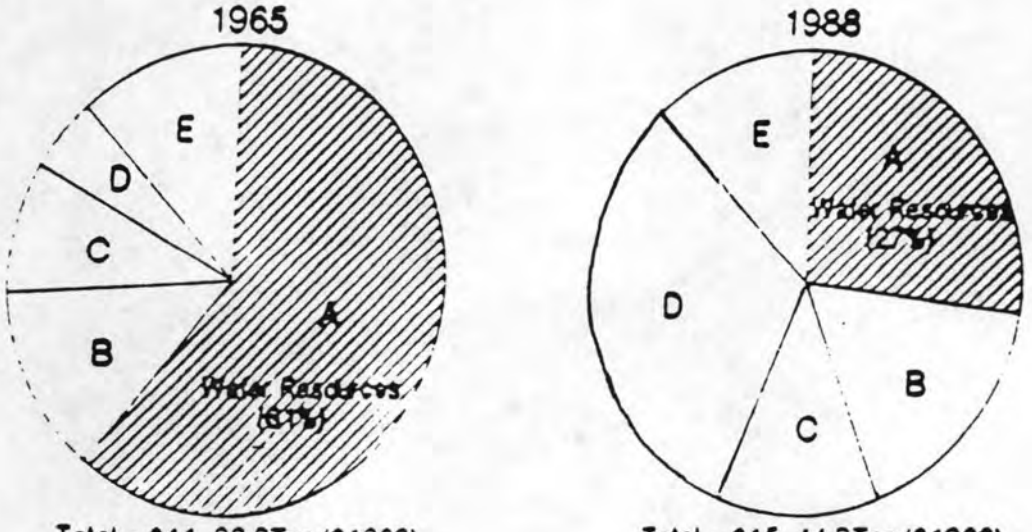
Stakhiv, Eugene V. 1987. "Environmental Analysis in Water Resources Planning" in Water for the Future: Proceedings of the International Symposium on Water for the Future. A.A. Balkema: Rotterdam, Boston, 1987.

Figure 1

Federal Spending for Water Resources in 1988
(Estimated 1988 Outlays of $4.15 Billion)



Total Federal Spending for Natural Resources and the Environment



A - Water Resources
B - Conservation & Land Management
C - Recreational Resources
D - Pollution Control & Abatement
E - Other Natural Resources

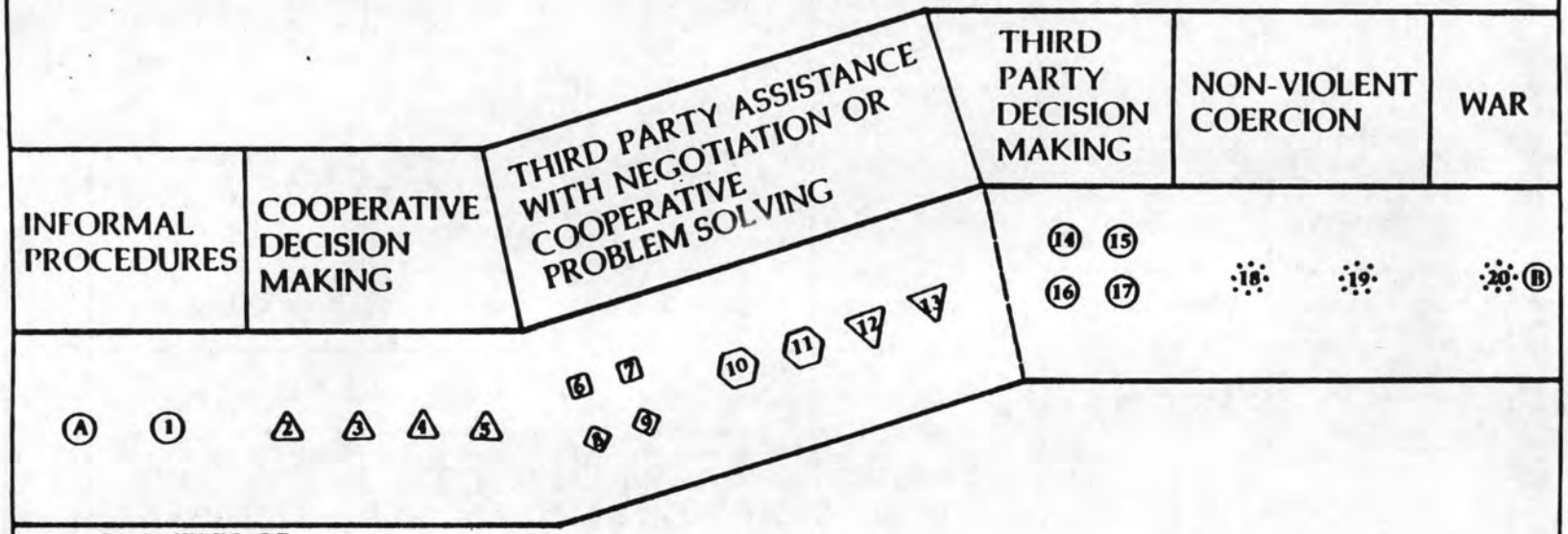
Source: Office of Management and Budget. 1988 Historical Tables Budget of the United States Government FY 1989. U.S. Government Printing Office. Washington, D.C.

Figure 2

ALTERNATIVE DISPUTE RESOLUTION (ADR)

A Continuum & Procedures

Figure 3



EXAMPLES OF PROCEDURES

- (A) Hot Tub
- (1)
- (2) Informal Discussions
- (3) Cooperative/Collaborative Problem Solving
- (4)
- (5) Negotiations
- (6) Conciliation
- (7)
- (8) Facilitation
- (9) Mediation
- (10) Mini-Trials
- (11) Advisory Boards
- (12) Disputes Panels
- (13) Non-Binding Arbitration
- --- Dividing Line Delegating Decision Making to Third Party
- (14)
- (15) Binding Arbitration
- (16) Administrative Hearings
- (17) Litigation Adjudication
- (18) Civil Disobedience
- (19)
- (20) War

Figure 3

A CONTINUUM OF ALTERNATIVE DISPUTE RESOLUTION PROCEDURES

~~Figure 1~~

COOPERATIVE DECISION MAKING	THIRD PARTY ASSISTANCE WITH NEGOTIATIONS OR COOPERATIVE PROBLEM SOLVING			THIRD PARTY DECISION MAKING	
Parties are Unassisted	Relationship Building Assistance	Procedural Assistance	Substantive Assistance	Advisory Non-Binding Assistance	Binding Assistance
• Conciliation • Information Exchange Meetings • Cooperative/ Collaborative Problem-Solving • Negotiations	• Counseling/ Therapy • Conciliation • Team Building • Informal Social Activities	• Coaching/ Process Consultation • Training • Facilitation • Mediation	• Mini-Trial • Technical Advisory Boards/ Disputes Panels • Advisory Mediation • Fact Finding • Settlement Conference	• Non-Binding Arbitration • Summary Jury Trial	• Binding Arbitration • Med-Arb • Mediation-then-Arbitration • Disputes Panels (binding) • Private Courts/ Judging

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Ostrom, Vincent (1990) "Religion and the Constitution of the American Political System." ***Emory Law Journal***, Vol. 39, No. 1 (Winter), 165-90.

Walker, James, Roy Gardner, and Elinor Ostrom (1990) "Rent Dissipation in a Limited-Access Common-Pool Resource: Experimental Evidence." ***Journal of Environmental Economics and Management***, Vol. 19, 203-11.

Kaminski, Antoni (1989) "Coercion, Corruption, and Reform: State and Society in the Soviet-type Socialist Regime." ***Journal of Theoretical Politics***, Vol. 1, No. 1, 77-102.

Ostrom, Elinor (1989) "Microconstitutional Change in a Multiconstitutional Political System." ***Rationality and Society***, Vol. 1, No. 1 (July), 11-50.

Ostrom, Vincent (1989) "Some Developments in the Study of Market Choice, Public Choice, and Institutional Choice." In Jack Rabin, W. Bartley Hildreth, and Gerald J. Miller, eds. ***Handbook of Public Administration***. New York: Marcel Dekker, 861-82.

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Advisory Commission on Intergovernmental Relations (Ronald J. Oakerson, Roger B. Parks, and Henry A. Bell) (1988) ***Metropolitan Organization: The St. Louis Case.*** Advisory Commission on Intergovernmental Relations, Washington, DC 20575, #M-158 ($10.00).

Vincent Ostrom, Robert Bish, and Elinor Ostrom (1988) ***Local Government in the United States.*** Institute for Contemporary Studies Press, 243 Kearny Street, San Francisco, CA 94108 ($29.95 Cloth; $12.95 Paper).

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Advisory Commission on Intergovernmental Relations (Ronald J. Oakerson) (1987) ***The Organization of Local Public Economies.*** Advisory Commission on Intergovernmental Relations, Washington, DC 20575, #A-109 ($8.00).

Vincent Ostrom (1987) ***The Political Theory of a Compound Republic: Designing the American Experiment.*** 2nd ed. University of Nebraska Press, 901 North 17th Street, Lincoln, NE 68588-0520 ($22.50 Cloth; $8.95 Paper).

Franz-Xaver Kaufmann, Giandomenico Majone, and Vincent Ostrom, eds. (1986) ***Guidance, Control, and Evaluation in the Public Sector.*** Walter de Gruyter, Inc., 200 Saw Mill River Road, Hawthorne, NY 10532 or Walter de Gruyter & Co., Genthiner Strasse 13, D-1000 Berlin 30 ($79.95).