CITIZENS PANELS *

A New Democratic Process for Risk Management

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ABSTRACT

There are three main methods for managing risks: through political power, by calculating utilities, or through a social contract. Each of these is best adapted to a particular institution: political power to legislatures, the calculation of utilities to governmental agencies, and a social contract to Citizens Panels. The latter are a form of citizen participation which has been developed and tested in the last decade in both Germany and the United States. This paper describes the Citizens Panel process and why it is a particularly important tool for risk management at this point in the evolution of democracy. Examples are given of how Citizens Panels could be used for the siting of hazardous waste facilities and the estimation of a general level of risk which is appropriate for environmental pollution.

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* In 1990 we adopted the term Citizens Jury which is now a registered trademark with the Jefferson Center.

INTRODUCTION

The idea that we are able to measure risks and manage them in a rational way is a peculiarly 20th century concept. Of course Jeremy Bentham and J. S. Mill laid out the ideas of a utilitarian calculus in the late 18th and early 19th centuries. Nevertheless, it is developments in the 20th century that have made this seem both possible and necessary. The ability to estimate costs and benefits has been greatly enhanced by the social sciences. Scholars such as Bayes introduced ways of including both risks and probabilities in the calculations. These developments and others have made the dream of a utilitarian calculus seem possible.

The apparent necessity of using a utilitarian calculus to deal with risks stems from the wide range of problems, created by science, which humankind has not previously faced. It was easy for democratic theorists to imagine how average people could express their interests through normal political channels when the concerns were such standard matters as one's economic self interest, war and peace, education, etc. But it is a different matter when the polity is asked to deal with exceedingly complex choices such as those involved in balancing the economic benefits of using certain chemicals with the environmental risks created by those chemicals. Both the benefits and the risks are something not immediately observable; instead they require arcane measurements by economists and scientists in order to be seen to exist. It is this complexity which has made the notion of risk management through utilitarian calculations seem necessary. (The discussion of risk management in this paper is limited to environmental risks.)

The aim of this paper is to show that the utilitarian calculations involved in managing risks will succeed only when put in the proper political context. In order to show this, it is useful to create three ideal types of how decisions can be made and then review the institutional settings which can further each type of decision. The aim is to show how a new set of institutions is needed in our democracy if risk management is to be dealt with effectively.

THREE WAYS TO MAKE A RISK MANAGEMENT DECISION

Three Ideal Types

When creating ideal types, it is useful to imagine very simple societies. This is analogous to what economists have done in creating their models by using the simplified notion of "economic man". Imagine, therefore, three simple farming communities which are independent economic entities (they consume all their own products) and which are governed in a democratic way. They each face the problem of whether the economic benefits of certain farming practices are worth the resultant health risks for their community.

The first community makes its decisions about risk through reliance on political power. This means that those in favor of the farming practice and those opposed each do their best to form political alliances such that they can win a majority of the votes on the issue. The main characteristic of this decision is that neither side has much concern about the well-being of the other side. Therefore they spend little time listening to the claims of

each other. Their energy is devoted to getting enough allies so that their side will win when the final vote is taken. Whichever side loses will not view the decision as final; instead, they will bring the issue up again as soon as they think they can build a new coalition with enough power to win a majority of the votes.

The second community makes its risk decisions as though trying to create a social contract. This means that there is an attempt to avoid having the issue become a power struggle between two camps. The main characteristic of this decision is a concern about others in the community. Therefore there is a willingness to listen to, and empathize with, the claims of those affected by the decision. Their energy is devoted to getting a general agreement on what should be done, even though it may be necessary for a final vote to be taken if consensus is not achieved. One of the characteristics of a social contract is that most people in the community do their best to adhere to the agreement once it is made, since that was their agreement on how to balance out the risks and benefits of the policy among those in the community who would be affected.(1)

The third community makes its decisions about risk through a cost benefit analysis relying on objective information. This means that the community has arrived at a consensus about how to estimate the risks and how to value the possible outcomes. The main characteristic of this decision is the attempt to gather the data which will allow a clear decision to be made. The energy of the decision makers, therefore, is put into gathering objective information about the costs and the benefits of the farming

practice in question. If done well, there is no need to take a vote on the final decision, since it flows from agreed upon formulas and data which all sides accept.

In real life no community would use one form of decision making to the exclusion of the others. Those in the first community who are out to build their political power will make arguments which encourage others to join the coalition. These arguments are bound to refer to the benefits of joining the coalition and therefore will make reference to the data about costs and benefits which are at the core of the third community's decision. Especially in a small farming community, it is difficult to imagine people ignoring the feelings of their neighbors while pursuing cold calculations of power in order to put together a winning coalition. Conversely, even the most caring small town ends up with disputes where the dialogue breaks down and each side attempts to get its way by cornering enough votes on the council. Nevertheless, it is possible to imagine some towns which rely mainly on political power in making decisions and others which attempt to construct social contracts.

Three Institutions

Each form of decision making has an institution with which it fits most comfortably. The first community is likely to evolve a council or legislature which is elected through party politics and where the hearings are structured to favor those who already have power. As in most legislatures, the debates before the votes are more for the consumption of the general public than something which is likely to sway votes. The second community is likely to evolve

a discussion forum similar to the New England town meeting. That is an excellent forum in which to allow the views of all to be heard and responded to by others. It is not an efficient way to make a decision, but it is a way for those in a community to listen to each other, develop respect for each other's needs and views, and come up with decisions which are cognizant of the needs of all.

The third community is likely to push the decisions on risks into an agency of their government. If there is community consensus over what the basic values are, how they should be measured, and what formulas should be used to combine them, then there is no need for elected officials to have to deal with the issue. Paid employees of the community who are skilled in making the measurements should be the ones who assemble the information and announce what the policy will be.

But the institution adopted is not simply a function of the decision method which is favored. Legislatures and agencies are typical institutions of large societies, while the New England town meeting is something which works well only in small independent communities which are simple enough in their operations so that most citizens can understand the problems (and the potential solutions) which come before them.

What this means for large western democracies is that the social contract approach to risk management has largely fallen away, leaving the political power method and the utility calculation method as the approaches which are used.

Compatibility of Decision Making Approaches

All of the above is fairly obvious. What may not be as

obvious, unless laid out in this simplified form, is that the political power and utility calculation methods do not sit comfortably with each other. Those engaged in making decisions through political power will be opposed to an agency which has power and which has widely accepted objective standards for managing risks, unless the former have a great deal of power and are able to impose their values on the latter's standards. But where there is a frequent shift in ruling coalitions, there will be a great reluctance to allow an agency to have power to impose its objective standards. Conversely, an agency engaged in the attempt to apply objective standards to risk management will do its best to isolate itself from the influences of political power so long as there is a frequent shift in ruling coalitions.

The usual result of this incompatibility of decision making styles is an uneven dance, in which the agency floats in and out of independence from the political realm in a rather unpredictable way. If some objective standard has been established by the agency, this will be supported for as long as possible by the political coalition which benefits. They will use all sorts of rhetoric about obeying the law and allowing agency people to do their job properly. The losing side will talk about the high-handedness of the agency and about how public officials ignore the will of the people. The losing side will also try to use any political maneuver they can think of to modify or undercut the power of the existing standard. Should they accomplish this and become the winning side, then the rhetoric of the two groups will change radically, as each adopts the arguments previously used by

the other side.

Those in the agency who seek a cogent set of principles in light of which to manage risks are likely to feel great frustration in such a situation. The problem is that it is impossible, under the circumstances, to come up with a set of integrated principles which balances risks and benefits in a consistent way. Without that, it is common to face conflicting principles; for example, the requirement that risks in one area be reduced to zero while high risks are tolerated in another. The dilemma faced by the agency is that if they go back to the legislature and ask for a major revision of existing standards, they are very unlikely to get an integrated set of principles. Instead, they will get a mish mash of standards which reflects the coalition building needs of the legislature rather than an attempt to apply the values of society in a consistent and objective way to a method for balancing risks and benefits.

The social contract approach to decision making does not share this incompatibility with utility calculations. By definition those engaged in such a decision listen to each other and try to come up with a policy which respects the needs of most or all in society. For this reason, the social contract approach is a good forum for attempting to come up with the definition of values and ways of assessing risks which are needed to make utility calculations function properly.

The conflict which may arise between the utility calculation approach and the social contract approach is over what can be measured objectively. Typically, social scientists will choose

measures of utility which yield reliable results, while average citizens may complain that these do not reflect their true feelings. Significant conflicts could develop if the social contract approach yields shifting standards while the agency seeks stable and objective measures. Nevertheless, such a problem should be one which could be talked through and resolved over time. Such resolution through dialogue is considerably less likely in a conflict between the political power and utility calculation approaches.

The social contract approach is also more compatible with the political power approach than are calculations of utility. The social contract approach does not rely as heavily on the attempt to be objective and come up with set formulas as the utility calculation approach. For this reason the former is not thrown out of kilter by the introduction of political power considerations in the way that the latter is. Hence, the social contract approach serves as a convenient way to meld the other two, since considerations of utility are likely to carry weight in the discussions about the nature of the contract, and the discussions do not make the pretense of objectivity which makes it difficult to accommodate power.

Some readers may feel that the distinction between the political power approach and the social contract approach has been overdrawn. After all, there are some legislatures which are able to combine the two. The answer is that the distinction is an important one to make, even though in real life a legislature may use both methods or some mixture of the two. Indeed, it is safe to

say that the legislature which functions really well is one which combines the two methods, giving way to political power when necessary and striving for the social contract approach when possible.

The Growing Need for the Social Contract Approach

If the analysis above is correct, then there is always a need to insert the social contract approach between the political power approach and the utility calculation approach in any democracy where there is a frequent shift in ruling coalitions. The position taken in this paper, however, is that there is a growing need for the social contract approach. This is the result of two factors.

First, the U.S. Congress in the last few decades has been relying more on the political power approach and less on the social contract approach. The power of traditional groups (such as labor unions or the elite which used to control the Republican Party) is fading, to be replaced by the power of those who are able to manipulate public opinion through the media. The result is that the type of dialogue associated with the social contract approach is less common in Congress, while attempts to dominate Congress through manipulations of public opinion are more common. Ironically, the reforms of the 1970s, which were intended to open Congress more to the public, actually exacerbated this situation rather than improving it.

Second, there is an increasing need to rely on the utility calculation approach in making decisions about environmental risk management. Only a few decades ago, the measurements of trace elements of dangerous materials was unsophisticated enough so that

it seemed to make sense to say that no traces of certain substances should be tolerated in water supplies. But as scientists are able to identify materials at the level of parts per billion, it seems absurd to have a list of some materials which are not allowed at all, while other potentially dangerous materials are not proscribed. In other words, the sophisticated measurements for identifying risks lead to the obvious desire that we have an equally sophisticated means for balancing the risks we face using the numerical values which define the dangers. Hence, we should be using the utility calculation approach.

Given these two trends, and given the incompatibility of the political power and utility calculation approaches, what then can be done to introduce the social contract approach into decisions about risk management? One answer is to use environmental mediation. Several groups have grown up around the country in the last decade or so which have been using this technique.(2) This method has met with considerable success, but it has its limits. A number of problems are not open to mediation because one or more parties is unwilling to engage in it or to accept the proposals of the mediator. Even when the initial parties are open to mediation, it may not be possible to find groups which adequately represent all those likely to be impacted by the decision. For example, it might be possible to mediate a dispute over where to locate a hazardous waste facility, only to discover that new groups spring up who reject the initial findings of the mediation as soon as the potential site locations are announced.

But there is another, less well-known way to introduce the

social contract approach into risk management. In the early 1970s a new way of achieving some of the benefits of the New England town meeting in a modern setting was developed independently both in Germany and the United States. Both methods use randomly selected citizens who are paid to attend meetings which typically last for four days. Information is presented by witnesses of differing viewpoints, and a set of recommendations is issued at the end of the process. The Institute for Citizen Participation and Planning Methods at the University of Wuppertal first ran its "Plannungszellen" with official governmental sponsorship in the mid-1970s.(3) In 1983 they conducted a national project in which 20 randomly selected groups in seven different cities studied energy futures for Germany.(4) The first official use in the United States was in 1984 when the Center for New Democratic Processes used five randomly selected Citizens Panels to examine the impacts of agriculture on water quality in Minnesota.(5)

The next section of this paper will describe how Citizens Panels are currently run by the Center for New Democratic Processes. This will be followed by two examples of how such Panels could be used on environmental problems involving risk management.

CITIZENS PANELS

Citizens Panels were invented in the late 1960s in order to provide a way of defining the public interest in a world of moral relativism.(6) They have evolved considerably since 1974 through the work of the Center for New Democratic Processes. A convenient

way to view Citizens Panels is that they are a reworking of the jury system which deals with social and political issues rather than legal cases. To those who long for simpler times, we describe them as a way of recreating the New England town meeting in a modern setting so that large geographical areas can be covered. They are designed to give a representative group of citizens the opportunity to make clear recommendations on a specific policy question after having had the chance to examine the question in some depth.

The main characteristics of a Citizens Panel are:

- The participants are selected at random, as this is one of the best methods for selecting a representative group of citizens in a way not open to manipulation by interested parties. The minimum number of participants for any project is 24 and usually there will be two or more Panels run in different locations.
- Hearings which last for several days are held on the issue in question. The participants are expected to attend all the meetings and are paid for their attendance.
- Formal procedures are established in order to guarantee that the agenda is set, and information presented, in a fair and unbiased way. One of the most important aspects of the process is that a number of steps are taken to insure that the influences of staff bias are kept at a minimum.

Because of these and other steps, we believe Citizens Panels meet all of the requirements of the social contract approach very well. The meetings are structured so that people listen carefully to each other and empathize with those involved in the issue.

Those who participate in the Panels are very committed to seeing the recommendations carried out. Because they are a new process, they do not yet command the power and respect from the general public which we feel they ultimately will have. We believe such respect will occur with more frequent use since they are a process which should engender public trust. They are a special way for indicating to policy makers what it is that the general public would likely want if they understood the details of the issue. As such, they are a powerful tool and must be conducted with great care if this claim is to be taken seriously. The following description lays out the major steps which should be taken in the design and implementation of a Citizens Panel.(7)

Design

1. Who gets the recommendations?

Citizens Panels are a fairly elaborate and expensive process. Therefore, it is important to be clear about where the recommendations of the Panels will go and why the recipient is likely to pay attention. When the initiative for the project comes from a legislative committee or governmental agency, this should be clear. If the government is putting up most or all of the funds for the project, then there should be little doubt that the recommendations will be taken seriously. But if the initiative is coming from a non-profit organization or from an interested party, then care must be taken to see that the recommendations are taken seriously by an appropriate body.

2. Framing the question.

The main aims for framing the question are clear enough: the question should be relevant to policy makers, should be stated clearly, and should be framed in such a way as to be fair to the parties involved. Achieving these aims is another matter. In the Citizens Panel process, the most significant encounter between political power and moral concerns occurs at the stage of framing the question. One of the most effective means for the interests concerned with the issue to get their way is to have the question framed so that it benefits them. If Citizens Panels are to become trusted by the general public, the questions cannot be framed so as to suit the most powerful interests.

The Center for New Democratic Processes has experimented with different approaches for dealing with this problem. Our experience has shown us that it should not be left up to the panelists themselves nor to a committee representing the various interests. In both cases there is too great a risk that the question will end up not being clear enough to suit the needs of policy makers. But the framing of the question cannot be left up to the staff alone (risk of staff bias) or to a legislative committee alone (risk that political power dominates). Our major guideline in this area is that the question should be framed by the staff and then proposed to some representative group in a public hearing where the interested parties can express their views. (CNDP can supply specifics on this for different situations.) This process will never be done perfectly, but we believe it can be done in such a way as to improve on how questions are framed in the current system.

3. Who oversees the project?

There should be two committees which oversee a Citizens Panel project. One committee should represent those who want the recommendations and the other should oversee the process in order to be sure that it is run properly. The former could be a committee of a legislature or a management group in an agency. It could also be a special Steering Committee which represents different interests and agencies which want the project. In 1984 in Minnesota the Steering Committee for the Agriculture/Water Quality Project had representatives from four state agencies, two environmental groups, two farm organizations, and three other groups with an interest in the matter.

The other committee is a Process Committee which observes the project to make sure it is run properly. If the project is done for a legislature or agency, then the Process Committee might have representatives of affected interests on it, so long as a balance between interests is maintained. Otherwise, the committee should be made up of people who in various ways have demonstrated their concern that projects are run in a fair way (judges, accountants, mediators, etc.). The need for a Process Committee became clear to us at CNDP when we discovered that we were prepared to violate our own guidelines once we became deeply involved in getting a project off the ground and running efficiently.

4. Who should staff the project?

At present, Citizens Panels have been run under the auspices of only two groups: The Center for New Democratic Processes in

Minneapolis and the Institute for Citizen Participation and Planning Methods at the University of Wuppertal in West Germany. It is our hope, however, that other groups will use our guidelines and consult with us so that they learn how to use the process. We believe that the staff of a Citizens Panel project should not be employed by those who are expected to make the final decision in the area. In other words, if the project is called for by a legislative committee or an agency, then it should not be run by committee staff or agency employees. In judging the ability of any group which sets itself up to run Citizens Panels, it is important to pay as much attention to the steps they are taking to minimize staff biases as to their efficiency and cost-effectiveness.

5. What does a project cost and who pays?

The main criterion for the source of funds is that they not influence the recommendations of the Citizens Panel. The safest situation is where the funds for a project come from a variety of sources such as foundations, government at different levels, businesses and private individuals. But such fund raising is laborious; it is unlikely that Citizens Panels can be funded over the long run through such a mixture of sources.

The most likely long term source of funds is government. A Citizens Panel should be funded by the legislative committee or agency which calls for it. This is acceptable so long as the staff for the project does not come from the committee or agency and there is a Process Committee which is independent from those who called for the project and represents a balance of groups. In the extreme, an interested party in the dispute could offer to fund the

entire project. Such a situation is acceptable only when the Steering and Process Committees are obviously independent of the group putting up the money. One of the best ways to show this is for the grantor to make the money available with no strings attached before the two committees have agreed upon the final details of the project. An interest group might be willing to do this if they felt that their legitimate interests were currently being ignored and that a well informed public would agree.

The cost of a Citizens Panel project can run anywhere from $40,000 for a single Panel with 24 panelists up to something like $250,000 for ten Panels of 12 each. We believe strongly that it is important to have more than one Panel of 12 in a project. At the least, it should be 24 people who have the opportunity to work in small groups to make the majority of their decisions. This was the approach we used in a 1986 project which studied questions surrounding organ transplants. Although the final decisions were made in a plenary session of 24, all of the initial decisions were reached in small groups of six. In this way, no single individual was able to dominate the decision of the group, as sometimes happens with a jury.

Implementation

1. Selecting the panelists.

The selection of panelists is done by conducting a survey of randomly selected members of the population and then drawing the panelists at random from this pool. This resembles the selection of a jury in that it is a two step process: first the pool is

selected at random and then the jurors are drawn from that pool. Like the jury system, we aim at having a "jury pool" which is representative of the community as a whole on the major demographics, but no attempt is made to have the Citizens Panels constitute a cross section of the community on these criteria.

There is a major difference, however, between selecting a jury and a Citizens Panel. With a jury, the "voir dire" process is used by the opposing attorneys to eliminate those potential jurors who may have preconceived notions about the case. This method is not used with Citizens Panels, since it is virtually impossible for most people to approach public policy issues without some sort of prior conception. On the other hand, we believe it is important that the Panels not be skewed in favor of any point of view regarding the issue under consideration. To accomplish this, we stratify the panelists on the question under consideration or on some broad measure of political orientation. Two examples will indicate how this works.

In the 1984 Agriculture/Water Quality Project we conducted a statewide survey on attitudes towards agriculture and the environment. This survey was sub-contracted to a professional survey organization which interviewed 623 people selected through randomly generated phone numbers. From this survey we constructed a scale so that we were able to categorize people as to whether they "favored agriculture", "favored environment", or were "balanced". The Panels were then set up to have the same proportion of each group as the population at large.

In the 1986 Citizens Panel on Transplant Policy, we did not

want to incur the expense of a professional survey with a sample size large enough to estimate population parameters. Therefore, we did an abbreviated survey in which we contacted only enough people to be able to obtain 24 panelists. When we reviewed recent survey data in Minnesota, we found no questions directly relevant to transplant policy. Therefore, we stratified the Panel according to a recent survey of political attitudes in the Metro Area of Minneapolis and St. Paul (ie: liberal, conservative, or moderate).

Once we have a pool of names which is representative of the population as a whole and has been broken into three categories, we then start the actual selection process. First, we eliminate those who said over the phone that they were not interested in the project. The rest are then divided into the three categories and names are ranked within each category. We then call those at the top of the list within each category and set up an appointment to meet them in their home to explain the project and ask them to participate. Within each category we fill the quota and select two alternates as well, in case someone is unable to serve. Once Citizens Panels become well known, it may be possible simply to mail invitations to people and thereby save the expense of the home visits. The rates at which people accepted invitations to serve on the last two projects were 22% and 29% (these figures are very close to the acceptance rates in Germany).

2. Who presents the evidence?

There are three different models which can be followed in presenting the evidence: the legal model, the classroom model, and the model of normative discourse. Each has its advantages and

disadvantages. It is likely that more than one of these models will be used in setting the agenda.

- The legal model. Following the Anglo-Saxon legal tradition, the hearings would be structured around the presentation of arguments by advocates. This can lead to the careful preparation of the arguments and lowers staff bias by taking the preparation out of the hands of the staff, but the advocacy presentation can make it difficult to find a middle ground on which to base a policy.
- The classroom model. This model holds that the staff of the project, like a teacher, should organize the information and present it to the members of the Panels. This can be modified to include the use of witnesses and a moderator, but basically it is the staff which controls how things are run. If the staff is skilled, this can lead to efficient and cogent presentations, but the risks of staff bias are high.
- The normative model. Moral philosophy has stressed the importance of empathizing with those affected by a policy and reflecting on the principles which one holds. This approach uses value clarification exercises and concentrates on giving the panelists ample time to get to know those affected by the issue at hand. The disadvantages are that it is time consuming, often expensive, and risks of staff bias are high.

The intertwining of these three models is a complex matter. There is also much common sense involved. Each approach has a long tradition and practitioners have learned a great deal which is not easy to put into books, as those who are teachers and lawyers well

know. The above models may be modified to some degree by the wishes of the panelists, but we do not include the participatory model as a basic model for organizing the information. In other words, we do not say to the participants on their arrival that they have the power to structure the hearings any way they please. This is one of the ways that Citizens Panels deviate from the philosophy of participatory democracy.

Beyond the presentation of information in the meetings themselves, it is possible to hold separate hearings on technical matters which are likely to be too complex for average citizens. As in bankruptcy hearings, where a master is called in to review complex financial matters and report the findings to the court, so relatively impartial investigations can be held and the results presented to the panelists.(8) This can free them from the burden of having to deal with complex technical information and allow them to concentrate on the value questions which are critical to the issue.

3. Conducting the meetings.

There are three main goals which determine how the meetings should be conducted.

First, there should be an appropriate atmosphere for learning about the facts and values of the situation. This means that some very practical details need to be carried out well. The members of the Panel must be greeted properly and treated with respect. All of the many small details, from coffee during the breaks to the timely delivery of payments to participants ($75 a day), must be handled carefully so that things run smoothly. There must be a

proper balance between tight scheduling and yet sensitivity to the feelings and perspectives of the panelists. The aim is to produce a relaxed atmosphere in which the panelists feel at home. On the other hand, if the setting is too relaxed, the meetings will not cover the necessary materials and give adequate time to the witnesses.

Second, the witnesses, discussions, and final deliberations must be scheduled so that the members of the Panel can do an effective job of reaching conclusions. Typically, Citizens Panels are run for four or five days (on complex questions, with several Panels involved, an additional meeting of several days for representatives of each Panel may be advisable). We try to schedule the meetings for succeeding Fridays and Saturdays so that only two days of work must be lost when serving on a four day Panel. A good portion of the first day is devoted to introductions to the process and the basics of the issue. Of the remaining three days, two are devoted to presentations of evidence and one to deliberations (on fairly simple questions, the deliberations might be cut down to one-half day). Typically the deliberations are not just reserved until the end; instead, opportunities for discussion are inserted throughout the program.

Third, the hearings should be conducted in a fair way with the influence of staff biases kept to a minimum. Several ways of minimizing staff biases have already been mentioned. Beyond these, it is wise to have someone serve as moderator who is different from the staff person who spent time learning about the issue. Also, if part time help is brought in, they must be carefully trained to

keep their views to themselves. Probably the most important way to limit staff biases is the evaluation which the panelists fill out at the end of the program. Not only does this provide an objective measure of how well the staff did, but the very fact of the evaluation reminds the staff of the need to monitor their biases. In our most recent project, 71% of the participants were "very satisfied" with their experiences and 83% were "very satisfied" with the job the staff did in keeping their own biases in check. Members of the Process Committee are urged to attend the hearings whenever possible and review the evaluations at the end to insure that things were run properly.

4. Recommendations and follow up.

At the conclusion of the meetings of a Citizens Panel project, the recommendations are put into a report, along with background information on how the panelists were selected, who the witnesses were, and a summary of some of the testimony and information which was presented. Although the report is prepared by the staff, it is important that the panelists have an opportunity to review and select the final wording of the recommendations. This report is then given a wide distribution.

One of the main strengths of Citizens Panels is also its major weakness. Because the Panels consist of average citizens, most of whom have no ax to grind, their recommendations are likely to be trusted by the public as a whole. But average citizens do not have the skill or motivation to do all the things which "insiders" do to get action taken on public policy issues. Yet, if the recommendations of the Panels are not followed, they will not

be a useful democratic reform and will be rarely used.

If a legislative committee or an agency calls for the project and if they put up most or all of the money for it, then they are likely to pay serious attention to the recommendations. At the other extreme, if the project is run for a steering committee which did nothing to raise the funds for the project, then the risk that the recommendations will be ignored by policy makers becomes quite large. Such a project should not be entered into unless the staff has studied the situation carefully and has good reasons for believing that those who have the power to act on the recommendations are likely to pay close attention to them.

One approach which we are presently considering is to include in the budget of the project funds for follow up which can be allocated by the panelists themselves. We are opposed to having the staff which ran the project do the follow up, again for reasons of avoiding staff bias. Also, if a staff is really good at neutral facilitation, it must be asked how good they are likely to be at lobbying decision makers. But if the panelists agree by a margin of 60% or more on a certain course of action, they could then select a person or group who would be paid a fee to do follow up on the recommendations. A committee of the Citizens Panels could be set up to monitor their actions.

Once Citizens Panels are widely enough used, it is conceivable that their recommendations could be put into use directly, without any further decision being needed. For example, a legislature could pass a law with the provision that the parameters of certain regulations could be established by a Citizens Panel

process. But for the foreseeable future, the recommendations of Citizens Panels will become law only when other decision makers (or the general public, as in an initiative) decide to act on them.

SELECTING A HAZARDOUS WASTE SITE

Introduction

The problem of whether a hazardous waste facility is needed in a state, and, if so, where, provides a good example of the usefulness of Citizens Panels in dealing with environmental risks. This issue is highly technical and extensive measurements of risk are now available. In other words, it is a problem where there is a strong temptation to resort to utility calculations for a solution. It is also a problem where there is not a dominant political faction which can control these utility calculations so that they are applied in a consistent way. Instead, we have arrived at a situation where the interests involved often arrive at an impasse. The environmental impact statements which are produced are not just a technical exercise; instead, they become part of an elaborate game in which the various interests try to outmaneuver each other.

Interestingly, it is the rise of citizen participation which has often caused the political power approach to come to a standstill. A complex and emotional issue like hazardous waste disposal is an organizer's delight, since it is relatively easy to get a large group of people to attend the main public meetings and get good media coverage. It is a rare group of local officials which is able to withstand pressure of this variety. Hence, the power of

NIMBY (not in my back yard) has exerted itself in a very strong way on the question of locating hazardous waste facilities. The producers of hazardous waste have enough power so that they usually are not forced to cut back on the production of the wastes and they can usually find some way of disposing of what they produce. However, the public officials who are charged with coming up with a rational solution to the problem find the situation most frustrating. In general, it is a situation which no one finds very satisfying.

This is the kind of problem to which the social contract approach is well adapted. It is a situation in which all are at potential risk from the existing hazardous wastes and virtually the whole population would benefit from a solution. But the two obvious solutions (cut down on production or dispose of in a carefully controlled way) mean that either industry or some particular community bears the burden of a program which benefits the large majority. This is a classic situation where the social contract approach functions well. Representatives of the whole population should come together, listen carefully to each other and the evidence about the nature of the problem, determine whether indeed there is a need for a hazardous waste facility, and then decide where to locate it (with compensation to those nearby, if necessary) so that no one ends up carrying an unfair burden in order to benefit the majority.

Many people have thought that citizen participation, if broad enough, would accomplish the goals of the social contract approach. This has often not been the case. In Minnesota in the early 1980s

an attempt was made to locate a hazardous waste facility based on extensive public participation. Open meetings were held around the state which were attended by several thousand people. Over 70% agreed there was a need for a hazardous waste facility. When the possible sites were narrowed down to four, however, the resistance from the residents of those counties was so strong that in 1985 the process was brought to a halt and a search was started to find another way of locating a facility.

There were several problems with the above approach which can be avoided by Citizens Panels. The people who attended the early meetings were given information which was very favorable to the establishment of a hazardous waste facility, while given little opportunity to imagine what it would be like to have such a facility in one's own county. The people who attended the meetings in the counties where the site might be located received information with just the opposite slant: most of it concentrated on the dangers to the county and little of it on the benefits to the state as a whole. In order to avoid these problems, it is essential that the group which decides on the final locations also have been in on the decision about the need. Also, as much attention in the initial stages must be given to how it would feel to have such a facility located near one's home as to the need for the facility.

Both of these requirements are met by Citizens Panels. A representative group of citizens is given ample time to learn about the topic (as opposed to simply attending one or two meetings). The information is presented in a balanced way and as much attention is given to potential dangers and the need for compensation as

to the overall needs of the state. Finally, it is possible to keep the same group of citizens in attendance through the entire proceedings, so that there is not one group at the beginning which agrees on the need and a different group at the end opposed to the location of the facility.

Design

1. Who gets the recommendations?

These should go to the state agency charged with locating a hazardous waste facility or to the legislative committee which would handle the legislation to establish the facility. Since the entity to which the recommendations are sent is also going to be the one calling for the project, they will be referred to as the Steering Committee.

2. Framing the question.

As pointed out above, the framing of the question is not an easy matter. Both the Steering Committee and the Process Committee will have to agree to the way the question is framed. In light of our experience at CNDP, we would suggest that the following questions be asked:

A. Is there a need for a hazardous waste facility in the state?
B. If so, what kind of facility should it be? (This may be narrowed to a suggested type of facility with equal time given to those who oppose it.)
C. How would you feel if such a facility were located near you?
D. What compensation should be paid to those who in some way are

affected by the facility?

E. Where should the facility be located?

It is at this point that a decision should be made regarding whether there is any technical information which is so complex and critical to the final decision that special hearings on it are needed. If so, a science court or some similar method should be planned. This may be very important if some novel and controversial hazardous waste facility is among the options proposed.

3. Who oversees the project?

As noted above, the governmental committee or agency which calls for the project should serve as the Steering Committee which oversees the project. They would ratify or amend staff suggestions with regard to all of the specifics of the proposal. The Process Committee would review the suggestions of the staff and the decisions of the Steering Committee to insure that the basic guidelines about how Citizens Panels should be run are not violated. The Process Committee is especially important in a project where a governmental entity has called for the project and is likely to be the major funder.

4. Who should staff the project?

Any group wanting to staff a Citizens Panel should be able to offer evidence that they can do this in an efficient, sensitive way while keeping staff biases at a minimum. An organization like CNDP which can show evidence that they have done well on these criteria in the past should have an advantage in applying for the job, but this does not rule out the possibility that some other group can

offer convincing evidence that they can do the job more effectively. The project should not be staffed by the agency or committee which will make the final decision on the recommendations of the Citizens Panels.

5. How many Panels should there be?

We believe that even in the smallest state there should be at least 36 participants who meet in at least two different sites. At the other extreme, there should be no need for more than 24 Panels of 12 each in the largest and most populous states. In Minnesota we suggest eight Panels of 12 people to cover the eight Congressional Districts. The Steering Committee must decide on the precise number in light of funds available and how many Panels are needed to achieve legitimacy. Also there should be a statewide Panel to resolve any differences between the regional Panels and to make the final decision about where the facility should be located.

6. What does a project cost and who pays?

If the eight Panel project were run in Minnesota, the cost of the Panels themselves would be about $110,000, the cost of project development about $50,000 and the cost of a Statewide Panel to bring representatives of the eight Panels together would be about $40,000, for a total project cost of about $200,000. This should be paid for by government funds, although it may be necessary to use foundation funding in the first few projects to get the process going and accepted by public officials.

Implementation

1. Introduction of the project.

It would be wise, if funds are available, to hold a series of introductory meetings around the state to inform the public about the project and how it will be run. This was done in CNDP's 1984 project and seemed to be a very useful process. It would be especially important to get members of the Steering Committee to attend these meetings to show their support for the process.

2. Selecting the panelists.

The participants should be selected from a survey which includes all the residents of the state. A set of randomly generated phone numbers is one way of doing this. Using a brief survey, people should be divided into three groups according to whether they are pro, con, or neutral regarding the establishment of a hazardous waste site. Participants would then be selected at random from each of the three catagories. They would first be sent a letter and then contacted by phone.

3. Who presents the evidence?

The presentations will be divided up equally between those who support the facility (or facilities) and those opposed. Staff will contact those on the major sides of the issue and get them to coordinate their presentations. Funds should be available to help one side if it turns out they are at a strong financial disadvantage to the others. If a science court or other method has been used to deal with complex technical information, those involved will present the results of these deliberations directly to the

panelists. The advocates at the hearings will be given the opportunity to comment on the results of the technical hearings.

4. Conducting the meetings.

On p28 above, there were five questions listed which the Panels ought to answer. The first four (need, type, how you would feel if the site were near you, and compensation) should be dealt with at the regional level, leaving the selection of a site to the statewide Panel. There are a variety of ways in which the actual agenda could be laid out. For example, the first three days could be devoted to introductions and the discussion of need in light of types of facilities under consideration. Panelists might be much more willing to agree there is a need for one type of storage (eg: above ground storage of residues after incineration of wastes) than another (eg: permanent underground storage). The number of types of facility to be discussed should probably be limited to two or three. On each of these there should be a pro and con position presented.

Then a full day could be given to the question of how people would feel if the facility were near them and what compensation they would want if it were. The important thing here is to create a realistic role playing situation so that all participants would get a good indication of how it would feel to have the facility near them. In light of this they should then say what compensation they would want in order to feel that they had been fairly treated. Such sessions must be run several times so that participants get a chance to view the problem both as taxpayers and as those who would be compensated.

The fifth and final day should concentrate on putting the above together into a clear set of decisions. Perhaps an initial agreement on need will disappear when the panelists learned how much compensation they felt was needed for any of the specific plans. Conversely, they may decide that a particular type of facility is needed once they understood that those near it could be compensated at a level they as taxpayers found acceptable. Separate votes should be taken on different types of facilities and the compensation programs to accompany them. If a majority of the Panels see no need for a hazardous waste facility, then this is the end of the project. The recommendation is that no site is needed at this time. In this case there should also be suggestions for the next step to be taken (long range contract for out of state storage, more research on some kind of facility, cut down on production of hazardous wastes, etc.)

If a majority of the Panels favor one or more kinds of facilities, then there should be a statewide Panel formed from representatives from each regional Panel. Their first task on coming together would be to work out differences between the decisions of the regional Panels. If they cannot agree on the type of facility to be built, then they may end up recommending further study or another round of regional Panels before another statewide Panel is chosen to select a site.

Once a statewide Panel agrees on the kind of facility, they should move to the selection of a particular site. If the environmental impact statements on the potential sites are complete, then the panelists can make the choice directly. Otherwise, they should

agree on the criteria for a site and what should be done if several sites meet the criteria (two options would be random selection between qualifying sites or asking for volunteers in light of the compensation to be paid). These criteria would then be given to an agency or some specially constituted board which would make the final choice once the EISs were complete.

5. Recommendations

It is very unlikely that a state would want to set up a Citizens Panel project like the above so that its recommendations would have to be carried out by an agency without any chance for review. The process is new and there is always the risk that the panelists might be fooled into accepting something which is too risky or expensive (or scared out of accepting something which is cost effective). On the other hand, the legitimacy of the above depends on the social contract approach to decision making. If the plan were modified in some significant way, it is unlikely that the panelists would still support it. Hence, there should be some authority with veto power which could accept or reject the recommendations as a whole.

ESTABLISHING GENERAL CRITERIA FOR ENVIRONMENTAL RISKS

If our society were run in an entirely rational way, we would adjust man-made risks so that the return on the marginal dollar invested in avoiding any given risk would be equal to the return on the marginal dollar invested in any other risk. Another way to put this is that we should be balancing our risks so that we are

reducing the largest risks in the most cost-effective way possible. Currently our society tolerates some risks which are fairly high, while incurring large costs to reduce or eliminate risks which are considerably lower.

It would be wrong to portray this aim simply as a desire to spend funds wisely in managing environmental risks. There is a more important goal: in a world of increasing environmental risks, we must choose wisely between those which are worth bearing and those which are not. If only some general scheme for comparing risks were available, then our society could make much more rational and long term decisions about what risks to bear for what benefits and how much should be invested in safety.

One of the dreams of the utility calculation approach is that it would be possible to come up with measures for all of the important variables which go into determining when a risk is worth taking. This would require not only measures of costs and benefits and the likelihood of each, but also guidelines about how to deal with lack of knowledge. Then there would have to be guidelines about when and how much compensation should be paid to those who are forced to tolerate above average risks, since the cheapest solution to a given risk may be to find a group that is relatively unconcerned about it and compensate them to bear it. Surely other variables would have to be included as well.

But such comprehensive attempts to evaluate which risks should be borne and at what cost are not possible if one simply follows the utility calculation approach. These efforts break down because they misconstrue how most people evaluate costs and

benefits. Personal choice is a critical element in whether a risk is worth bearing. Many people will be furious if a hazardous waste site imposes a 1 in a million risk of cancer on them, even though they are willing to tolerate a risk of 200 in a million of dying in a car accident because they do not wear their seat belts. Such behavior is viewed as irrational by most of those who want to put numbers on all costs and benefits, but it is a central aspect of human nature and is especially prevalent in the U.S.A. where a high premium is placed on individual choice. This is one of the reasons that those engaged in cost-benefit analysis have such difficulty putting a dollar figure on the value of a human life.

But it is not individualism alone that creates problems for the utility calculation approach. Many people will tolerate a risk if they feel it was assigned to them in a fair way and that their sacrifice clearly benefits the community as a whole. The classic example is young men accepting a draft into the military when they perceive a valid need to fight for their country. The acceptance of risk as the result of individual choice or a legitimate community decision is something which cannot be accounted for in the utility calculation approach.

In the first section of this paper, the conflict between the political power approach and the utility calculation approach was dealt with as though those with power were determined to impose their selfish wills on those who wanted to make decisions in a rational way. In fact, it may be the insensitivity of those doing the utility calculations which leads many people to turn to their

elected representatives to rectify what they perceive to be an injustice.

It is for this reason that Citizens Panels should be a useful tool for those who want a comprehensive way for society to decide which risks should be borne and which avoided. Because they embody the social contract approach to decision making, they can bring aspects of fairness and legitimacy to risk management which are lacking in the utility calculation approach.

In order for this to be done, a two step process must be used. First, participants in Citizens Panels should work through a series of examples about which risks should be borne, at what levels, how much compensation might be appropriate, what life style changes might be in order, etc. The aim would be to find enough consistency in their answers so that it would be relatively clear as to which new types of risks they wish to bear and which existing risks they wish to phase out. These answers would then be given to another set of Citizens Panels to guide them in a particular policy choice regarding some specific environmental risk.

This task is much too large to be done effectively by one or even two sets of Citizens Panels. This can be seen if one jots down just a few of the elements which might be considered in order to gain an overview of existing risks:

1. Type of negative consequence:
   A. cancer.
   B. stomach upsets.
   C. bodily deformation which is cosmetic.
   D. retardation to fetus.
   E. not harmful to humans, but quite harmful to reptiles.
   F. not harmful to animals, but quite harmful to vegetation.
   G. etc.

2. Level of risk:
   A. 1 in 1,000
   B. 1 in 10,000
   C. 1 in 1,000,000
   D. 1 in 1,000,000,000
   E. Do above at 95% confidence level and 50% confidence level.
   F. etc.

3. Length of duration of risk:
   A. half life of 2,000 years.
   B. two weeks.
   C. no less than 1 year or more than 100.
   D. etc.

4. Who bears the risk?
   A. entire population.
   B. only those in a relatively small area.
   C. only those who use the material.
   D. only 10% of the population is susceptible to the risk.
   E. etc.

5. Who benefits and how?
   A. entire nation gets cheaper food.
   B. certain areas get cheaper electricity
   C. Gross national product goes up 1%, but half of benefit goes to the top 20% income bracket.
   D. If risk not borne, America looses 1% of gross national product to foreign competition.
   E. A region is freed from a particularly objectionable pest (mosquitos, rats, etc.)
   F. etc.

It will take considerable time to build a list which is comprehensive and yet which can be grasped as a whole by average citizens. Although the details will not be easy to work out, the logic of the exercise is rather clear:

1. Here is a summary of man-made environmental risks and the benefits derived from them.
2. Here is a summary of other existing risks.
3. In light of these summaries, do you feel that we should add to the existing set of risks in order to achieve certain benefits? If so, how?

4. Do you feel that there are particular areas in which we should be reducing environmental risks? If so, which ones should be reduced by how much?

In order to answer these questions, a series of Citizens Panels should be run to see if there is any consistency in their broad overview of what should be done. Their decisions may not resemble the kinds of results hoped for by the utility calculators. They also may arrive at consistency in some areas and not in others. For example, Citizens Panels may pick a particular type of illness (such as cancer) which they feel is too prevalent and decide that no new causes of cancer should be added to the environment until some of the existing ones are removed. They may pick a maximum length of time for any environmental risk and say that no risks should be added which last longer than X years or X generations. They may decide that any risk which is voluntarily undertaken should be permitted so long as no one is forced to bear the risk involuntarily and those who take the risk are willing to bear its costs.

Given the complexity of the task, care must be taken to insure that the decisions are not simply a function of the particular way the question was framed or the agenda set. Several sets of Panels should be run to see whether there is a consistency to the results which transcends the peculiarities of the way the Panels were set up. If this can be achieved, then the decisions of Citizens Panels on these basic questions can form the foundation of specific policy choices.

For example, if the participants consistently agree that man made risks should not last for more than X years or X generations, then what should be done about the production of nuclear wastes? This will not be an easy policy question to answer. Surely several sets of national Citizens Panels would have to be run in order to produce solid policy recommendations. It is possible that when participants look at the question closely, they decide to override the initial decisions of the Panels which dealt with the broad question. They may decide that the production of nuclear wastes must continue for the purposes of national defense, but not for other purposes (or they may decide the reverse). They may decide that all new production of nuclear wastes which last more than X generations must be stopped, regardless of the benefits.

Note that what is being suggested here is more analogous to common law than to the various numerical measures which have been the foundation of the work of the utility calculators. Instead of trying to come up with a set of measures which eventually will yield numbers which dictate which risks are worth taking, the process will combine numerical measures of risk with other judgments (such as those of fairness) which are not easily quantified. Even if a high level of consistency is reached, these should probably not be viewed as a set of absolute rules. Instead, they should be given to a Citizens Panel faced with a particular policy choice to help guide them in their decision.(9)

The most obvious objection to this idea is that it is politically impossible in a pluralistic system. Neither Congress nor the executive is likely to want to turn so much power over to

another political process. This may be true. The American political system has shown itself very resistant to reforms which smack of the rational planner. On the other hand, the federal government does not fare well in measures of public trust. Even though this trust has picked up from the low of a few years ago, it still is much lower than the levels enjoyed in the early 1960s.(10) Some coalition in Congress may decide that such a set of Citizens Panels is a good way to show the general public that they care about the views of average citizens. A president may push for implementation of the project in order to embarrass a reluctant Congress: either they pass the program, or the president gains a good political issue by claiming the Congress is unwilling to listen to average people.

Note that the project is very unlikely to be funded in its entirety. In all likelihood there would be several pilot projects to test out whether Citizens Panels can yield the consistent results which are necessary for its successful use. If consistent results are achieved, then a decision will have to be made about the next step. It is conceivable that Citizens Panels would not be used on the specific policy questions. Congress and the executive would use the broad guidelines from the Citizens Panels to shape their specific policy choices. It is possible that Citizens Panels would be for specific policy choices in some areas, but not in others, where some interest is able to muster sufficient support to prevent their use.

In other words, the above recommendations are flexible and can be instituted on a step by step basis. To hope that they would

be introduced as a whole in order to bring immediate rationality to all our decisions about environmental risk would indeed be politically naive. How far the use of Citizens Panels might go in terms of setting the guidelines for which environmental risks we should take and which not depends on a large number of factors. Perhaps the most crucial is how the general public responds to them. If the public comes to view these as a legitimate way to deal with such fundamental issues, then the reform may be used very extensively. If the interests which see themselves threatened by the reform are powerful and are able to form a viable coalition, then the reform may go nowhere.

Another objection will be that these cost too much. Our argument about this is that the public should be willing to pay up to 5% of the cost of a program on Citizens Panels, analogous to the way in which the large majority of the public will pay a fee of 5% or more to a realtor for advice on a house they are buying. The claim made by realtors is that something as important as the purchase of a home deserves the best advice you can get. Since the United States is the home for all of us, we should be willing to think very carefully about how much risk we are willing to bear and of what variety. Since the production and disposal of hazardous materials involves at least several billion dollars a year, to spend several million dollars a year on Citizens Panels would be to incur costs only at the level of 1/10 of 1%. This amount would be only one fiftieth of the amount spent on a realtor, yet it would certainly cover the initial expenses of starting the project described above.

SUMMARY

1. Three ways of making decisions on environmental risks are posited. The two major methods now in use, the political power and utility calculation approaches, are not compatible and this incompatibility is growing. The third method, the social contract approach, is compatible with the other two methods. Hence, new ways of introducing the social contract approach should be explored.
2. Two methods for introducing the social contract approach are Citizens Panels (a method developed over the last 15 years in Germany and the United States) and environmental mediation. When and how often Citizens Panels are more effective than environmental mediation is a matter for empirical study. There are some reasons in theory why Citizens Panels should be more satisfactory than environmental mediation, but the latter is a method which has been in use for over a decade while the former has yet to be widely used.
3. Citizens Panels should be a good way for a state (or a nation) to site hazardous waste facilities. This is a classic case for use of the social contract approach: people living in a relatively small area are asked to bear a risk in order to benefit the community as a whole. The main advantage of Citizens Panels is that they rely on average citizens (hence responding to demands for citizen participation) while at the same time they provide for hearings which are sophisticated enough to deal with the complex issues involved. Unlike most current forms of

citizen participation, Citizens Panels insure that those involved in determining the need are also involved in making the final decisions about site location and compensation.

4. Citizens Panels hold interesting prospects for setting general guidelines regarding which new environmental risks should be undertaken and which existing risks should be phased out. Such a comprehensive approach to risk management may seem rather utopian. Without something like this, however, the battles between environmentalists and the producers of hazardous wastes are likely to intensify and exacerbate the incompatibilities between the political power approach and the utility calculation approach to risk management. It is this incompatibility which makes it difficult for Congress and some federal agency to work together to produce a set of guidelines. If this situation continues, some coalition of politicians may see it in their interest to try out the use of Citizens Panels on the development of general guidelines regarding levels of environmental risks.

5. This paper proposes a relatively new method for helping American democracy deal more effectively with risk management. America has always prided itself on being inventive. Given the costs our governments are incurring in the area of environmental risks, the very modest amount needed to test out Citizens Panels as a way of managing environmental risks should be an excellent investment.

NOTES

1. A word of caution is in order. The notion of a social contract has a long history in political philosophy. Philosophers from Rousseau to Rawls have used the concept to spell out their ideas of how society ought to be structured. Those of an empiricist bent will want to restrict the meaning of "the social contract approach to decision making" to just what has been set down in this paragraph. Others will feel comfortable allowing some of the philosophical aura to spill over to the concept as used in this paper. It is the belief of the author that the ideal types suggested here could be defined with sufficient objectivity so that trained observers could achieve a high level of agreement as to which approach was used in making a particular decision. It is also the hope of the author that those communities which rely primarily on the social contract approach to decision making would be communities where there was a high level of satisfaction with the political system and loyalty to it. Also it is hoped that the decisions so made would be widely regarded as fair. Those who are careful empiricists will not want to assume these characteristics, but will prefer to wait until they have been proven through empirical analysis.

2. For example, the Institute for Environmental Mediation, Seattle, WA; The Conservation Foundation, Washington, D.C.; The New England Environmental Mediation Center, Boston, MA.

3. See Peter C. Dienel, Die Plannungzellen, West Deutscher Verlag, Oplande, West Germany, 1978. There are numerous other publications, but all are in German, except for the article cited in note 5.

4. Ortwin Renn, et. al. "An Empirical Investigation of Citizens' Preferences Among Four Energy Scenarios" in Technological Forecasting and Social Change v. 26, April 1984, pp. 11-46.

5. Ned Crosby, Paul Schaefer, and Janet Kelley, "Citizens Panels: A New Form of Citizen Participation", Public Administration Review, March/April 1986. Also available from the Center for New Democratic Processes is a Final Report, which contains the recommendations of the Panels, and a very detailed Process Report which analyzes the way the project was conducted.

6. Ned Crosby, Concern for All, 1973, University of Minnesota, unpublished Ph.D. dissertation.

7. Those interested in a fuller description of Citizens Panels can request a copy of Guidelines for Citizens Panels from the Center for New Democratic Processes.

8. Two methods which have been developed to clarify technical matters for decision makers are the "Science Court", developed by Arthur Kantrowitz (see: "A Description of the Science Court Experiment", Science August 20, 1976), and the "Extended Policy Discussion", developed by CNDP. The former uses a panel of scientists to review a technical point and decide which claims are correct, the latter uses extended discussions between experts to clarify where they agree, where they disagree, and what can be done to resolve the remaining disagreements. Both methods have been used in pilot situations, but neither has been developed to the level which the inventors had in mind.

9. It should be noted that the Plannungszellen used in Germany are different from Citizens Panels in that they rely more on attitudinal measures which are then summed up by the staff of the project to indicate the views of the participants. For example, the 1983 project on energy futures relied fairly heavily on the value tree analysis of von Winterfeld and his colleagues (Renn, cited in note §5 above, describes how this was done). Our view is that such measures usually are taken before the participants have been given sufficient information for them to make a solid decision about where they stand on an issue. Citizens Panels, like juries, emphasize the importance of deliberations as something which is very important to commit the participants to their choices, even if the results between Panels might not be as reliable as those based on some sort of attitudinal measure.

10. The New York Times, 7-15-83, p.1, quotes the University of Michigan Institute for Social Research on the level at which people believe the government in Washington can be trusted to do what is right almost always or most of the time. In 1964 this stood at 76%, but then the percent fell steadily until it reached 25% in 1980. By 1982 the percent had risen to 33%. It will be interesting to learn what effects the recent Iran-Contra will have on the public's views.