Environmental Regulation and Impact Assessment

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Chapter 18

PublicParticipationandEnvironmentalDispute Resolution

The degree to which citizens participate in the planning and decision processes of government agencies varies over both time and place.¹ During the late 1%<K. citizens in many countries demanded increased participation in agency decisions. Since then, many governments have established procedures that allow citizens to express their views about agency policies and projects before decisions are made.

Programs to engage the public in agency planning often have multiple purposes, and no simple formula exists for a successful public involvement program. In each case, a citizen participation program must be designed to fit the particular combination of project, agency, and citizenry.

The first part of this chapter clarifies the objectives of public involvement programs and looks at methods for identifying "the public"—citizens and groups that may have an interest in a proposed project or regulatory decision. It also reviews the strengths and weaknesses of commonly used public involvement techniques. An example involving a U.S. Army Corps of Engineers flood control study demonstrates how public involvement activities can be integrated into traditional planning activities.

Later sections of the chapter consider the following question: What can be done if a government agency and citizens remain in conflict, even after public involvement methods have been applied? Those sections examine the role of mediation processes in resolving environmental disputes between citizens and agencies. A case study centering on fungicide registration requirements in Canada illustrates the steps involved in mediating an environmental conflict.

OBJECTIVES OF A PUBLIC INVOLVEMENT PROGRAM

Public involvement programs derive legitimacy from the democratic ideal of allowing all citizens to be represented in public decision making. Although representation by elected officials is the norm in democracies, citizens often seize opportunities to represent

^{&#}x27; The contribution of Alnoor Ebrahim and Monique van der Marck arc gratefully acknowledged WTnlc they w-crc students at Stanford University, each avmted in preparing this chapter. Ms. van der Marck helped with the first three sections on public involvement. Mr. Ebrahim ⁴⁰² worked on early version* of the entire chapter.

TABLE 18.1 Multiple Goals of Public Involvement2

- Improve decisions that are likely to impact communities and the environment.
- Give citizens a chance to express themselves and to be heard.
- Provide citizens with opportunities to influence outcomes.
- Assess public acceptability of a project and add mitigation measures.
- Defuse potential citizen opposition to agency plans.
- Establish legitimacy of agency and its decision process.
- Meet legal requirements to involve citizens.
- Develop two-way communication between agency staff and citizens:
 - ---Identify public concerns and values.
 - —Inform citizens of agency plans.
 - -Inform agency about alternatives and impact.

themselves and participate directly in agency planning. As the complexity of issues and number of constituencies increase, citizens often become eager to be heard directly as individuals or groups rather than through officials.

Agency Objectives vs. Citizens' Objectives

Citizens and agencies do not always approach the process of public involvement in agency decision making with the same objectives. Table 18.1 includes typical goals of public involvement. Agencies and citizens generally have some objectives in common. For example, both an agency and citizens may be interested in a mutual exchange of information. However, some objectives of agencies may be unrelated to those of citizens and vice versa. For instance, an agency may view its public involvement activities as an exercise to satisfy legal requirements/ whereas citizens who participate may do so because they want a voice in the agency's decision process. Citizens often view a public involvement program as an opportunity to assert a right to be heard and to share their concerns with the agency. The influence of public participation will vary, depending on whether the agency is truly interested in citizen opinions or whether it wishes to create only the appearance of public involvement.

Agencies and citizens may also enter a public involvement process with different ideas about what constitutes a satisfactory outcome. An agency seeking a mandate for a particular project may attempt to use a public involvement program to build a consensus among citizens and to harmonize potentially conflicting interests. In this way, the agency might avoid the time and expense of costly legal battles that might be waged by opponents to its project. In contrast, individuals or groups keen on protecting special interests may work to find solutions that meet their particular needs, rather than develop a consensus among all parties.³

In his analysis of citizen participation in planning, Parenteau (1988, p. 4) suggests that ". . . it is an illusion to think of participation as a neutral social operator, perfectly receptive to all audiences. ... It must be understood as a special instrument in the sociopolitical arena, an instrument suitable for the exercise of certain types of political influence for the benefit of certain segments of society and designed for this purpose." Participation can thus be viewed as a tool that both citizens and agencies can use for their own purposes.

Levels of Public Participation

In a widely cited critique of agency public involvement programs, Arnstein (1969) represents the levels of citizen participation as rungs of a ladder. She groups the rungs into three categories: nonparticipation, tokenism, and citizen power (see Figure 18.1). These levels form a continuum, and they focus attention on the "difference between going through the empty ritual of participation and having

² Based on Ketcham (1992), FEARO (1988, vol. I, pp. 7-8), and Parcnteau (1988, p. 5).

³ Parenteau (1988. pp. 5-6) elaborates on the different objectives of planners, political authorities, and participants in the public involvement process.

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	Degrees		on n	ower		
8		citiz	-	ower rtnership		
	Delegated power		Pla	cation		
7			Co	onsultation	1	
6	Informing					
5	Therapy		Dec	grees of		
4	15	tokenism				
3	Manipulation					
2			Nor	participa	tion	
1	Figure 18.1 Eight rungs	on	а	ladder	of	citiz

participation. Source: Arnstein (1969. p. 217)

the real power needed to affect the outcome of the process."⁴

The first category, *nonparticipation*, occurs when an agency tries to coerce, manipulate, or change the minds of the public. Arnstein refers to these tactics as a substitute for genuine participation and writes, "Their real objective is not to enable people to participate in planning or conducting programs, but to enable powerholders to 'educate' or 'cure' the participants." An example of nonparticipation is provided in Iacofano's (1990, p. 76) analysis of land use planning on the Coconino National Forest in the United States. He concludes:

The Forest Service did not seem to have any strategy for using public involvement in decisionmaking. even in cases where they encouraged it.

If they received "good" input, they used it. If they received "bad" input they told critics they were "misinformed" and generally tried to discredit the public.

⁴ This quotation is from Arnstein (1969. p. 216). Quotations from Arnstein in the next two paragraphs arc from the same source on p. 217. The existence of a continuum of degrees of public involvement is widely recognized. For example, ideas similar to Arnstein's appear in a public involvement manual issued by Canada's Federal Environmental Assessment Review Office (FEARO, 1988. p. 11). The manual uses the following terminology to describe levels (beginning with the lowest level): persuasion, education, information feedback, consultation, joint planning, delegated authority. and self-determination.

Arnstein's second category, *tokenism*, occurs when the public is allowed to participate in agency meetings of various types, but their participation has little or no effect on agency decisions. Rungs termed "informing" and "consultation" are included in this group. Arnstein argues that when informing and consultation "are proffered by powerholders as the total extent of participation, citizens may indeed hear and be

heard. But under these conditions they lack the power to insure that their views will be *heeded* by the powerful."

The final category, which Arnstein calls *citizen power*, concerns the development of citizen-agency partnerships and programs that involve control by citizens. For these higher levels of Arnstein's ladder, izen citizen power can range from the ability to negotiate decisions to the authority to veto decisions. Examples of citizen power include the creation of neighborhood corporations to manage public projects.⁵ However, these high levels of citizen participation are often unattainable, since agencies are generally not authorized to give up administrative control.⁶⁷⁸⁹

IDENTIFYING THE PUBLIC

The first step in implementing a public involvement program is to identify the public. The public is not a unitary body, but a collection of numerous, continually shifting interests and alliances. Hence, there are many "publics," each forming in response to a context in which citizens' interests are affected.

Following are some of the ways citizens may be affected by public projects and regulatory decisions."

- *Proximity.* People living near a proposed project may be concerned about factors such as increased pollution, decreased property values, or potential benefits to the local community.
- *Economics*. Some groups, such as land developers, may have strong economic interests in an agency- regulation.

p. 8).

⁴ Other examples of citizen power are given by Parentcau (1988.

^c In some jurisdictions, however, these higher levels of public involvement do take place. Roberts (1995). a Canadian consultant specializing in public involvement, observes that an increasing number of government organizations have experimented with)Oint planning, in which members of the public are given selected voting privileges and decision-making authorities.

The listing is adapted from Creighton (1992. pp. 107-8).

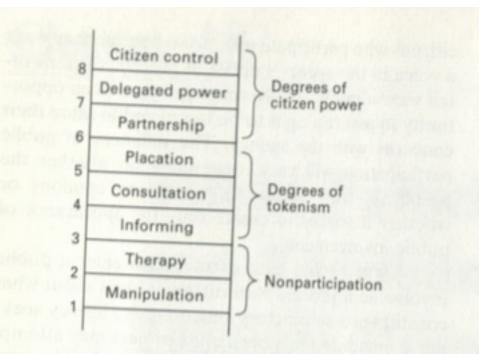


Figure 18.1 Eight rungs on a ladder of citizen participation. Source: Arnstein (1969, p. 217) Chapter 18 Public Participation and Environmental Dispute Resolution 405

- Use. Users of existing facilities, such as hikers or hunters, can interview local officials to identify persons who may decision.
- environment.
- · Values. Groups with strongly held beliefs (such as advocates of rights for nonhuman species) may have an interest in proposed projects and regulations.

Citizen participation specialists distinguish three ways to identify segments of the public: self identification, staff identification, and third-party identification.⁸ In self identification, individuals and groups come forward and make their interests known. An agency proposing a project or regulation can facilitate this by holding an initial, welladvertised public hearing, or by publicizing a phone number or address of an agency contact person (for example, by placing announcements in local newspapers). For small projects, an agency may facilitate the self-identification process by leaving fliers or posters with pre-addressed, stamped response cards in places where interested parties are likely to see them, such as local supermarkets or public transit stations.

Staff identification occurs when agency personnel actively identify and contact potentially interested parties. Agency staff who have worked in an area for some time can often identify potentially interested individuals or groups. Several other staff- identification techniques are listed in Table 18.2. These rely on the use of existing mailing lists and the analysis of maps and census data. Official records of property owners and reverse telephone directories are also helpful in identifying citizens who may have an interest in an agency's project or regulatory action.9

The final category of techniques involves third- party identification. Groups or individuals may approach the agency to suggest other groups or individuals that should be involved. In addition, agency staff

'This three-part distinction is made by Willeke (1976. pp. 55-60), whose work provides the basis for this discussion of methods to identify the public. * In a reverse telephone directory, entries are grouped by street location instead of by name.

may feel threatened by a new project or regulatory want to be involved in the agency's planning process. The agency may extend this procedure using what has been • Social and Environmental Issues. Citizens may be termed the "snowball" approach.¹⁰ With this method, concerned about a proposed project's effect on social interested parties are interviewed, and they suggest other equity and cultural diversity, or risks to people and the individuals who are then contacted. The process continues until such time as few new names are mentioned. This approach is relatively expensive and time consuming, and it may only duplicate information already gathered rather than identify new individuals or groups. However, the method can be useful when an agency has little prior information about citizens or groups that may have an interest in its proposal.

> Identification of the public is complicated because individuals and groups having an interest in an agency's proposed action may change as the proposal unfolds. Some people may want to be involved throughout an agency's process, whereas others may want to participate only at particular stages. Moreover, groups that are often underrepresented in government decision making, such as immigrant communities in cities, may not be accustomed to working with agencies. Special efforts may be required to include them in citizen participation programs.¹¹

> Even in cases where considerable energy and resources are expended to identify potentially affected individuals and groups, only a small portion of the public ever attends participation programs.¹² But the presence of a nonparticipative majority does not mean that only a minority of citizens care about a proposed project or regulation or that the "silent majority" holds a single opinion. Willeke (1976, p. 46), in commenting on the relatively low levels of citizen participation commonly observed, suggests that organized, vocal groups can act as surrogates for the general public:

¹⁰ Willeke (1976, pp. 58-9) includes the field interview technique under staff identification. It is discussed here under third-party identification because a third party, rather than the agency, identifies interested parties.

For example, in trying to reach immigrant communities affected by a project, it may be appropriate to issue materials describing an agency's plans in more than one language.

¹²Hendee and associates suggest that "(i]n our complex pluralistic society, citizens are likely to remain passive on well over 90 percent of their opportunities for public involvement" (Hendee et al., 1976, p. 142).

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When actions have low level and/or invisible impacts on

TABLE 18.2 Staff Identification of Parties Potentially Affected by an Agency's Proposal'

- · Maps and reverse telephone directories
 - Maps can be used to determine who will be directly affected by an agency's proposed action. For instance, a topographic map and a street map could be used together to identify residents who would be influenced by a proposed flood control project. Reverse telephone directories can be used to obtain names and addresses.
- · Census data

Citizens who have certain characteristics, such as being within a certain age bracket, can be identified using census records.

• Records of property owners

Local records on property ownership can be used to locate homeowners likely to be affected by an agency proposal.

• Mailing lists

Mailing lists used by the agency for planning previous actions are valuable in identifying citizens and groups who may be interested in future proposals. Mailing lists of agencies doing work in related fields can also be useful.

Lists of local organizations

If lists of community groups or other special interest organizations exist, they can provide a shortcut to finding citizens who may be interested in an agency's plans.

• User records

Where an agency plans to modify areas used heavily for recreation, records such as user registration forms or permit applications can help identify interested parties.

• Newspaper stories

An analysis of local news coverage, both recent and past, can help pinpoint potentially interested citizens and groups. Letters to the editor are another source of information.

• Staff intuition and experience

Agency staff who have worked in an area for some time can often identify individuals and groups likely to be interested in a proposed action.

a population segment, a surrogate may be the only reasonable course of action because individual citizens **PUBLIC INVOLVEMENT TECHNIQUES**

• Adapted from Willeke (1976. pp. 55-60), and Creighton (1980. pp. 44-45). Reprinted with permission.

cannot individually bear the costs of full participation. An organized surrogate group can, on the other hand, do the necessary research, present the case to the responsible decision-makers, and muster the necessary political support.

The identification of interested citizens and groups is only one step in the design of a citizen involvement program. for involving interested parties in agency decision making. Once that step is completed, at least in a preliminary way, one or more techniques can be employed to engage interested parties in agency' decision making.

An agency designing a public involvement program can select from a wide range of methods.¹³ Typically, the following factors influence an agency's choice of public involvement techniques: the agency's objectives, time and resource constraints, the range of issues and opinions, and the geographic distribution of interested parties.

Sometimes, environmental statutes specify techniques This often occurs when agencies de-

[°] The discussion of techniques is based on Hendcc et al (1976), and Creighton (1980 and 1992). For a comprehensive manual oo public involvement techniques, see FEARO (1988).

velop environmental regulations. For example, the U.S. ings, but it is difficult for citizens, other than those most Environmental Protection Agency (EPA) is obliged to vocal, to participate directly. Nonetheless, public meetings employ particular techniques for involving interested parties and hearings can facilitate the presentation of large amounts public comments on proposed regulations, were described in panel discussions. the discussion of EPA's rulemaking procedures in Chapter 3.

their own project planning. What techniques can a (public or agencies. private) project proponent use to involve individual citizens and groups in its decision-making process?

Involvement Techniques Based on Meetings

meetings to exchange information with interested parties (see hoc committees are a type of short-term advisory group Table 18.3). Agencies proposing projects often hold public usually set up to complete a specific task and then dissolve. hearings, which is the most rigid of the meeting types. A hearing officer generally governs the proceedings, and a affected by an agency's action, they can help ensure that stenographer makes a verbatim transcript. Presentations are public interests are served, and they can enhance formal and there is little interaction among participants. communication between agencies and citizens. An advisory Large group meetings can be much less formal than hear-

TABLE 18.3 Meeting Types Commonly Used to Include Citizens in Agency Planning

- · Public hearings Large public meetings
 - Official presentation followed by questions Panel format Informal "town meeting" structure Plenary sessions and small group discussions part of time
- · Public workshops
- Focus groups •
- Informal small group meetings
- · Advisory groups (for example, task forces and citizens' committees)

in its rulemaking. These citizen involvement techniques, of information by the agency while still enabling two-way which include provisions for soliciting and responding to communication through question-and-answer sessions or

Workshops generally focus on a specific planning task, The discussion of public involvement techniques that and they are more interactive than hearings or large group follows concerns the more general case where an agency's meetings. In situations where opposing viewpoints differ public involvement program is not prescribed by statute. significantly, workshops can provide a forum for conflicting Frequently, public involvement takes place in the context of parties to establish a dialogue. Workshops, however, can an agency's planning for a proposed project. Sometimes, generally accommodate only a limited number of citizens private developers design programs to involve citizens in and are more demanding on the time and resources of

Agencies sometimes rely on advisory groups to obtain citizens' perspectives when agency planning takes place over long time periods. Members are usually selected by the agency to represent a variety of interests. Powers granted to advisory committees range from making recommendations to Project proponents often rely on one or more types of exercising leverage over final decisions. Task forces or ad When advisory groups are representative of the community group may involve a wide spectrum of interests, and members sometimes negotiate among themselves to arrive at recommendations for government agencies.¹⁴

Techniques Other Than Meetings

Public involvement programs often include techniques that do not rely on meetings, and many such methods are listed in Table 18.4. The table shows several techniques for getting information to the public. These methods can be particularly useful in presenting information that allows citizens to determine if they should take advantage of other opportunities to participate in planning-for example, by attend-

¹⁴ This use of advisory groups is demonstrated by the activities of "community resource boards" in British Columbia. Canada. These boards have provided a forum for allowing aboriginal groups to participate in land use and resource management decisions that will affect them. For details, see the Commission on Resources and Environment (1995. pp. 65-91).

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TABLE IS.4 Public Involvement Techniques Not Based on Meetings

- Providing information to the public Mail (direct or electronic) Field trips
 - Mass media coverage (e.g. print, radio, TV, and documentary film)

Public notices, displays, and exhibits Reports, brochures, and information bulletins Pages on the World Wide Web

- Obtaining information from the public Agency requests for written comment Editorials and letters to the editor Public opinion polls Response cards in information bulletins Surveys and questionnaires
- Establishing two-way communications Informal contacts Call-in radio/television shows Interviews
 - Telephone hotlines

"Chat rooms" on the Internet

efficient means of gathering information.¹⁵ Surveys that include questionnaires with return envelopes encourage a large number of responses, but questionnaire and survey design require specialized skills. Amateur efforts can bias results significantly.

There are many ways, other than holding meetings, to establish two-way communications between agencies proposing actions and citizens likely to be affected by those actions. Of the two-way communication methods listed in Table 18.4, the least well- explored are those tied to recent breakthroughs in computer technology. The use of "chat rooms" on the Internet is an example.¹⁶ While these new means of communication are likely to be efficient for many, they cannot be used to reach people without access to the requisite computer hardware and software.

The discussion of public involvement methods in this chapter emphasizes techniques that agencies design and implement. However, citizens often take the initiative to involve themselves in project decision making. The analysis in Chapter 4 of the New Mel- ones dam in California provides examples. Opponents of the dam used a statewide ballot proposition and a court action to try and block the dam. They also lobbied state agencies, the state legislature, and the governor to gain support for their cause.

Table 18.4 also lists several techniques for obtaining information from the public. From an agency's perspective, letters from citizens in response to information provided by the agency provide an

ing meetings. Moreover, the information allows citizens who choose to participate to do so in an informed way.

There are many opportunities for bias and confusion in the course of trying to inform the public. In the era of 30second sound bites and MTV, it is a challenge for public agencies to convey information that is detailed enough to allow citizens to discover how they might be affected by a proposed action. Too much information can be as ineffective as too little, since people are inundated with unsolicited information and cannot be expected to sort through details in order to discover how their interests might be affected by an agency's actions. In addition, information that has the appearance of a "public relations" piece may cause citizens to question the validity of the information and the sincerity of the agency in undertaking its public involvement program.

INTEGRATING PUBLIC INVOLVEMENT INTO AGENCY PLANNING: A CASE STUDY

A planning study carried out by the U.S. Army Corps of Engineers, San Francisco District Office *(the district)*, demonstrates how a public involvement program can be organized to assist both project planners and citizens in dealing with important problems. The study, which was carried out in the 1970s, concerned flooding on San Pedro Creek in Pacifica. California, a small coastside community south of San Francisco.

^b In a study of public participation techniques used by the US Forest Service. Hendce et al. (1976, pp. 136-37) found that soliciting letters from citizens and groups was one of the more efficient procedures used by the Forest Service to obtain information.

For information on how the Internet can be used to assist in agency planning, see Zinn and Hinojosa (1994).

Wagner and Ortolano (1976) provide a detailed account of the planning process used in the San Pedro Creek flood control study.

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of four planning tasks: decision.

- 1. Identifying the water-related problems and needs of those in the San Pedro Creek area
- 2. Formulating alternative plans to deal with flooding and other water problems
- 3. Forecasting the impacts of the various proposals
- 4. Evaluating the alternatives.

The district felt that citizens should be given opportunities to express their opinions throughout all stages of the advisory committee provided information throughout the planning investigation.

At the outset, the district staff identified numerous public involvement program. offices and agencies for inclusion in their public involvement program. Among these were the Pacifica city council, the district and various segments of the public, a "citizen city manager, and the state and federal fish and wildlife information bulletin" was prepared a few months after the agencies. Local residents living either along the creek or in the floodplain were also to be involved in the study. Individuals who often played an important role in Pacifica's questionnaire were mailed to about 1200 citizens and community affairs were interviewed to determine which citizens and groups might be interested in the district's study. Those questioned were identified initially by a review of back issues of local newspapers. The initial interviews generated the names of other people who should be contacted.

Having determined which individuals, groups, and agencies would be involved in the planning investigation, the district delineated objectives for its public involvement program. A primary goal was to keep the public informed on all aspects of the San Pedro Creek study. This required that citizens be given details on the district's perception of the water-related problems in the San Pedro Creek area. The public also needed information about possible plans to deal with those problems and the impacts of the alternative plans. Another of the district's objectives was to have two-way communications with the public. This required that citizens have opportunities to react to the district's ideas and proposals.

The San Pedro Creek study was to be carried out over a two-year period. To meet its public involvement program objectives over such a long time period, the district had to use several techniques. Not everyone with an interest in the San Pedro Creek study would either need or want to be involved on a continual basis over a two-year interval. Many individuals and groups would be content if they were

The district was committed to involving the public in each consulted only when the district was about to make a key

The district formed a citizens' advisory committee to maintain regular communications with at least one public entity. The committee consisted of five Pacifica residents selected by the city council. Collectively, they represented the people likely to have the greatest interest in the outcome of the San Pedro Creek investigation. These included local homeowners. merchants in a shopping center within the flood- plain, and local environmental groups. The citizens' study. It also helped design other elements of the district's

To facilitate a two-way information flow between the study began. A questionnaire to be returned to the district was inserted in the bulletin. Both the bulletin and officials. The bulletin described the district's preliminary ideas about the San Pedro Creek flooding problem, possible alternative actions, and the likely impacts of those actions. The questionnaire considered the same topics and provided a convenient opportunity for citizens to comment on and supplement the district's preliminary concepts.

A public workshop on San Pedro Creek flood problems was held a few weeks after the bulletins and questionnaires were distributed. It was run informally by the citizens' advisory committee using a three- part format. First, participants met as a whole to hear general remarks about the planning study and the purpose of the workshop. After that, citizens were divided into small groups for discussions led by committee members. Finally, participants were reassembled for an exchange of information about what occurred in the small groups.

The workshop gave people a chance to react to the district's preliminary ideas, and to suggest additional factors that should be considered in formulating and evaluating alternative flood control plans. During the year following the public workshop, the district completed preliminary engineering, economic. and environmental studies for several proposals. Although it had met monthly with the citizens' advisory committee during this period, the district felt a need for additional communication with the

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public. It wanted feedback on whether all important techniques may evaluative factors had been considered in its economic and environmental resources. environmental impact studies. The district also wanted to know how different individuals and groups weighed the evaluative factors, and how they would rank the alternatives which the district had examined.

To provide a second opportunity to communicate with all segments of the public, another citizen information bulletin and questionnaire were prepared. Because the second bulletin summarized results from studies that had been completed since the public workshop, it was more detailed and elaborate than the first. Distribution of the resolution (ADR) methods based on consensus building: second bulletin and questionnaire was coordinated with a meeting of the Pacifica city council that focused on the San Pedro Creek flooding problems. Based on information in the bulletin and presentations by the district, the city council developed its own ranking of the district's proposals. The city council's evaluation was later used by the district in action should be recommended judging which for implementation.

During the San Pedro Creek study, the public provided the district with much useful information. The citizens' comments offered insights into which factors local residents considered important in evaluating alternative plans. For example, after learning of some preliminary flood control proposals, many Pacifica residents expressed concern over creekside vegetation that would be destroyed. The district responded by formulating a plan that would reduce the flood problems without removing the valued vegetation.

The district's public involvement program helped yield a flood control plan that pleased both Pacifica and the Corps of Engineers. Even though there was no dispute over the final proposal, the plan was not implemented. This unsettling outcome resulted because the city of Pacifica was unable to generate its share of the total project costs.

A good public involvement plan seeks to establish two-way communication between citizens and a public agency in order to resolve conflicts, and to yield an agency decision that is satisfactory to as many parties as possible. When there are strong conflicting interests, conventional public involvement programs may be inadequate. In such cases, dispute resolution

assist in settling conflicts over

RESOLVING DISPUTES OVER ENVIRONMENTAL RESOURCES

In the United States, traditional approaches for resolving serious disputes rely on litigation. However, litigation can be costly and slow. Are there alternatives? The past few decades have witnessed the emergence of alternative dispute parties meet face to face to work voluntarily toward mutually acceptable outcomes.¹⁷ Alternative dispute resolution techniques are used widely to settle many types of disputes, not just environmental disputes.¹⁸ Although the range of ADR techniques is broad, two related ADR methods are used widely in the context of environmental problem solving: negotiation and mediation. Negotiation, of course, is a central component of traditional dispute resolution, but in ADR. negotiation is aimed at building consensus. Some authors use the term principled negotiation (or consensusbased negotiation) to distinguish the ADR approach from other forms of negotiation. Details on what makes principled negotiation different from other approaches are given later in this chapter.

[&]quot;The term alternative in ADR is generally interpreted to mean alternative to litigation. However. ADR methods are often used to settle disputes that are being litigated in courts. Even though the word alternative in ADR is not particularly descriptive, the phrase alternative dispute resolution continues to be widely used. Terminology is not standardized in this field and some analysts prefer different phrases to describe the consensus-building dispute resolution methods described below; see. for example. Crowfoot and Wondolleck (1990).

ⁿ Tannis (1989) describes the many types of disputes settled using ADR techniques, and the wide range of methods used by attorneys who specialize in ADR. Methods include mini-trials and arbitration as well as the two techniques emphasized in this section: negotiation and mediation. Arbitration takes place when an impartial third party (an arbitrator) offers a binding settlement to a dispute. Mini-trials are private proceedings that have no fixed forms. However, mini-trials typically involve case presentations by disputants (or their representatives) to a neutral advisor chosen by the parties. After the case presentations, the principals meet to try and settle the dispute.