

# THE SUSQUEHANNA COMMUNICATION - PARTICIPATION STUDY



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THE SUSQUEHANNA COMMUNICATION-PARTICIPATION STUDY  
Selected Approaches to Public Involvement in  
Water Resources Planning

A Report Submitted to the  
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## FOREWORD

This report is a product of research conducted by the Environmental Simulation Laboratory and the Institute for Social Research of the University of Michigan. The research was accomplished under contract with the Corps of Engineers in connection with the Coordinating Committee's conduct of the Susquehanna River Basin Study. The New York State Division of Water Resources provided under a separate contract for expansion of the project within the New York State portions.

The Susquehanna Communication-Participation Study represents a ground-breaking effort to undertake broad public involvement in a water resources planning study. The public involvement activities centered upon establishing a program of linked contacts between agency planners and local residents. The first step was the identification of local opinion leaders who were then interviewed, supplied information about the study, and involved in community workshops to discuss the proposed plans. It was intended that these individuals should become the focal point for community participation. Following the workshops, a series of public forums were held for all interested citizens in several communities of the study area. Interviews and questionnaires were used throughout the study to evaluate changes in attitudes and the effectiveness of the techniques used. In general, the findings indicate that the workshops were successful in improving the understanding of attitudes and objectives between the agency planners and local representatives. Other means of disseminating information to the public were also identified and ranked as to their effectiveness. The study showed the need for developing a basis for communications and public participation which includes confidence and trust in the planning process, common perceptions of water problems, and involvement of participants in planning activities. The research evolved a public participation process model relating the public involvement methods which were or could be used in conjunction with the basic planning activities of (1) determining goals and objectives, (2) collecting and developing data, (3) discussing needs and systems for meeting them, (4) developing preliminary plan alternatives, and (5) presenting formal plans.

Many of the concepts and procedures used in this study represent new and different approaches, and while many of the findings and conclusions will be useful to the planner, they are the results of independent research and are not necessarily an official position of the Corps of Engineers. Any suggestion or comment you may have on this report or the research subject represented by the report will be most welcome.

The authors wish to acknowledge the helpful suggestions and comments on the Study provided by our University Technical Advisory Committee which met periodically throughout the research period. This Committee consisted of Professors Lyle Craine, Donald Michael, Floyd Mann, Stewart Marquis, Keith Arnold, and Jonathan Bulkley.

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## SECTION I

### AN OVERVIEW OF THE SUSQUEHANNA COMMUNICATION-PARTICIPATION STUDY

In July of 1968, the United States Army Corps of Engineers authorized an exploratory study by a research team from the University of Michigan which was designed to assist in the development and evaluation of an approach for improving communication between the public and the government agencies involved in water resources planning studies. The Susquehanna River Basin was designated as the target area for this research. The comprehensive water resources planning effort being conducted there under the direction of a Federal-State Interagency Coordinating Committee was reaching a phase where the study's scheduled program of public discussion of plan proposals was impending.

The Susquehanna is a large basin covering parts of the three states of New York, Pennsylvania, and Maryland. Since the resources available to the University of Michigan study team would not permit coverage of the entire basin for all aspects of the study, a five county sub-area was designated for the pilot program focus.<sup>1</sup> Subsequent to the completion of certain initial study phases, the State of New York, Division of Water Resources, funded an extension of the

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<sup>1</sup>This area included the counties of Steuben, Chemung, Tioga, and Broome in New York, and Tioga in Pennsylvania.

project in order to expand its coverage to all nine New York counties which have substantial area in the Susquehanna Basin.<sup>2</sup>

A series of basic propositions regarding the two-way communications process was the basis of the research strategy employed by the Michigan team. First, it was asserted that a series of linked contacts between members of the public and planning agency professionals was necessary to achieve useful interchanges of information. Second, it was felt that some common level of awareness about perceived problems, needs and possible solutions was essential for a productive dialogue process to evolve. And finally, it was asserted that opportunities for a mutual exchange of information should be structured so as to facilitate the active participation (in terms of opinion and preference expression) of those involved.

The Michigan Communications--Public Participation study was, of necessity, exploratory since the research was conducted during the concluding one and one-half years of the overall six year Susquehanna Basin Planning Study, and it was focused upon just the alternative plan evaluation component of the entire planning effort. The research team's goal was to evolve the types of framework hypotheses contained in the public involvement process model described in Section IV and the procedural guidelines elaborated

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<sup>2</sup>Additional New York State counties added to the study area included: Delaware, Otsego, Chenango, Cortland and Madison.

in Appendix A. It was intended that the study should remain flexible and open to innovations in the approaches tried. Therefore, the evaluative findings obtained should be viewed as indicative of future directions that might be taken rather than as conclusive proof of the specific approaches recommended.

Several significant questions raised by the research strategy could not be investigated. Such questions include the degree to which local water resource opinion leaders can serve as a means for securing adequate and representative overall public involvement in plan formulation. The research team's approach of using such opinion leaders as the primary means for local contact was considered to be reasonable from a research standpoint and appropriate, given certain social science findings,<sup>1</sup> to produce the desired results (i.e., broader dissemination of water resources information and more active participation in reviewing plan proposals by interested members of the local public).

The question of who should be included geographically and functionally in the category of the "affected local public" is also an important one. However, it was not possible to investigate this interesting definitional question. In this research study the

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<sup>1</sup>See the discussion of the "two-step flow of communication" in Elihu Katz and Paul F. Lazarsfeld's Personal Influence, The Free Press, 1955. See also Elihu Katz "The Diffusion of New Ideas and Practices" and Paul Lazarsfeld and Herbert Menzel "Mass Media and Personal Influence" in Wilbur Schramm's The Science of Human Communication, Basic Books, Inc., 1963.

definition of local affected publics was determined both by the frame of reference used by the local people contacted and by the jurisdictional boundaries employed by various governmental units such as the New York Regional Water Resource Planning Boards and the Susquehanna Coordinating Committee.

Evaluations of the effectiveness of the pilot methods included within the University of Michigan study and the Susquehanna Coordinating Committee's public information programs have been made.<sup>1</sup> As was indicated earlier, the research team based their study strategy on several key concepts about developing an effective two-way communications process. These framework ideas were later confirmed in the evaluational analysis.

First, it was hypothesized that a linked series of contacts between members of the public and agency planning personnel would be instrumental in establishing more nearly congruent perceptions regarding both water resource problems and the knowledgeability of major groups involved in the planning process. An increase in such shared perceptions was seen as essential for developing an improved communication process. Following completion of the public information program, the research team found a significant convergence in the public and agency participants' rankings of perceived water resources problems and in the perceived knowledgeability of state and regional leaders and of local community leaders about

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<sup>1</sup>These will be elaborated in more detail in Section III of this report.

area water problems.

Second, it was hypothesized that following their experience with more direct types of public information and involvement mechanisms, both agency staff and local opinion leaders would tend to evaluate these more highly as information dissemination mechanisms and sources for acquiring information. This expectancy was confirmed by the follow-up questionnaire results. This evaluational finding is considered quite important since it is essential for the successful implementation of such direct contact mechanisms (e.g., workshops and informal discussions), that they be accorded a high budgetary priority by planning study administrators and that they be viewed as appropriate and rewarding enough sources of information to warrant the attendance and participation of local opinion leaders.

Finally, it was felt that workshop-type meetings would be most effective in meeting the Coordinating Committee's objectives of information dissemination and local involvement in the plan review process. The pre and post-opinionnaire responses of those attending such meetings indicated that they did, to a significant degree, serve these functions for the participants. In addition, the Coordinating Committee members and staff regarded the workshops as the most effective component of the public information program, in terms of the extent to which their program objectives had been fulfilled.

Both local workshop attendees and agency staff members were

enthusiastic about the potential benefits that might be gained by using a workshop approach for public involvement. This endorsement, however, was generally qualified by the view that workshops like those held in the Susquehanna Basin should be linked together in a series format and should occur throughout the planning process, not just in the final plan review phases.

In this initial section we have attempted to provide a brief overview of the scope and objectives of the University of Michigan study and to summarize briefly certain key findings. Section II describes the particular types of techniques and procedures incorporated within the research effort and the reasons for their use. Section III presents in more detail the major evaluation results of the study, with an emphasis on the workshop approach utilized by the Susquehanna Coordinating Committee. Appendix B is intended to be an integral supplement to Section III since it contains a more detailed analysis of two of these workshops. Finally, Section IV presents a proposed framework model for structuring public involvement as a key element within the water resources planning process. Appendix A elaborates in more detail the particular procedures and emphases which the research team believes are needed to make the workshop public involvement mechanism most effective.

SECTION II  
SUSQUEHANNA STUDY PROCEDURES

As indicated in Section I, the research strategy utilized in the Susquehanna Communications-Participation Study centered upon establishing a program of linked contacts between the agency planners and local area residents. This approach stressed program elements which offered promise for improving rapport, trust, and common problem perceptions among the agency personnel and the local residents and through which a continuing involvement of local people could be sought.

The procedures used in the study can be broken down into two categories based upon the intended objectives. The two categories are: (1) procedures and techniques used to improve two-way communication and to provide opportunities for citizen involvement; and, (2) evaluation procedures used to gauge the impact of the communications-participation techniques. The techniques which were used, in both categories, are as follows:

### Communications-Participation Program Procedures

- (1) Initial contacts with Susquehanna Study staff members and with local opinion leaders in the study area.
- (2) Provision of mailed information to local opinion leaders, including a preliminary report of research findings.
- (3) Workshop meetings attended by a mixture of technical staff representatives and local opinion leaders and held in the various sub-areas of the basin.
- (4) Public Forum meetings held at locations throughout the basin to provide opportunities for all interested members of the public to receive information on the Plan proposals.

### Evaluation Procedures

- (1) Personal interview and questionnaire contacts with Susquehanna Study staff members and local opinion leaders both prior to and following completion of the public information program.
- (2) An experimental workshop to test the proposed procedures and to provide members of the Susquehanna Study staff with experience in using the workshop technique.
- (3) Pre and post-meeting opinionnaires issued to participants at the workshops held during the public information program to provide data on the effectiveness of the meetings.

Figure 1 contains a summary breakdown of the number of persons involved in each of the research study's interview and questionnaire contact phases. Throughout the study, the evaluation procedures were intertwined with the steps involved in implementing the communication-participation program and, wherever possible, these evaluation steps were used to compliment the communication efforts.

### Communications-Participation Program Procedures

- (1) Initial Contacts--At the beginning of the communications

FIGURE I

SUMMARY OF COMMUNICATIONS-PARTICIPATION STUDY CONTACTS

Program Phases	Questionnaires Distributed or Interviews Conducted	Questionnaires Completed	Response Rate
Initial Coordinating Committee Questionnaire	42	Members - 9 Staff - 33	100%
Initial Local Interview	254	Not Applicable	Not Applicable
Initial Local Questionnaire <sup>1</sup>	352	260	74%
Follow-up Coordinating Committee Questionnaire	44	Members - 15 Staff - 28 Observer - 1	100%
Follow-up Local Interview	75	Not Applicable	Not Applicable
Follow-up Local Questionnaire <sup>2</sup>	313	222	71%

<sup>1</sup> 247 direct contact; 206 returned; response rate of 83%  
105 mail-out contact only; 54 returned; response rate of 51%

<sup>2</sup> All by mail contact

study, the researchers initiated two types of contacts. The first was with the involved federal and state agency planners and the second, with a selected set of local area residents.

The agency staff contacts were directed toward explaining the communications techniques proposed for use and toward discussing various matters relating to the pilot area to be focused upon, data needs, etc. These contacts provided an invaluable opportunity to exchange views and to build the common perceptions necessary to develop effective communications-information efforts.

The contact sequence with certain local residents from the study area, however, was the major element of the initial study phase. Such individuals were identified in the study area counties by using a combination of three social research techniques.<sup>1</sup> These techniques were applied to indicate which residents were perceived to be "influential" or "opinion leaders" concerning water resources issues in their local areas.<sup>2</sup> The resulting group of identified local residents were then contacted by the research team.

The entire initial contact phase consisted of a sequence of linked interactions between the researchers and the individuals identified. The sequence included: (1) an introductory letter to the individual from the researchers explaining the study intent

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<sup>1</sup>See Appendix C for a discussion of the methods used in this identification process.

<sup>2</sup>In general the county was used as the basis of reference for the "local area."

and noting to them that they would be contacted by phone to arrange an appointment for an interview; (2) the phone contact to arrange the time and place of the interview; (3) the interview, and, wherever possible, the researchers waiting while the questionnaire was completed; (4) a follow-up letter thanking the respondent for his participation (or in cases where the questionnaire had not been returned, expressing the hope that this would be done); (5) mailing a summary report on the interview-questionnaire results to each respondent (this was done approximately two months following the completion of the interviews) with an attached printed sheet providing the respondents with the opportunity to return comments and identifying additional information that they might receive on request; and (6) a letter acknowledging comments returned and providing additional materials where requested.

A part of the interview-questionnaire contact time also was utilized to briefly discuss the Susquehanna planning efforts which were underway and to indicate the upcoming opportunities for receiving information and expressing individual or group ideas and opinions. In this sense the interview-questionnaire procedure served as a "process mechanism" to focus attention on the water problem spectrum and the planning and public involvement efforts underway.

The respondents were also promised a feedback report summarizing the resulting opinions, ideas, concerns, etc., obtained through the interview and questionnaire process.

The second purpose which the interview-questionnaire served was that of evaluation for the program efforts. Discussion of the evaluation aspect will be reserved until later in this section.

A final important task undertaken during the initial local contact stage involved the identification of area organizations which might provide local sponsorship for the anticipated community leader workshops.

(2) Mailed Information-Several segments of the communications program utilized some type of mailed information procedure. For example, during the initial local contact sequence, several mail contacts were made including the introductory letters and feedback reports.

The second major mailed information effort was centered upon the support of the "Prospectus discussion workshops" held in the various sub-areas of the basin. A local organization served as the sponsor for each of these workshops and some representative of that organization served as the chairman for these activities. Prior to the workshop, the local sponsor mailed a workshop invitation to an identified group of community leaders and organizational representatives. (In the research area counties this list was oriented toward those individuals who had been identified as opinion leaders by the research team.) This invitation included pertinent descriptive materials about the various project and program alternatives being considered by the planners for that vicinity of the basin. The intent was to provide some working information, in

advance of the meeting, which would establish a basis for the workshop discussions.

In some cases, the local sponsoring organization also provided a follow-up report on the workshops which summarized the ideas presented at these meetings. The research team encouraged this type of feedback process within the linked communications framework. Such feedback reporting also provided an additional means of recording, in a systematic way, the key ideas and concerns brought out at the workshops by local participants. Although everyone agreed this was a desirable procedure, time and resources did not permit it in all the areas.

Prior to the public forums, news packets were sent to newspapers throughout the basin by the Coordinating Committee. These packets included written materials and graphical representations of the proposals that the Coordinating Committee had under consideration.

All of the mailed information program elements were not entirely new lines of activity. In earlier phases of the Susquehanna Basin Study, the Coordinating Committee had published a newsletter to disseminate information to a broad public mailing list. During the public information program this newsletter was re-activated and several different issues, discussing various study activities, were published. One issue of the newsletter was designed with a special format which introduced the "Prospectus" (preliminary plan) and listed the schedule for the "Public Forums"

that were to be held throughout the basin. This issue served as the primary means for "inviting" people to the forums and provided a basic description of the plan elements being proposed at that point in the planning process.

(3) Workshop Meetings--The third type of technique used during the communications-participation program was the workshop meeting. This was intended to achieve face-to-face, small group interaction between the agency planners and the local opinion leaders. Such contacts were felt to be of key importance in developing the sense of mutual trust and understanding which are fundamental to an improved environment for communications. The agency planners sought a means to present plan ideas to the public in a manner which would elicit a useful feedback of local perspectives on those ideas. Local residents hoped for a process which would permit an exchange of ideas so that the ultimate plan proposals would reflect primary local concerns. The workshops were the most important mechanisms used to provide for these mutually desired interactions.

The workshops were designed with an informal format. A working framework was established with a local group which served as the sponsor of the workshop. This sponsoring group invited representatives from the local area and provided discussion leaders for the meeting itself. One of these served as the chairman of the meeting and introduced those agency and local people attending.

The agency participants made a brief initial presentation highlighting those planning proposals under consideration for the

local vicinity. Then the attendees were broken down into smaller sub-groups (usually 10 to 15 people) to pursue discussion on topical aspects of the plan. The agendas typically included discussion sessions on water supply, waste disposal or pollution, flood control, and recreation as well as sessions on more specialized local topics of concern like upland watershed development, industrial water use, and acid mine drainage problems.

The emphasis on an informal exchange of ideas was of greatest importance for these sub-group sessions. The local participants were able to have direct personal discussions with the agency representative(s) in their group and to begin to explore the nature of the proposals being made and the types of criteria being used to define and evaluate these proposals. The agency participant could tailor his explanation for a smaller number of individuals thus encouraging a more direct and pertinent set of responses to the ideas expressed.

Following the smaller group discussions, the general meeting was reconvened and summaries of the small group discussions were made to the entire group. This was normally done by one of the local sponsoring group representatives who had served as the moderator of the small group discussion. To close the meeting there were usually some concluding remarks by the meeting host and some announcements about future scheduled activities related to the Susquehanna Plan's development such as the upcoming public forums.

In general, the workshop design was intended to enhance the

opportunities for a personal exchange of ideas with the expectation that this would produce mutually improved understanding of attitudes and objectives on the part of both the agency planners and the local representatives. Also, by using the concept of local group sponsorship, a framework of improved continuity and cooperation was fostered.

(4) Public Forums--The public forums were the fourth type of technique used in the communications-participation program. These forums focused contact efforts toward a broader segment of the public than did the workshops. A format somewhat like the traditional public hearing was followed. The primary differences from the hearing type of procedure were: (a) a more informal style of presenting the materials on the plan proposals being considered; (b) a more informal question and answer procedure emphasizing audience expression of preferences and ideas; (c) a stress on the tentative nature of the proposals at the time of the forums with the focus being on obtaining feedback from the public to further refine these proposals.

In general, the meetings were designed with the anticipation of larger attendances than the workshops and with less in-depth discussions of most of the proposals. The meetings also served as a point of focus for publishing information about the proposals in the newspapers and, in some cases, coverage on television and radio. As indicated in the discussion of mailed material, information packets were provided to the news media in each of the areas

of the basin just prior to the scheduled public forums. In some areas, a representative of the agency planning staff met with local news reporters and described the nature of the upcoming forum and highlighted key aspects of the proposals to be presented for that area. In almost every case, this brought about far more effective news coverage of the plan elements than was achieved in cases where the media were contacted only by mailing the packets.

#### Evaluation Procedures

(1) Personal Interviews and Questionnaires - The primary techniques used in gathering information to assist in evaluating the communications-participation program elements were preliminary and follow-up interviews and questionnaires. Agency staff personnel and identified local opinion leaders were included in this interview-questionnaire process. The information gathered, was designed to gauge changes in attitudes toward the planning process and toward the people and institutions involved in it. The interviews and questionnaires also sought to identify differences and similarities in respondents' perceptions about problems to be faced in planning for water resources in the basin. In addition to its usefulness in the evaluation procedure, this information provided the basis for feedback reports which were distributed to the study respondents.

(2) Experimental Workshop - A pilot workshop was held in Tioga

County, Pennsylvania, in January 1969, prior to the beginning of the Susquehanna Basin Study public information program. The objective was to stage the workshop using the proposed procedures and the staff people who would participate in later "Prospectus" discussion sessions throughout the basin. The Tioga experience could then be used to review and supplement the workshop concept for application to the entire basin.

The results of the pilot workshop served as the basis for some alteration in the initially defined procedures and proved a beneficial working experience for the inter-agency staff team that participated. Pre and post-meeting critique sessions were held to discuss the workshop objectives and procedures. The research team utilized pre and post-meeting opinionnaires to obtain information on workshop effectiveness and attendee satisfaction levels. The opinionnaire results were compiled and used to evaluate and recommend changes in the workshop procedures.

A description and discussion of the Tioga pilot workshop is contained in Appendix B of this report.

(3) Pre and Post-Opinionnaires - Before and after each workshop in the basin, opinionnaires were distributed to the local participants. Agency staff representatives were asked to fill out only a post-opinionnaire. The paired (pre-post) opinionnaires for each workshop provided a systematic set of data regarding the meeting's effectiveness as viewed by the attendees.

The pre-meeting opinionnaires were brief and used primarily a short answer response format. They consisted mainly of a series of attitude questions designed to indicate what level of expectations about the workshop those attending brought with them. Three aspects of the workshop process were focused upon: new information expected, anticipated opportunities to express opinions and likely influence on the planning process.

Just prior to the workshop's adjournment, a similar post-meeting opinionnaire was administered to determine to what degree these initial expectations had been fulfilled. The participants were also asked to indicate whether agency resource persons had been helpful in responding to their questions and what, if any, further types of information they would have liked to receive at the session.

The research team felt an additional important function of the pre-meeting opinionnaires was to focus attendees' thinking upon what they hoped to obtain from attending the workshop, i.e., information and expression of opinions. It was hoped that, through the process of answering the initial opinionnaire questions, a basic orientation framework would be set up which would enable the participants to more effectively take part in and evaluate the discussions that followed.

SECTION III  
PROGRAM ANALYSIS AND EVALUATION

Introduction

One of the primary objectives of the study procedures described in the previous chapter was to gather evaluative information regarding the impact of the Susquehanna Coordinating Committee's public information program. In this Section, the evaluation procedures are presented. The Section is divided into several areas of focal concern for program analysis. These include: bases for communication-public involvement efforts; characteristics of the workshops and public forums, including local respondent attendance patterns; and evaluation of the workshops as reflected in the follow-up interview comments and the pre/post opinionnaire results.

The Bases for Communications-Public Participation Efforts

The research team identified four bases which were considered fundamental to the development of communications-public participation efforts. These were used as a focus for the analysis. The first basic ingredient was considered to be the development of confidence and trust in the planning process and the planning personnel involved. Second, the establishment of common perceptions, among agency and local representatives, on key factors, such as water problems, was considered vital to the development of a productive dialogue. Third, involvement activity

on the part of the public participants (e.g., attending meetings, reading articles, etc.) was felt to be necessary if effective information dissemination and feedback procedures were to be achieved. Finally, the use of information sources that involve more direct contacts between members of the public and planning agency representatives was regarded as important to the development of a more involved and knowledgeable public constituency for water resources planning efforts.

**Trust in the Planning Process** - In order to obtain information about the factor of trust in the planning process and in those doing the planning, the research team asked local opinion leaders a series of questions dealing with how knowledgeable they believed certain types of people to be about area water resources problems. It was felt that the respondents, in order to trust and have confidence in an ongoing planning process, must perceive those involved in this process as relatively well-informed about and competent to deal with the problems of the area. The three types asked about in the questionnaire included: federal officials and agencies; state and regional leaders; and local community leaders. The same basic questions were asked both before and following completion of the public information program. In addition, the Coordinating Committee and its staff were also questioned about the knowledgeability of state and regional leaders and local community leaders before and after the information program.

It was hypothesized by the research team that local peoples'

perceptions of the knowledgeable ability of both federal officials and state and regional leaders would improve if the public information program elements had been effective in increasing people's awareness of and trust in the plan formulation work of the Coordinating Committee. Some increases in the perceived knowledgeable ability of these two groups did, in fact, occur from the pre to post-information program questionnaires, as portrayed in Figure II. The major portion of this movement was between the somewhat neutral category of "fairly knowledgeable" to the more strongly positive "extremely or very knowledgeable" opinion position.

FIGURE II PERCEIVED KNOWLEDGEABILITY OF  
FEDERAL OFFICIALS AND STATE-REGIONAL  
LEADERS

[Percentage distribution of questionnaire responses by local community opinion leaders before and after information program]

Level of Leadership Evaluated and Type of Questionnaire	Extremely or Very Knowledgeable	Fairly Knowledgeable	Slightly or Not Knowledgeable	Total
<u>Federal Officials</u>				
Pre-Questionnaire	43%	48%	9%	100%
Post-Questionnaire	50%	39%	11%	100%
Percentage Change	+7%	-9%	+2%	
<u>State-Regional Leaders</u>				
Pre-Questionnaire	30%	55%	15%	100%
Post Questionnaire	36%	49%	15%	100%
Percentage Change	+6%	-6%	0%	

It was also hypothesized that the direct experience gained through attendance at workshops and forums would to some extent modify people's attitudes. This was based upon the belief that opportunities

provided by the meetings for federal official, state-regional leader, and local community leader interactions would furnish those attending with a more concrete frame of reference for their later post-questionnaire knowledgeability responses.

Figures III and IV provide an indication of the degree to which this adjustment took place. By comparing the initial knowledgeability perceptions of local respondents and Coordinating Committee members and staff, who later attended one or more of the workshops and/or public forums, with their responses to these same questions following the meeting sequence, a rather marked tendency toward convergence between the perceptions of the two groups is evident. This demonstrates the potential importance of the meeting approach as a process mechanism for developing attitudes more supportive of productive public involvement efforts.

FIGURE III PERCEIVED KNOWLEDGEABILITY OF LOCAL COMMUNITY LEADERS--PRE TO POST-INFORMATION PROGRAM CONVERGENCE BETWEEN PERCEPTIONS OF LOCAL ATTENDEES AND COORDINATING COMMITTEE

[Local Attendees include all study respondents who attended one or more workshops and/or public forums.]

Type of Questionnaire and Type of Respondent	Extremely or Very Knowledgeable	Fairly Knowledgeable	Slightly or Not Knowledgeable	Total
<u>Pre-Questionnaire</u>				
Local Attendees	27%	41%	32%	100%
Coordinating Committee	10%	40%	50%	100%
Percentage Difference	17%	1%	18%	
<u>Post-Questionnaire</u>				
Local Attendees	16%	48%	36%	100%
Coordinating Committee	14%	52%	34%	100%
Percentage Difference	2%	4%	2%	

FIGURE IV PERCEIVED KNOWLEDGEABILITY OF STATE AND REGIONAL  
LEADERS--PRE TO POST-INFORMATION PROGRAM CONVERGENCE  
BETWEEN PERCEPTIONS OF LOCAL ATTENDEES AND  
COORDINATING COMMITTEE

[Local Attendees include all study respondents who attended one or more workshops and/or public forums.]

Type of Questionnaire and Type of Respondent	Extremely or Very Knowledgeable	Fairly Knowledgeable	Slightly or Not Knowledgeable	Total
<u>Pre-Questionnaire</u>				
Local Attendees	34%	49%	17%	100%
Coordinating Committee	57%	40%	3%	100%
Percentage Difference	23%	9%	14%	
<u>Post-Questionnaire</u>				
Local Attendees	40%	41%	19%	100%
Coordinating Committee	39%	59%	2%	100%
Percentage Difference	1%	18%	17%	

Common Perceptions of Water Resource Problems - The second basis for communications-public involvement programs examined during the analysis was the degree to which perceptions of important water resource problems were shared by those involved in the planning process. The research team hypothesized that if the public information program had been effective, the perceptions of planning agency personnel and those of local opinion leaders should show greater agreement following the program's completion. Such agreement is important since agency participants in a planning process must understand what factors are perceived as area water problems by the public before they can effectively discuss planning objectives and possible alternative solutions with members of that public.

The Coordinating Committee respondents were asked on the initial questionnaire to rank the major water resource problems they felt existed in New York State Sub-basin I of the Susquehanna. They were also asked to rank what they thought local community leaders in the area perceived as the major water problems. Their evaluations were then compared with those made by local study respondents in Broome and Tioga Counties, New York. The three sets of rankings differed markedly as is indicated in Figure V.

FIGURE V DIFFERENCES IN PERCEPTIONS OF PRIORITY WATER PROBLEMS ON INITIAL QUESTIONNAIRES

Source and Basis of Rankings	First Priority	Second Priority	Third Priority
Coordinating Committee (Own Evaluation)	Flood Control	Water Supply	Pollution
Coordinating Committee (What Local Leaders Would Think)	Water Supply	Flood Control	Pollution
Local Respondents (Broome and Tioga Counties)	Pollution	Recreation	Water Supply

After completion of the public information program, a similar set of questions was asked on the follow-up questionnaires administered to both local and Coordinating Committee respondents. A comparison of the three sets of rankings reveals much closer agreement, particularly between the actual rankings of local respondents and what the Coordinating Committee members and staff believed local leaders would think (see Figure VI).

FIGURE VI DIFFERENCES IN PERCEPTIONS OF PRIORITY  
WATER PROBLEMS ON FOLLOW-UP QUESTIONNAIRES

Source and Basis of Rankings	First Priority	Second Priority	Third Priority
Coordinating Committee (Own Evaluation)	Flood Control	Pollution	Water Supply
Coordinating Committee (What Local Leaders Would Think)	Pollution	Water Supply	Recreation
Local Respondents in Sub-basin I	Pollution	Water Supply	Low Flow Augmentation

The follow-up problem listings demonstrate a heightened awareness of local opinions and attitudes on the part of the agency planning group. The research team judges that this added sensitivity to local problem perceptions was due, to a significant degree, to the opportunities for more extensive local public contact provided through the various public information program mechanisms (e.g., workshops and forums).

Involvement in Activities Related to Water Resources Planning -  
Local opinion leaders were also asked on the post-information program questionnaire about the types of activities related to water resources planning and programs they had engaged in over the previous year. Participation in such involvement activities is seen as important for two reasons. First, it demonstrates a level of interest great enough to warrant some active commitment of time and energy on the respondent's part. Second, such active involvement enhances considerably the opportunities for information exchange within the planning process.

Of the 215 persons answering the questionnaire, only 7% indicated that they had made no special efforts to express their opinions or preferences regarding water resources development. The most often cited activity was attending a local meeting to discuss water-related problems; 67% indicated that they had attended such a meeting. The second most often cited effort was calling or visiting any of the agencies involved in water resources development. This was specified by 33% of the respondents.

Local opinion leaders were also asked whether they had read any materials about the Susquehanna Basin Study and its preliminary prospectus during the period of the public information program. Of the 215 respondents, 93% indicated that they had read at least one type of material concerning the Study. For a breakdown of the activity and readership categories included in the questionnaire, see Figures VII and VIII.

Sources of Information on Water Resource Issues - The research team was also interested in the types of information sources relied upon by the study respondents. The analysis was directed toward discovering whether a noticeable shift had occurred in the sources and information dissemination mechanisms favored following the completion of the public information program. This was investigated in both the case of local opinion leaders and Coordinating Committee members and staff.

Prior to the public information program, local opinion leaders ranked "personal experience" as clearly their primary source of information on water resources issues. Following the

FIGURE VII SPECIAL EFFORTS MADE BY LOCAL RESPONDENTS  
(Percentages do not add to 100% due to no response occurrence)

Type of Activity	Yes		No	
	Number	Percent	Number	Percent
Written letters to a federal or state agency regarding some aspect of water resources development	45	21%	156	72%
Organized local meetings to discuss water-related problems	45	21%	156	72%
Written to your Congressman about water problems	35	16%	166	77%
Attended local meetings to discuss water-related problems	144	67%	57	26%
Called or visited any of the agencies involved in water resources development	70	33%	131	60%
Joined or given money to support a group interested in some aspect of water resources development	39	18%	162	75%
Written letters to newspaper editors about water-related problems	17	8%	184	85%
Other	42	19%	159	74%

FIGURE VIII TYPES OF MATERIAL READ BY LOCAL RESPONDENTS  
(Percentages do not add to 100% due to no response occurrence)

Types of Material Read	Yes		No	
	Number	Percent	Number	Percent
Newspaper articles or editorials	155	72%	58	27%
Newsletters from the Susquehanna Coordinating Committee	150	70%	63	29%
Materials distributed prior to or at the water resource planning WORKSHOPS	122	57%	91	42%
Materials distributed at the PUBLIC FORUMS	76	35%	137	64%
Preliminary reports from the University of Michigan research study on "Communication in Water Resource Planning"	117	54%	96	45%
Others	23	11%	190	88%

program's completion, "discussions with water resource professionals" and "newspapers" emerged as the predominant sources of information. Since a major portion of the public information program design focused upon expanding the role of professional-local person interaction processes, as well as on stimulating newspaper coverage of Study activities, this shift was considered important. (See Figure IX.)

FIGURE IX LOCAL RESPONDENTS' PRE AND POST-QUESTIONNAIRE RANKINGS OF MAJOR SOURCES OF INFORMATION

Pre-questionnaire	Rank	Post-questionnaire
Personal experience	1	*Discussions with water professionals
Discussions with water professionals	2	*Newspapers and magazines
Newspapers and magazines	3	Personal experience
Statements of public officials	4	Statements of public officials
Discussions with friends	5	Position statements of organizations
Technical publications	6	Technical publications
Position statements of organizations	7	Discussions with friends
Television	8	Television
Radio	9	Radio

\*Tied for first rank.

On a similar set of questions regarding the most effective means for disseminating water resources information, the Coordinating Committee and staff respondents showed an improvement between the pre and post-information program rankings of more direct contact approaches, such as talks by study personnel and special workshops. More traditional, formal mechanisms, such as brochures and public hearings, declined in perceived value. Newspapers were ranked first on both the pre and post-questionnaires by the Coordinating Committee members and staff. (See Figure X.)

FIGURE X COORDINATING COMMITTEE PRE AND POST-QUESTIONNAIRE  
RANKINGS OF MOST EFFECTIVE MEANS FOR  
DISSEMINATION OF INFORMATION

Pre-questionnaire	Rank	Post-questionnaire
Newspapers	1	Newspapers
Formal programs for groups	2	Talks by study personnel
Talks by study personnel	3	Formal programs for groups
Informal meetings	4	Special workshops
Brochures and pamphlets	5	Informal meetings
Public hearings	6	Radio and television
Special workshops	7	Brochures and pamphlets
Special television	8	Public forums
Special radio	9	Public hearings

Characteristics of the Susquehanna  
Workshops and Public Forums

Between January and June of 1969 the Susquehanna River Basin Coordinating Committee carried out their intensive public information program to acquaint residents of the basin with the work of the Committee and to obtain public response to the preliminary proposals and recommendations of the Study. Over this period of time, fourteen community leader-planner workshops and nine public forum meetings were held at locations throughout the basin. See Figures E-1 and E-2 in Appendix E for the locations, dates, and attendance size of the various workshops and forums.

Among the local opinion leaders who were respondents in the communications research study, a total of 123 attendances were registered at the workshops held in the areas surveyed by the research team. These respondents constituted about 40% of the total attendees (301) at these meetings. At the public forums in these same areas, respondents accounted for 9% (78) of the total attendance figure of 907. For a more detailed breakdown of attendance patterns, see Appendix E, Figures E-3, E-4 and E-5.

The workshops and forums were conceived as linked components in a two-step communications process. As mechanisms for public involvement, they differed to some extent in their objectives and to a considerable extent in their structure and format. These differences included the following:

- a. the size of attendance<sup>1</sup>--the forums averaged about twice that of the workshops;
- b. the type of attendees focused on--the workshops concentrated on direct invitations to opinion leaders and planners, while the forums attempted, through mass mailings and media publicity, to encourage broad public attendance;
- c. the type of agency participants--the workshops directly involved only the plan formulation workgroup staff while, at the forums, actual Coordinating Committee members assumed the major role;
- d. the style of interaction--the workshops emphasized focused, small group discussions while the forums included formal presentations followed by an opportunity for individuals in the group to voice comments and questions;
- e. the organizational responsibilities--the arrangements for the workshops were made by a local sponsoring organization or committee and local people assumed the roles of meeting chairman and sub-group discussion leaders, while the forums were arranged by Coordinating Committee personnel who then assumed the major directive roles in them;
- f. the follow-up activity--workshop follow-up activity was in some cases undertaken by local sponsoring organizations, while whatever continuing activity the forums stimulated was confined largely to internal agency prospectus re-evaluation and modification.

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<sup>1</sup>The fourteen workshops ranged in size of local attendance from 18 to 71 with the average being about 40 attendees. The nine forums, on the other hand, ranged from 69 to 631 local attendees, with the average number of people attending being about 100.

## Workshop Program Evaluation

The local community leader information workshops played a major role in the Susquehanna Coordinating Committee's public information program. A large portion of the research team's effort was directed toward the development and evaluation of these meetings through both the contact work done with local opinion leaders and the program design and planning work done with agency personnel. A detailed description of two of these workshop meetings, along with a set of workshop procedural guidelines, can be found in Appendices A and B.

Follow-up Interview Evaluation Comments - Both the agency representatives and the local respondents interviewed saw the workshop programs as a positive mechanism for improving communication in the planning process. A number of different areas of workshop evaluation were covered in their comments. Among these were the perceived results or benefits of the process, and suggested modifications or changes in workshop procedures and format.

The Coordinating Committee staff members with whom the research team worked in designing and monitoring the workshops, felt such meetings had been helpful both in establishing local-agency communication channels and in developing a greater local awareness of and trust in the Coordinating Committee's planning process. Among the other major benefits of the workshop program cited by agency representatives was the fact that the workshops provided an opportunity to develop a cohesive inter-agency staff

group or "team" which gained practical experience in presenting information and discussing recommended alternatives with the local people for whom the plans were being developed.

In addition, the workshops also pinpointed subject areas for the agency representatives where more detailed information was needed to answer the questions and discuss the concerns raised by local participants. For example, one person noted, "we need more economic data on the effects of big dams; we just did not have enough."

Information dissemination and eliciting local people's opinions and preferences were the two major objectives for the workshop expressed by the Coordinating Committee members and staff. These two goals are difficult to achieve simultaneously within a single meeting context. This is especially true since a water resources workshop approach was somewhat new and unfamiliar to local participants, most of whom described their primary reason for attending the meetings as being to listen to what the planners had found out.

A number of local attendees, who were later interviewed, perceived this discrepancy in objectives and suggested certain variations in the meeting sequence and procedures to alleviate it. Their most frequent suggestion was that there should be a series of two or more workshops. The first one should concentrate on introducing and describing the proposals and responding to informational questions by the attendees, while the succeeding ones should emphasize more active local opinion-centered discussions of

perceived project merits, costs, and long-range consequences. It was also frequently mentioned that a series of workshops would provide more time for attendees to get oriented and effectively inter-act with agency technical representatives. The several cases during the study in which a more linked, series-type workshop process was used (Corning-Bath, New York; Tioga-Wysox, Pennsylvania) produced some marked supporting evidence for this approach.

In the final questionnaire evaluation of the program, the members and staff of the Coordinating Committee were questioned about their objectives for the public information program and the degree to which these had been fulfilled by each of the various program components. In order of importance, the Coordinating Committee viewed the public information program as a means first, to generate response from the public (to be used in plan formulation and the evaluation of proposals); second, to provide information to the public; and third, to begin to generate over-all support for the eventual plan proposals. Of the public information program components listed (community leader workshops, public forums, printed handouts, and news media coverage), the Coordinating Committee members and staff expressed greatest satisfaction with the workshops as a means by which their objectives had been fulfilled.

Based on their experience with the Susquehanna workshops, the agency "team" representatives pointed out that it would have been valuable to have held such meetings earlier in the planning process. They saw such earlier local meetings as potentially valuable opportunities to exchange information on local water resource needs and

to establish a better understanding among local residents of the criteria and procedures being used to identify and investigate potential projects. Agency representatives noted that holding multiple meetings within an area would provide a greater amount of time in which to exchange information and to frame questions. "We can't expect a major plan input on the basis of one or two meetings," was a typical observation.

The research team supports the contention that holding multiple workshops throughout the plan formulation process would alleviate some of the problems and constraints mentioned by agency and local respondents in evaluating the Susquehanna experience. For example, one agency representative who participated in the workshops observed, "The format changed (over time) from a 'data gathering and information exchange' session to a meeting for the 'presentation and discussion of the Prospectus.'" It has been the research team's contention that these are really two distinct requirements of the planning process. A sequence of workshops should be instituted in order to accomplish both of these essential functions. The Susquehanna workshops had both of these as program objectives. However, due to the late stage in the planning process at which the workshops took place and the limited time available in which to accomplish both aims, the shift in emphasis toward the more immediate need of getting direct feedback on specific proposals for final plan inclusion was understandable.

Another consequence of the lateness in the planning process at which the workshops occurred and of their single-event character was the prevalent feeling among some local respondents that the meetings were more in the nature of review sessions than opportunities for active

participation in the plan's formulation.

Holding a multiple series of workshops earlier in the planning process, however, increases the magnitude of one essential program requirement. This was summed up by one agency participant: "More budget and staff time are needed." The Susquehanna Coordinating Committee's commitment of staff time and resources to the workshop programs was substantial. The people assigned by the agencies to participate were also ones having direct technical responsibility for compiling and writing up the final Basin water resources plan on which deadlines were approaching. If a more extensive workshop program series were to be undertaken, this type of agency commitment would have to be carefully considered, not only in terms of total time allocated, but also in terms of the time periods during the planning process when such meetings should take place. The research team believes, based on our evaluation of the Susquehanna experience, that such an investment is warranted.

Workshop Opinionnaire Evaluation Results - The responses of local attendees to the research team's pre and post-workshop opinionnaires also provide some significant indications of the effectiveness of the workshop program. The pre-meeting questions asked about the attendees' expectations for the meeting; the post-meeting questions focused on the degree to which these expectations had been satisfied.

One set of opinionnaire questions dealt with the amount of new information on water problems and solutions which the attendees expected and received at the workshop. A second set inquired about the respondents' expectations and resulting satisfaction with opportunities during the

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workshop to express opinions about water problems and solutions. A final question dealt with the extent to which the respondents believed the federal and state planning agencies would take into account the opinions and preferences expressed at the workshops by local people.

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On the first set of questions concerning the amount of new information on problems received by attendees at the workshop meetings, initial average expectations were exceeded by post meeting responses at five of the twelve meetings. Another five of the workshops had no substantial decline or improvement between pre and post-meeting responses. The remaining two workshops showed some dissatisfaction on the average response.<sup>1</sup> Thus the workshops appear to have met or exceeded expectations regarding receipt of problem information in ten of the twelve meetings where opinionnaires were used.

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The attendees tended to evaluate the workshops as somewhat less effective in conveying new information on problem solutions. In the case of only two of the workshops were the initial average attendee expectations exceeded; at six, expectations were essentially met, and at four workshops expectations were not met. In light of this finding, agency participants might devote more attention in future workshops to ways of discussing the information related to various types of solutions. For a breakdown of individual workshop average responses on the new information received questions see Figure E-6, Appendix E.

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<sup>1</sup>These two workshops included the first in the program which served as a pilot effort for the agency participants and a workshop held in an area where substantial opposition to the types of proposals made by the Coordinating Committee had existed for some time.

The two sets of opinionnaire questions dealing with the extent to which attendees were able to express opinions on problems and solutions showed very positive results. At all twelve of the workshops, initial mean attendee expectations were exceeded by post-meeting responses for the question on expression of opinions about problems. On the matching question regarding the opportunity to express opinions on problem solutions, initial mean attendee expectations were exceeded at ten of the workshops.

These results indicate that workshops can function especially well as a mechanism which facilitates opinion expression by the public. The Coordinating Committee members and staff identified public feedback as a primary information program objective. On the follow-up questionnaire, they also indicated that the workshops had been the most effective program component in terms of fulfilling their objectives. The local attendees' notably positive opinionnaire responses to the opinion expression questions also support this conclusion. For a breakdown of individual workshop means on the opinion expression questions, see Figure E-7, Appendix E.

The final question (dealing with the extent to which local respondents felt their opinions would be taken into account by the planning agencies) provided an indication of the trust which the attendees felt in the planning process and in the agency planners following the workshops. At five of the ten meetings where this question was asked, attendees showed movement toward a stronger belief that their opinions would be taken into account than they had initially specified. At only one of the workshops did the average post-meeting

response levels not approximate or exceed initial expectations. For a breakdown of individual workshop means on the "opinions will be considered" question, see Figure E-8, Appendix E.

In summary, the results of these opinionnaire questions indicate several things. First, the workshops were successful in providing the public participants with an opportunity to express their opinions to a degree that many of the attendees had not initially anticipated. Second, the workshops in most cases strengthened or reinforced the public participants' belief that the comments and opinions expressed by local attendees would be considered by the planning agencies. And finally, the attendees felt that some new information had been acquired at the workshops--relatively more on water resource problems than on solutions to these problems.

From a future programming standpoint, these opinionnaire results can be linked with the numerous assertions by local opinion leaders and agency representatives that a series of workshops, initiated earlier in the planning process, are needed. As the opinionnaire findings showed, a single workshop can result in some expression of participant opinions, heightened trust in the planning process, and the transfer of a certain amount of new information. However, the authors believe, based on the Susquehanna experience and subsequent local and agency evaluation comments, that a linked series of such workshop meetings is necessary in order to yield public input that can be operationally useful in plan formulation at a time when the preliminary plan is still flexible enough to accommodate shifts in emphasis and proposed new inclusions or areas for investigation.

SECTION IV  
PUBLIC INVOLVEMENT PROCESS MODEL

Introduction

As a consequence of the efforts in the Susquehanna Basin Communication-Participation Study the University of Michigan research team has formulated a public involvement process model which is suggested as the framework for additional programs of public involvement. Some of the elements of the model represent procedures which were tested during the Susquehanna experience. At this point, others remain untested as actual program components, although they would appear to be reasonable and useful. They should be regarded as hypotheses to be tested in a systematic manner through additional research and plan preparation efforts.

The public involvement **model** was formulated to achieve the following objectives. First, the suggested procedures should increase the interest, confidence and trust in the planning process of the involved members of the public. Second, implementation of the suggested procedures should result in meaningful involvement activities for the public participants (e.g., attending workshop meetings, reading pertinent articles, etc.). If the procedures can accomplish these objectives, the benefits should include an increased level of knowledge and concern about water problems and needs on the part of the affected public and a more useful and informed public

input to the planning process. Figure XI provides a general indication of the model phases and includes some example elements suggested by the research team to satisfy the communication-participation requirements of each phase. Also reflected against the proposed model are the actual measures used during the Susquehanna Plan formulation process to implement this Study's communication program. The timing of some of these procedures differed from that envisioned in the research team's model. Those elements enclosed in the dashed boxes indicate the activity phases in which the University of Michigan research team had an advisory role. These have served as a primary focus for the evaluation contained in this report.

The model presented in this Section is based upon certain broad premises. The authors are aware that these premises are by no means universally accepted, nor has it been conclusively proved at this point that they can be effective guidelines in formulating a public involvement program. The attempt here is to lay out an appropriate model for further discussion and testing in a future planning effort.

The first premise is the democratic principle that "those affected by public decisions should have the opportunity to affect these decisions." This is a fundamental precept underlying efforts to achieve effective public communication and involvement. An important and pragmatic correlate of this principle is the point that if a plan is not viewed as relevant or desired by a significant portion of those who will be affected by it, the likelihood of its being implemented is correspondingly reduced. There are many recent

FIGURE XI  
IMPLEMENTATION OF THE PUBLIC INVOLVEMENT MODEL  
RECOMMENDED FUTURE PROCEDURES COMPARED WITH PROCEDURES USED IN THE SUSQUEHANNA BASIN STUDY

		MODEL PHASE			
		Data Collection & Development	Interim Discussion of Needs & Systems for Meeting Them	Preliminary Plan Alternatives Presentation	Formal Plan Presentation
Suggested Mechanisms & Program Emphases for Model Implementation	Determination of Goals & Objectives	Meetings with local technical agency people. Meetings with key local persons and groups to go over local area data, maps, etc	Community leader- planner Workshops.	Media exposure. Open forum meetings to obtain public reactions and feedback.	Elected political officials, review. Adoption of plan. Implementation through authorization and appropriation.
Program Elements of the Susquehanna Basin Study	Public hearings.	Periodic personal contacts. "Regional development" discussion conferen- ces with selected local officials.	Pilot research area community opinion leader identification process. Community leader- planner Workshops.	Media exposure. Public forums.	(In process)

examples of this in water resources planning.

The second major premise of the model is that there are important points throughout the planning process where public values and preferences can be expressed in a manner which is productive to the planning effort and these must be more carefully designed into the plan development program. For example, values and preferences should be as much a part of the criteria for plan alternative formulation as they are a means for evaluating the alternatives once they are formulated.

The need to provide for this expression of public values and preferences is particularly important in view of what we know about the operating style of technical planners. Understandably planners tend to select and evaluate plan alternatives and strategies that are specifically authorized as "mission" responsibilities of their parent agency or that are currently "in vogue" with their peer group in the planning profession. Frequently these are not in agreement with the ideas, values and preferences of those who are to be directly affected by the plans.

A third area of concern which generated premises for the public involvement model is the multi-agency organizational arrangement under which regional water resources plans are typically developed. This multi-agency process makes it very difficult to evaluate the different program possibilities brought to the planning process by various mission-oriented agencies. It is felt that expression of preferences and values through more explicitly designed public

involvement programs should provide an improved basis for judging such proposed plan inclusions.

The final premise underlying the model is that local ideas and preferences should be considered input data in the same sense as the various types of hydrologic, economic and demographic information collected during the plan formulation. Since people normally act in accordance with what they believe to be "real world conditions," their perceptions and feelings can have a vital bearing on the degree to which a plan's recommendations will be accepted and implemented.

#### Public Involvement Model Phases

The proposed model is based upon the idea that public involvement should be a continuous process with linkages to and continuities between all phases of the planning program, from the initial problem definition studies down to the final plan discussion and decision stages. The focal concerns of the model will be discussed under the following five headings:

- A. Determination of Goals and Objectives
- B. Data Collection and Development
- C. Interim Discussion of Needs and Evaluation of Alternative Systems for Meeting Them
- D. Presentation and Discussion of Preliminary Plan Alternatives
- E. Formal Plan Presentation

A. Determination of Goals and Objectives-- Planning has frequently been defined as the formulation of strategic programs and recommendations for achieving public goals and objectives. Major problems in carrying out this idealized prescription, however, include (1) determining what public goals and objectives are and (2) where these can be identified, deciding how they can be transformed into operational criteria for selecting and evaluating various plan proposals. Another aspect of the problem is (3) choosing between or integrating those goals and objectives which appear to conflict or have no direct relationships to one another.

The values of people underlie their formulation and expression of goals and objectives. Value concerns deal basically with people's feelings about what ought to be done and about what would be desirable. Although goals and objectives for water development are derived from value judgements, they are also tempered with information about environmental problems and possibilities. In addition, they are shaped by ideas about what benefits and costs could result from various planned actions, and whose benefits and whose costs these will be.

It is important that the first step in the public contact process be focused upon the subject of goals and objectives and that it be undertaken quite early in the planning process. There are several reasons for this. First, it establishes the agency planning staff-local public relationship at a time when discussions of

issues, problems and potential solution systems can be phrased in broader terms, giving the planner an opportunity to test framework ideas. Second, this early contact provides the planner with a chance to derive a first hand sense of not only the types of goals and objectives expressed at the local level, but also of the affective feelings which are attached to these ideas.

Since long range planning does not tend to lend itself to the styles of thinking which are comfortable to the typical non-planner, these early contacts should begin to explore futuristic implications which eventually will serve as important elements in the public's expression of objectives and their evaluation of proposed plans. For example, one point to be investigated is the relationship between the types of future development perceived as locally desirable (e.g., population growth and economic expansion) and various potential water development strategies.

Planners who have identified various local goals and objectives have the opportunity to orient their plan formulation efforts along two dimensions:

- (1) They can use such goals and objectives as major inputs in formulating the criteria used to identify and evaluate potential management programs and projects.
- (2) They can also seek to modify the scope of the initially stated public objectives through the introduction of new information on water resources conditions and on the range of alternative problem solutions available.

B. Data Collection and Development-- The second major element of the public involvement model is the detailed data collection phase. During this period, the planning agency (or coordinated group of agencies) is concentrating its efforts on assembling data on the study area. This phase should include a contact element in which local technical people (e.g., members of local planning and water agencies) are consulted both for the purposes of obtaining further data and of checking and verifying data already assembled. It is important to maintain liaison with local planning bodies and, whenever possible, to interlink various ongoing water resources planning efforts.

There is also a role for broader public involvement during the data collection phase. Local ideas and perceptions are useful and important planning data. Contact with local people, probably through area organization channels (e.g., County Extension Service Associations, Chambers of Commerce, Civic Associations, regional economic development organizations, Leagues of Women Voters, etc.), could be used to broaden and maintain awareness of continuing study activities and to provide expanded opportunities for the study staff to sense the tenor of public feeling on water issues through presentations of study information. Obtaining such information in a systematic way during this phase of the study's development, enables the planner to utilize it during early screening of plan alternatives.

Three potentially valuable results of local contact during the detailed data collection phase are:

- (1) Acquisition of a broader spectrum of data - through systematic contacts with local "experts" and public input regarding the area's water resources needs and potentials.
- (2) Verification of already assembled data - through comparisons with whatever local data exists and discussions of the assembled data and its possible implications with local people.
- (3) Reinforcement of initial local contacts - through an exchange of general information on study progress, water-related issues and resource problems.

C. Interim Discussions of Needs and Evaluation of Alternative Systems for Meeting Them-- The third key element of the public involvement model focuses on the development of mechanisms for joint public-planner interim discussions of needs and possible alternative water management strategies. Such mechanisms might consist of a series of "workshop" type meetings held in sub-area locations throughout the study region.

The prime objective of these meetings would be to establish a basis for local public understanding of the physical and program interrelationships implied by area-wide water resources planning (e.g., trade-offs among alternative proposals). This understanding should enable the public to respond on a more informed basis at later stages in the process where evaluations of more specific planning projects are required.

At these meetings, potential water resource management strategies

for the study area would be considered within the over-all framework of area water problems and needs. Preliminary planning ideas would be presented within a broad issue context in order to obtain initial local reactions as to their reasonableness, importance (in terms of perceived needs), and possible feasibility. Alternative systems of potential projects to meet the various defined water use needs could also be discussed in a preliminary exploratory manner.

Planning staff members attending these workshops should de-emphasize such factors as specific project locations and detailed dimensions. Instead, development concepts and over-all program design considerations should be concentrated on. During the discussions, the water resources planners who are participating should gain considerable insight into what types of project and program proposals are locally regarded as desirable in each of the study sub-areas. (Appendix A contains suggested guidelines for designing these interim discussion meetings or workshops.)

#### D. Presentation and Discussion of Preliminary Plan Alternatives--

The fourth element of the model focuses on the presentation of the preliminary plan proposals to the general public. By this point in the planning process, the number of plan alternatives for consideration has been narrowed. In many cases, one preferred system of programs and projects will have emerged on the basis of technical feasibility studies, with a defined set of alternate project options to meet sub-area needs also identified. The emphasis should then be upon disseminating this set of alternative possibilities to the general public through

both direct presentations (e.g., public meetings with a rather informal question and answer format) and mass media coverage. Use of systematic procedures for recording the nature and incidence of public "feedback" on the proposed elements is of key importance during this process.

The meeting procedures should be designed to obtain an active interchange of planning agency and local opinions and preferences with regard to the alternatives presented. These procedures would serve as the last major alternative proposal choice point for the public in the plan formulation process. Because of the complex technical and social considerations involved in evaluating different water resource management measures, considerable preparatory thought needs to be given by agency planners to the manner and form in which the specific alternatives are to be presented for discussion. Future research and planning efforts should devote much more attention to this matter.

E. Formal Plan Presentation-- The concluding phase of the model includes the formal presentation, review and adoption of the finally proposed Plan. Each of the foregoing phases of the model have been structured to increase the usefulness and scope of the public input to the water resources planning process. At this point, if the preceding phases of public involvement have been effectively conducted, political decision makers should already have obtained a significantly improved basis upon which to initiate their analysis of the Plan.

During this phase, there should be ample opportunity for the public to reaffirm positions on various proposals through carefully structured response mechanisms such as public hearings. Once again the emphasis of the review process should be focused upon the key "issues" with which the Plan deals. The review should also be carried out in a manner which facilitates the integration of Plan proposals with other, "non-water" issues, needs and preferences.

#### Public Involvement Program Support Factors

The authors believe there are several program support factors that will contribute substantially to successfully implementing the public involvement process model described in the preceding pages. As in the case of the model, however, the Coordinating Committee's planning program was too far advanced by the beginning of the research effort to test these support proposals in any full and systematic manner. Therefore, they are offered as hypotheses which still require future planning process validation.

A thread which runs through all the model elements described, as well as through the subsequently discussed support factors, is the need for adequate financial and manpower resource allocations for such efforts. Effective use of the proposed procedures in a major water resources planning program will require a substantial time, staff and funding commitment on the part of the agencies responsible for the study. It has been the authors' contention in

this report that such an investment is both warranted and needed if plans formulated by such governmental efforts are to produce action, rather than just be an addition to a long shelf of interesting but unused technical documents.

It is not possible for the authors to estimate just what an adequate commitment of resources means in specific numeric or budgetary terms. We do feel that in future water resources planning studies, a proportionate share of the total study allocation should be explicitly designated for public communication and involvement purposes. In the planning program design (or plan of survey) the magnitude of such an allocation, in terms of both dollar and manpower needs, should be carefully considered by administrative personnel. It is hoped that this concluding Section of the report will offer some useful program task guidelines for use in making such assessments.

The authors have singled out several types of support factors which they believe could be key contributors to the model's implementation. These include the designation of a planning agency coordinator for the public involvement program and the institution of certain staff training programs for those involved in both the plan formulation and public contact processes.<sup>1</sup>

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<sup>1</sup>It is vitally important that those working on actual formulation of the Plan also be involved in the public contact process, if the Plan is to adequately reflect public inputs. Plan formulation people should be both most directly affected by the information received from the public and most able to respond to questions and comments from the public regarding local water resource conditions and problems.

The public involvement coordinator should serve as a focal point in the public contact program's design and scheduling. In addition, he should take lead responsibility in arranging for appropriate public involvement training programs. Finally, he should serve as the primary monitoring and information collection point for the different public contact activities being conducted. When staff requests arise for technical assistance on specific public involvement program needs such as improved communications support materials, these might be channeled through this individual as the key agency resource person regarding public involvement and communications.

The objective of staff training programs should be to supplement the agency participants' existing technical skills with an increased familiarity with various public contact mechanisms, a sharpened sensitivity to public concerns, and improved communications skills in the context of small group sessions, personal discussions, and public meetings with local people. Such training should also provide the participants with a more clearly defined concept of the role of such contact efforts in the overall planning program.

Another program mechanism which could contribute significantly to the implementation of the public involvement process model is the development of a local contact network in the planning study area. Such a contact network could channel information both ways between the planning organization and the local public. Thus, the network members could both provide the agency staff with indications of

local opinions and preferences and serve as active communicators of information to the local public regarding the planning study's activities and findings.

To be effective, members of these contact networks must, in a regular and systematic manner, be kept informed by the planning organization about the status of the planning effort and about potential management measures being considered. If network members are not periodically provided with such information, these people cannot function effectively as communicators. In addition, their lack of information may jeopardize both their interest in the planning study and their local credibility as opinion leaders.

The local contact network should be made up of people who are key in affecting local opinions on water resource issues and management decisions. The authors found in their work in the ten-county area of the Susquehanna Basin that the public tends to use the expressed viewpoints and statements of local water "experts" and community opinion leaders as reference points and bases for judgement regarding the desirability and need for various proposed water resource projects and programs.<sup>1</sup> Such "influential" people might include: directors of area planning organizations and regional development associations; field representatives of various water-related federal and state agencies (e.g., County Agricultural Extension agents); heads of local water boards and/or public works

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<sup>1</sup>See the discussions of opinion leadership and influence in Elihu Katz and Paul F. Lazarsfeld's Personal Influence, The Free Press, 1955.

departments; representatives of various concerned civic groups, such as the League of Women Voters and the Chamber of Commerce; local and state politicians (e.g., legislators and mayors); representatives of various private industries and businesses with particular concerns about local water conditions; newspaper editors; etc.

### Summary

The program elements suggested within this Section, represent a composite set of procedures and techniques which can be utilized to improve the communications-participation process in water resource planning.

The public involvement model phases are not unique. Essentially, they correspond to the sequence and emphases typical of a well designed planning program. The element of a well-structured public involvement process has, however, frequently been lacking in otherwise comprehensive water resources planning efforts. The task of developing innovative and systematic procedures for public involvement has progressed little over the years, while techniques for technical design and evaluation have improved at a substantially more impressive rate.

The need for such innovative procedures is clear. This research experience has been useful in developing some improved means to meet this need; however, there is much yet to be explored and tested.

## Appendix A

### WORKSHOP PROCEDURE AND STRUCTURE RECOMMENDATIONS

#### Introduction

During the Susquehanna River Basin Study communications program, the workshop type local-agency interaction mechanism has been emphasized. This type of mechanism has a particularly salient relationship to the central concepts that the Michigan research team has stressed. It provides a format for small group interaction and the opportunity to use an issue-oriented focus where the professional planning staff can directly record the ideas and opinions expressed by local residents, both in the sense of what they say and the affective feelings with which they are expressed.

People tend to be most familiar with public hearings as the usual mechanisms for public "involvement." The traditional public hearing process, with one session held at the beginning of a study and one at the conclusion, has not adequately provided for the necessary two-way communication and flow of information that the research team contends is needed in effective comprehensive planning. If the workshop is to succeed as an involvement-communications mechanism, both the agency and the local participants must recognize and be willing to adopt the different style of interaction which it entails. It is important that they conceive of the workshop as one step in an ongoing planning process.

The function of the workshop is to encourage an active interchange of opinions and information between the agency plan formulation representatives and local attendees. The goal is to bring out ideas and comments which can be useful in later revisions and re-thinking by agency personnel of plan proposals for the area. Hopefully, if the workshops prove effective in accomplishing this aim, the final framework plans would more adequately reflect local concerns and as a result be more responsive to locally perceived needs and desires.

The following procedural suggestions are designed as a basis of reference in developing effective workshop mechanisms to achieve the sought after communication-involvement goals. The suggestions included here are derived from the research team's experience with the Susquehanna communications program. They are just a starting point. There is much yet to experiment with and evaluate. However, the results of the Susquehanna experience indicate that the program was well-accepted by agency and local respondents alike. The workshop mechanism provides considerable potential for coping with a very complex and difficult task.

## Workshop Sponsorship and Pre-meeting Background Informational Material

One of the most important phases of the workshop program effort is the establishment of a sound means for local participation through local sponsorship which can then provide the basis for agency-local rapport and help establish a continuity with other local area planning efforts. Another key aspect is the preparation of effective pre-meeting materials to be used in conjunction with the workshop.

A. Sponsoring Committee-- The workshop should be sponsored and hosted by a local organization or committee, preferably including members of locally or state supported regional planning or development bodies. Representation should be broad based, including viewpoints of various economic and interest sectors (i.e. agricultural, commercial, industrial, sportsmen, conservationists, etc.). The local chairman should normally be from a governmental unit in order to expedite coordination. A major function of the local planning committee should be the compilation of a list of key community opinion leaders to be invited to the workshop. If the committee has a balanced interest group and governmental unit composition, their invitational list should reflect this diversity of representation.

B. Letters of Invitation-- A personal letter of invitation to the workshop signed by the local planning committee chairman should be sent to all those local people the committee has listed as contacts. The tone of the letter and its explanation of the workshop's purpose and importance can be key factors in securing the recipient's attendance. The date, time, place and length of the meetings should also be plainly stated. In the Susquehanna workshop experience, several host committees found that personal phone calls to the invitees several days before the meeting also increased attendance.

C. Workshop Attendance Policy-- The meeting invitational procedure is not intended to be exclusive. Its major function is to designate a known set of people of a reasonable size, as a representative group of community opinion leaders. The effort to get a good turnout can then be concentrated upon this group in a way (i.e. personal letters, etc.) that would not be possible for the "general public." If other people wish to attend the workshop, this invitational focus should not prevent them from doing so.

A major related concern is the overall size of the attending group. If the meeting becomes extremely large, the opportunities to attain a useful working exchange of information and ideas become difficult. Obviously physical space planning also becomes a problem as the group size increases. The use of discussion subgroups should receive greater attention with larger workshop groups.

D. Pre-meeting Informational Material-- A 3-4 page packet of background informational material describing the general findings and recommendations of the planning organization should accompany the workshop letter of invitation. To establish a discussion framework, the packet should focus on local and regional water

management issues and alternate water development strategies. An explanation of the initially determined regional water needs for various uses, along with a suggestive list of potential water project proposals should also be included. This pre-meeting orientation material should be concise and include illustrative maps and charts to increase its comprehensibility.

#### Workshop Timing and Location

The position of the workshop(s) in the sequence of planning activities and the length of the workshops represent two different aspects of timing which are of key importance in the preparation of an effective communications-involvement program. The decision on locations for the meetings represents an obvious but still very important aspect for consideration in program preparation. Each of these are discussed below.

A. Timing in the Planning Process-- The workshops should occur early enough in the planning process to provide guidance and insure flexibility in the choice of proposals to include in the preliminary plan. The major objective of the workshops -- that of bringing local preferences and agency plan recommendations into closer accord, can be seriously impaired if local attendees see the workshop sessions as a "sales device" for already predetermined plan proposals. This greatly diminishes local motivation to take an active constructive part in the evaluation and choice process.

Where planning organization resources permit and where there is sufficient interest evidenced by the local planning committee and the attendees at the initial workshop session, it would be desirable to hold a second or perhaps a set of additional workshops. This would enable the attendees to discuss at greater length issues which arose in the first session. In addition, the period of several weeks to a month between workshops would also allow agency participants time to review considerations, questions, and proposals brought up in the initial meeting and provide informational feedback at the second round sessions. Finally, a number of those attending the series of workshops held in the Susquehanna Basin pointed out that a first workshop serves more as a general orientation meeting, and people generally need this, plus a "thinking and local discussion time lag" before they are ready to actively voice opinions and preferences at succeeding sessions.

B. Time Allotted for the Meeting-- The timing of the workshops in terms of actual length of the session is also quite important. Two and a half to three hours seems to be a maximum limit, with the time of day being an important factor. If the meeting is held during the day instead of in the evening, the participants will likely be fresher and more willing to participate for the full length of time. However, this should be weighed against the possibility that occupational commitments will hold down attendance during those hours. If a Saturday meeting time is considered, obtaining full agency participation could be more of a problem. This decision

should be left to the local planning committee's discretion, with possible agency participant constraints made clear beforehand.

Based on a projected overall meeting time of 2 1/2 hours, the opening plenary session should not consume more than 45 minutes. Then the smaller, more focused discussion groups could be allotted the maximal bloc of time -- in this case an hour to 90 minutes. Finally, a summary plenary session of 30-45 minutes is desirable. The objectives and recommended content of these various workshop meeting phases is discussed later in this section.

C. Location of the Workshop-- Two types of locational considerations are important in arranging the workshops. First, the geographic site, where possible, should be reasonably central and accessible to the bulk of the regional population of the area being considered. Second, the actual physical facility used should have adequate space to accommodate the larger plenary group sessions, as well as up to three separate subgroup meetings in acoustically separate areas or rooms. Local high school or college facilities often work well for this.

### Workshop Structure and Procedures

As described above, the interim planning workshop might consist of three distinct phases: an opening introductory session; several smaller, more focused sub-group discussion meetings; and a closing summary plenary session. Each of these workshop segments has certain process objectives and organizational requirements.

A. Opening Session-- This session should serve principally as a general orientation device to acquaint people attending with:

- 1) the objectives and status of the planning effort underway;
- 2) the purpose of the workshop and its role in the planning process;
- 3) the basic procedures that will be followed (i.e., a brief description of the two workshop phases to follow and their respective goals);
- 4) the types of agency resource people attending and their anticipated roles (e.g., answering questions, reviewing potential proposals, and participating as sources of technical information in the discussion of water management needs and alternative ways of dealing with them); and
- 5) the role that local people can play in the workshop process (this might be viewed as a task-oriented charge to the local participants to help them understand better what is expected of them and how best they can participate in the planning process).

These points should also have been covered briefly in the informational material sent out with the workshop invitational letters and in any pre-meeting publicity, e.g. newspaper articles, through the mass media.

The opening session should be chaired by the head of the local workshop planning committee. He might, after his opening statement describing the format of the workshop and the committee's goals and expectations in organizing it, turn the meeting over to one of the agency participants who would briefly review the planning Study's status, the water management needs and alternate projects being considered in that area, and the workshop's role in the planning process. This agency representative might also introduce the various agency participants and identify the discussion subgroup in which they will be taking part.

Following the chairman's introductory remarks in the Susquehanna workshop programs, the research team administered a short opinionnaire to all those attending from the local area, (See Technical Appendix for a copy of the schedule.) This had a two-fold purpose. First, when used in conjunction with a similar post-meeting follow-up opinionnaire, it provided a valuable measure of the expectations those attending had for the workshop and the degree to which these were felt to have been fulfilled. In addition, however, it focused people's thinking at the outset of the meeting on what they expected to gain from the workshop, or accomplish during it. A similar brief paper and pencil questionnaire might be used at future workshops both to provide those attending with an orientational focus and to provide the local planning committee sponsors and agency participants with recorded feedback on their efforts. Use of such an opinionnaire would also demonstrate in a concrete way the interest of the sponsors and agency representatives in the opinions of local participants.

Both the pre- and post-opinionnaire forms should include a space for respondent identification. People should be asked to either sign their names or the same four digit identifying number (e.g. the last four digits of their telephone number) on both of these forms. This makes before and after matched comparisons possible. The forms, themselves, should be brief so as not to consume more than three or four minutes of time to fill out. It should be made clear that there are no "right" or "wrong" answers; the point of the questions is to seek opinions.

B. Focused Subgroup Discussion Sessions- The second phase of the workshop should consist of a series of smaller group discussion sessions focused around a stated water management theme or interest. The number of subgroups to be formed, along with the particular focus for each, are questions that should be decided by the local planning committee.

In the Susquehanna experience, three or four different subgroups per workshop meeting were usually designated. Two different topical patterns were used for breaking out these discussion groups. Most commonly, the breakdown occurred on a functional water use basis so there would be separate groups focusing on, for example: water supply and water quality, flood control, recreation and small watershed development. Another type of breakdown tried at several places was based on the interests of particular occupational groups. For instance, groups centered

around the concerns of agriculture, business and industry and local government were established. A final type of breakdown, suggested by some attendees but not attempted during the Susquehanna program, could be built around groups differentiated by smaller geographic or organizational boundaries. This might be most appropriate where workshops cover a broad multi-county regional area. This type of breakout might delineate sub-groups by various units such as counties, major urban areas, tributary watersheds, or other local governmental or planning jurisdictions e.g. soil and water conservation districts.

Several supplementary devices could be used to make the sub-group discussions more effective. These might include a summary listing of the potential water resource projects being considered for the area, including possible locations, uses, projected benefits and costs, and proposed agency responsibilities for development and management. Such a listing could be provided in the pre-meeting informational material sent out with the invitations to the workshop. Additional hand-out copies should also be available at the meeting, itself.

A second support material category includes various graphic aids. These can be extremely valuable in clarifying and emphasizing various discussion points. Especially important are maps of the area including an acetate cover sheet on which points of discussion, proposed modifications, and additional projects can be indicated with a grease pencil. During the Susquehanna workshop experience, several local respondents mentioned the highly finished quality of the project maps being used by the agency representatives. They created the impression among some of the attendees, that the projects being discussed were pretty well pre-set before the meetings began. This led to some doubts about the announced flexible and preliminary character of the workshop presentations.

Another type of graphic aid that could be helpful are charts summarizing the basic water use conditions (opportunities and constraints) of the area, e.g. fluctuations in water flow, and present needs and future estimated use. Since the determination of these involves technically complex data collection and analysis techniques, concise visual summaries would assist greatly in providing the attendees with baseline information on which discussions could be built. Several of the more general summary charts, along with a large map of the area, could also be used in the agency spokesman's presentation at the opening workshop session. Then more topically focused maps and charts could be used in the various individual subject-oriented discussion groups.

A final aid in facilitating small group discussions would be color-coded nametags identifying each participant and his organizational affiliation. The color-coding would assist in rapid identification of the various types of workshop participants. For example, plan formulation agency staff representatives might wear tags of one color; local participants, tags of another color. More detailed identification breakdowns e.g. between Federal and State

personnel, are also possible, but this is the type of decision best left to the local workshop sponsoring and planning committee. Nametags should be distributed at a central registration desk as people arrive at the workshops. Securing an accurate and thorough list of the people attending is an important step in developing a register for future area contacts and for mailing follow-up material.

The objective of the smaller focused discussion groups is to provide those attending with a better opportunity to discuss their particular water resource interests and ideas with agency working level technical representatives in a direct face-to-face situation. The smaller size of the groups (18-25 people) should provide the individual participants with a better chance to talk and ask questions and to engage in a more detailed discussion of specific issues. In addition, the limited size of the group should provide a less threatening atmosphere, thus encouraging many to voice opinions who might otherwise be reluctant to do so in a large group situation.

The smaller subgroups provide agency representatives with an opportunity to discuss particular water use needs and "workshop area projects" then being considered for possible inclusion in the final plan. The questions and comments of the local attendees may provide a basis by which the plan formulation staff members can gauge the adequacy and acceptability of their conclusions to that point. Often in a large scale basin planning effort, certain locally defined problems or concerns are not considered in the initial compilation efforts due to lack of available information or familiarity with the area. The workshops can be a valuable device to point out these gaps. For instance, at one of the Susquehanna workshops, the statements of local participants led to a reconsideration by the planning workgroup of various local communities' water supply needs.

In addition, the workshop attendees have the chance through these discussions to suggest modifications which would be desirable from the local standpoint, in the location, size, and uses of project proposals. For example, local people may feel greater provision should be made for recreational or water supply use of potential impoundments. If certain water needs are agreed upon, local people might also indicate preferences for alternative ways of meeting them e.g. a system of smaller impoundments rather than one large reservoir to provide for recreation and flood control. Finally, local participants may suggest that additional projects be included for which they feel there is an important need.

Discussion comments and questions should be recorded in several ways during the individual subgroup sessions. First, the local discussion chairman should appoint someone or should, himself, keep a record of pertinent points to be included in his summary of group concerns for the closing plenary session. Second, the agency representatives participating in the subgroup should keep track of opinions and questions voiced for use in later plan formulation work. Finally, on a blackboard or large wall chart,

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a member of the group should log major discussion points as a group record to provide participants with greater continuity and discussion structure.

C. Summary Plenary Session- The third phase of the workshop should consist of a summary plenary session where the various subgroup discussion chairmen, perhaps assisted by one of the agency representatives from their sessions, briefly review the major positions taken, points discussed and questions raised in their respective groups. These reviews should constitute the basic content for a final overall group discussion-- a primary objective of which should be to reach some kind of local consensus on the importance and priorities of various water use needs and appropriate plan measures (projects) for satisfying them. Differences in local objectives and preferences should become clearer if the discussion is focused around reaching such consensus. During the plenary discussion period the agency representatives can again answer questions and discuss action possibilities and consequences from the technical experts' frame of reference.

The concluding plenary session can serve a number of important functions. First, if the subgroup discussion chairmen present well-organized, perceptive summaries, the participants should obtain a reasonable idea of what occurred in concurrent group sessions. A major criticism of the workshop procedure brought up by a number of those who attended the Susquehanna meetings was that they did not have the opportunity to hear what comments and questions had been raised in the other subgroup discussions.

Second, the concluding plenary discussion should provide workshop attendees from both the local area and the planning agency workgroup with a better idea of important area planning issues to be considered during the remaining plan formulation process.

At the close of the meeting, the agency spokesman should indicate to those attending what future opportunities for public involvement in the planning process are anticipated. This would provide the participants with a better sense of continuity, rather than leaving them with the impression that the workshop was an unrelated "one-shot" event. In addition, forms should be provided (or at least an address made available) with which the attendees can request further information on the Study, or obtain written responses to unanswered questions. Also, if written summaries of the workshop discussions are to be compiled for distribution to the attendees and/or interested members of the public, this fact should be mentioned. This compilation might be done by either the local sponsors or the agency participants. The research team feels these points of emphasis are quite important in terms of providing the local attendees with a sense of having participated in a linked part of a continuing public involvement program.

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## Agency Workshop Participant Roles

A. Attendance of Planning Workgroup Members- The research team has stressed the importance of having the agency plan formulation staff members participate in as many workshops as possible. There are several reasons for this. First, these are the people who are responsible for compiling and analyzing much of the Study data. They should be most familiar with it and its implications for future area water resource development. Second, these agency representatives have played a primary role in developing the preliminary project proposals to be presented at the workshops for discussion. In addition, they will have the major responsibility for evaluating the technical results of the sessions and subsequently revising the list of projects to be included in the plan. Thus, the chance to be directly exposed to local reactions and comments should be particularly valuable for these people. Such contact with plan workgroup members should also benefit local participants by providing them with the opportunity to make suggestions, express opinions, and discuss problems directly with those people who are pivotal in determining final plan recommendations. This also provides the local participants with the opportunity to see the types of staff technical competences which are going into the plan formulation effort.

Finally, the workshops held in connection with the Susquehanna Study were often cited by agency participants as being valuable mechanisms for familiarizing them with water resource issues of major local concern and for providing them with a better sense of the kinds of support or opposition they might expect for various water management proposals. Frequently in formulating regional river basin plans like the one in the Susquehanna Basin, the feedback obtained by the planning staff is limited to contacts with other agency professionals at similar government levels and to their administrative superiors. The workshops, thus provide such planners with a somewhat unique opportunity for evaluative response from those who reside in the areas for which plans are being drawn.

B. Representation of Specialists- The workshop agency "team" should include, if possible, staff persons with particular expertise in various functional areas of water management such as water pollution control and water quality standards, flood control, small watershed development, water-related recreational development, and water supply. Difficult questions raised during the course of the workshop can then be referred to the appropriate specialist for an immediate or a subsequent mail follow-up.

C. Number of Participants- One further question in designating agency representatives to participate in the workshops is that of how many staff persons should attend each meeting. This number should be large enough to insure that there are at least two representatives of the planning study present in each subgroup discussion session to answer questions and comment on the issues

raised. However, it is also important not to "flood" the workshop with a disproportionately large number of agency participants compared to the number of local people attending. If local attendees feel overpowered by the number of technical "experts" present, they may be reticent to voice opinions. A reasonable balance should be sought.

D. Technical Resource Role- The agency representatives attending the workshops can fulfill several roles. Most importantly, they should serve as technical resource persons providing information and answering questions. The agency workshop spokesman in his presentation at the initial session can provide a context or framework for later discussions and inquiries which follow.

In the smaller subgroups, the role of discussion chairman should be assumed by a local person, probably a member of the workshop planning committee. The degree to which agency representatives in the group should assume a more active directing role will depend in large part on the character of the individual subgroup. Some groups will generate lively exchanges under the leadership of the local discussion leader. In others, the agency people may have to assume responsibility for raising various points or questions to stimulate the expression of local opinions and questions. They should be prepared to do so if that becomes necessary.

E. Discussion Catalyst Role- In addition to serving as information resource persons, the agency workshop participants should also be prepared to play the role of discussion catalysts. To do this, they should, prior to the meeting, have formulated a backup series of probing questions on issues they would like to see discussed by local attendees, e.g. the adequacy of assumptions about future growth in the area. They might also use various discussion probes to obtain local opinions on the management proposals being considered for the area, e.g. development of flood plain management measures. Finally it is important for the plan formulation process to draw out, through the workshop discussions, ideas about what other programs or projects are needed to better satisfy area water resource needs from the local viewpoint.

F. Public Recognition of Inputs- Another program feature included at some of the Susquehanna workshops was to have the agency "team" spokesman review for the whole group at the close of the final plenary session the general project and program modifications and additions suggested by local attendees during the meeting. This would serve as a publicly announced agency recognition and summation of local inputs for those attending. It would also be an added stimulant to the agency participants for keeping thorough and accurate workshop feedback records.

G. Use of Information Feedback- A strategy for generating, recording and using informational feedback is a critical factor in making the workshops effective both from the standpoint of

the participating agencies and local attendees. There are a number of aspects of the feedback process which should be considered by agency planners in devising such a strategy.

First, what type of information from local respondents is needed to increase a plan's effectiveness. Second, what kinds of useable information are local respondents able to provide given their probable level of technical knowledge about water management possibilities, opportunities, and implications. Third, what types of mechanisms and procedures are best suited to secure through local interest and involvement, the information needed.

A fourth consideration is how the information elicited through the public contact program is to be incorporated in the planning process. This involves the difficult task of weighing the comments received both from the standpoint of their technical feasibility and their representativeness in terms of local public opinions and concerns. In those places where it is especially important to know how widely certain views are held, a small sample survey of area residents might be used. The research team's technique of identifying and surveying community water resource opinion leaders prior to and/or after the discussion meetings might be appropriate in selected "key" areas. Where survey resources are quite limited this might consist mainly of maintaining regular communications with a network of local officials and organizational representatives, who, because of their positions, should be aware of local feelings on various issues. Among the types of people that could be contacted are:

1. Local planners and/or planning commission chairmen
2. Local newspaper editors
3. Local mayors
4. Field-based representatives of Federal and State agencies such as the Agricultural Extension Service, the State Departments of Health, Highways, and Conservation, etc.
5. Chairmen of County Boards of Commissioners or Supervisors and key County Board committee members
6. Regional public agency or association heads
7. Executive Directors of local Chambers of Commerce
8. City or County managers
9. Local college presidents and key assistants
10. Local, State and Federal legislators

One of the points the Susquehanna Study brought out was the importance of keeping these types of people informed, and to whatever extent possible, involved in the study process.

The final point to be considered in effective use of public response is that of developing feedback to local people to reinforce their interest and involvement in the planning process. This feedback should focus on four major topics. First, there should be a summary of the principal points brought out at the

meeting. Second, there should be some indication of how the local opinions expressed were considered by the planning staff and which proposed modifications and suggestions, if any, were being incorporated. Third, any stated local questions left unanswered at the meeting's conclusion should be discussed. And fourth, anticipated future opportunities for public involvement in the planning process should be briefly described. The objectives of such feedback would thus be to summarize for people how they have been involved, why their participation was useful, and where they might be explicitly involved in the future.

#### Key Local Workshop Roles and Responsibilities

A common criticism made by a number of the research study's local respondents about past public involvement programs of federal and/or state planning groups was that they frequently appeared to be just a mechanism to "sell" the recommendations and judgments of "outsiders" to local people. Therefore, the research team feels that workshops will be more effective mechanisms for local public involvement if local people assume primary responsibility for organizing and directing the discussion sessions. Several means for encouraging this were utilized during the Susquehanna Study's workshop program.

A. Local Organizing Committee- The first of these was the designation of a local sponsoring committee or group which assumed primary responsibility for making workshop arrangements in terms of setting a definite time and place for the meeting, deciding on the discussion subgroup breakdowns and compiling a list of invitees and making sure these people received a pre-meeting letter explaining the session's purpose and including certain Study orientational material. During the Susquehanna program this local organizational group proved to be a valuable point of contact between the participating agencies and the residents of the workshop area. With their greater familiarity with key local people and issues, the local committee can be a significant asset in stimulating attendance and insuring that necessary arrangements are taken care of. In addition, this local coordinative body can provide agency representatives with useful background information on local water concerns and opinions.

B. Subgroup Discussion Leaders- Another means of emphasizing the local character of the workshops held during the Susquehanna program was the designation of a local meeting chairman to introduce and summarize the meetings, and the use of local subgroup discussion leaders to direct and later summarize for the whole group the major points raised at these individual sessions. The local people assuming these key roles frequently were also members of the local workshop planning committee.

Several preparatory steps might be taken prior to the workshops

to assist these people in more effectively carrying out these demanding roles. First, they might be briefed by one or more agency representatives on the primary water resource problems and management proposals that the planning workgroup considers important for the area and would like to hear locally discussed.

Second, at a meeting of the group leaders the purpose of the closing plenary session (local cross-interest discussion of points of difference and consensus) could be discussed, along with summation strategies and points of emphasis that would be most helpful from the agency standpoint. Judging from the Susquehanna experience, an effective closing discussion session may be the most difficult workshop objective to fulfill. However, more adequate pre-meeting preparation of the local leadership group in terms of knowing what is expected and how to go about accomplishing it should increase the chances for success.

Finally based on the agency briefing and the discussion of points to be emphasized in their subgroup summaries, the subgroup chairmen might prepare a list of general questions which could be used to stimulate and orient the discussions within their respective groups. In addition, it would be helpful during the subgroup discussions, if the leaders would periodically summarize what they feel to be the "sense" of the group and also point out what appear to be conflicting viewpoints or suggestions.

A brief break period between the small group discussions and the closing plenary session should be scheduled to allow the individual discussion leaders time to finalize their summary presentations. One of the agency subgroup participants might assist the local leader in doing this to insure that all the important points are included. Such a team approach to summary formation would also act as a check on the completeness of the agency representative's recorded feedback. Depending on the local leader's preference, the agency representative might also assist in presenting the summary to the overall group. This approach was used at a number of the workshops in the Susquehanna program and seemed to work well. During the plenary session discussion period, the individual subgroup leaders should take the lead in pointing out areas of local disagreement for group consideration.

#### Agency Representatives' Workshop Preparation

During the Susquehanna workshop program, several mechanisms were tried which seemed to be useful in preparing agency participants better for the various meetings. Principally, these were pre-workshop briefing sessions and post-meeting critique sessions. (Where workshops were held on successive nights, these two meeting functions were combined.)

A. Pre-meeting Briefings- The pre-meeting briefings served several purposes. First, they provided the various agency representatives with an opportunity to meet together prior to the

workshop to "get their signals straight." This function was particularly important where different planning staff people attended various workshops. Since the workshops were somewhat experimental in character, most of the agency participants initially had either vague or divergent opinions of how these would operate. In addition, they had varied ideas of what their role should be at the meetings and what demands would be made upon them. At the briefing sessions, they had the chance to compare opinions and reach agreement upon goals, styles of response, the division of responsibilities for answering certain types of questions, and assignments to the various topical subgroups.

In the Susquehanna program, a plan formulation workgroup "team" made up of approximately the same Federal agency representatives attended a majority of the workshops. In various areas, this "team" was supplemented by additional Federal personnel and by State agency staff members.<sup>1</sup> Over time, the "team" members acquired experience and insights about the most effective styles and methods of operation. At the briefing sessions, they could then orient the newcomers.

Another major purpose of the briefing sessions was to provide the agency participants with information about principal local water resource concerns and issues. These sessions could also be used to review the viewpoints of key local exponents of various water policies.

B. Workshop Critique Sessions- The workshop critique sessions should take place soon after the meeting and prior to the next scheduled workshop. Among the topics which should be considered at such sessions are: the aspects of the preceding workshop that went particularly well and those that did not; the levels of agency and perceived attendee satisfaction with the meeting process and the amount and type of information exchanged; and the ways of improving upon procedures and response patterns. If brief pre- and post-meeting questionnaires were used, these can be rapidly hand tallied after the workshop and the results discussed at the critique sessions.

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<sup>1</sup>This was particularly the case in New York where State agency personnel participated in a more direct discussion leadership role than was the pattern in other parts of the Basin.

## Appendix B

### COMMUNITY OPINION LEADER WORKSHOP CASE EXAMPLES

#### Introduction

Two brief case study descriptions of workshops held in conjunction with the Susquehanna River Basin Coordinating Committee's formal public information program are included in this section. The research team feels that both of these workshops are important examples in the overall Susquehanna workshop program sequence. Descriptive sketches of them have been included to illustrate some of the problems and potential benefits of a workshop process.

Twelve initial "Prospectus" discussion workshops were held in the Susquehanna Basin between January and March of 1969. The Tioga, Pennsylvania workshop was the pilot and first of these. In Pennsylvania, the remaining five workshops covered regional areas and were held, with one exception (Harrisburg), under the auspices of the respective area economic development associations. The State of Pennsylvania's representative on the Coordinating Committee contacted these groups initially to arrange for sponsorship of the workshops. Then in the month preceding the scheduled workshop dates, a representative from the Corps of Engineers (the lead Coordinating Committee staff agency) visited with the directors of each of the sponsoring associations to discuss final workshop arrangements. In New York State, the initial four workshops were held under the sponsorship of the Regional Water Resources Planning Boards with the State Regional Engineer and his staff being responsible for meeting schedules and arrangements. New York representatives and staff from both of the involved Boards had attended the Tioga pilot workshop.

Two follow-up workshops were held in Bath and Horseheads, New York in July 1969, under the sponsorship of the Chemung Regional Water Resources Planning Board. The purpose of these meetings was to further expand and discuss various points about the Susquehanna River Basin Study raised at the initial regional workshop held in Corning, New York in March.

#### The Tioga Pilot Workshop

The initial pilot workshop was held in Tioga County, Pennsylvania. It was jointly sponsored by the Tioga County Planning Commission, the Tioga County Commissioners and the Tioga County Cooperative Extension Service. Two months prior to the workshop a local planning committee, composed of representatives of each of these organizations and a representative of one of the county's larger industries, met several times to structure the basic format

and content focus of the meeting. The County Planner served as chairman of this planning committee. The research team met with the committee to suggest various workshop strategies, and to supply them with a list of County community leaders who had been interviewed regarding local water problems. All of these people, plus others selected by the planning committee, were then sent workshop invitations by the local chairman.

The workshop was held in Wellsboro, the Tioga County seat, on January 4, 1969. This was a Saturday and the meeting was held between the hours of 10:00 A.M. and 12:30 P.M. Altogether, 32 local people and 15 Federal and Commonwealth of Pennsylvania representatives attended the workshop. There were also 7 observers present who were affiliated with the two New York State Regional Boards in the Susquehanna Basin. The meeting, itself, after the initial agency presentation describing the Susquehanna River Basin, broke into four smaller discussion groups: Business and Industry, Local Government, Agriculture and Recreation. Each group had a designated local chairman who had been briefed beforehand and asked to prepare a list of potential discussion questions. Several Coordinating Committee agency representatives attended each of the subgroups to answer the local participants' questions and to provide requested information. When the discussion period concluded, the various groups reconvened and each local chairman presented a summary of the major topics covered and questions left unanswered.

Several general impressions characterized local participants' re-interview comments on the workshop. First, the meeting expectations of local participants and agency representatives were neither clearly defined or congruent. Most local people, it was felt by our respondents, had attended primarily to hear agency personnel present the facts and conclusions of the Susquehanna Basin Study, rather than to express their own opinions, suggestions, and preferences. The agency people, on the other hand, expected mainly to listen to local comments and answer questions about preliminary plan proposals and findings.

In addition, the local attendees were largely concerned with obtaining information on two very salient local water resource concerns: (1) progress on the two authorized Corps of Engineers large reservoir projects in Tioga County- the Tioga-Hammond and Cowanesque; and (2) water quality standards, especially as they affect local industries. The agency representatives, however, were concerned with and prepared to discuss future-oriented planning issues encompassed by their Study, rather than these ongoing and already active program concerns. This discrepancy in subject orientation led to feelings of frustration and dissatisfaction on both groups' parts. The local people felt their concerns were being evaded and their questions left unanswered. Agency people felt local participants were not interested in taking part in the planning process and had few opinions or preferences to express.

Finally, the workshop served as a valuable initial training experience for the agency participants. A number of them also took part in most of the remaining 11 workshops. As they became more accustomed to interacting with local people and responding to their questions, both they and a number of local respondents felt their performance improved and the meetings became more productive.

Following the workshop, the research team prepared several summary analysis and evaluation reports on the Tioga pilot meeting. These feedback reports were then sent to the local planning committee and the agency participants. The text of the report entitled University of Michigan Susquehanna River Basin Study Team Evaluation of the Tioga County Water Resources Information Workshop was reprinted in the March 1969, Tioga County Planning Commission Newsletter, along with written Federal and State agency responses to questions raised by local people at the workshop. The text of this report follows.

"The University of Michigan study team worked with local community leaders in the Tioga County area and with Federal and State agency personnel to help develop an informational workshop on water resources. The local workshop was the first step in establishing a linked communication process focusing on water resource problems in the County and the relation of these problems to the water resource development measures being considered by the Susquehanna River Basin Coordinating Committee. The study team began work on the workshop process with a set of expectations which are now useful as guideposts in evaluating the results of the workshops. Among these expectations were that:

- (1) Local citizens should initiate, plan and stage a workshop which would provide them an opportunity to articulate their concerns and opinions about water resources planning and development in a direct and relatively informal way with planning agency people from the local, state, and federal agencies.
- (2) Local people and planning agency personnel should have the opportunity at this workshop to exchange information. This exchange should indicate, but not be limited to the findings of the Susquehanna study regarding the needs of the area and preliminary ideas expressed in the basin study "Prospectus," which is the first round set of project ideas for the eventual Susquehanna River Basin Water Resources Development Plan.

- (3) The face to face contacts in these discussions should begin to establish an increased mutual understanding between local and agency people which provides a more effective basis for personal contacts at later points in time when questions or problems arise from either the local or agency perspective.

The study team felt that the workshop held on January 4, 1969, in Wellsboro at the Tioga County Courthouse met these objectives to a worthwhile degree. The workshop set a precedent for further efforts to establish more effective communication channels between local community leaders and federal and state agency people. It was notable that a large number of agency staff people at the working level of plan development sat down at a locally sponsored meeting. In face to face group situations they listened to local opinions and preferences and sought to explain the reasons various development projects were being proposed for inclusion in a preliminary River Basin development prospectus. In addition, agency personnel had the opportunity to receive direct local reactions to their ideas. Local people found out who at the agency level they might contact and direct future questions to in regard to area water development issues and problems. The attendance and participation in the workshop of "observers" from neighboring counties, particularly those in New York State was also notable, and may foster increased future efforts to achieve more interstate regional cooperation in regard to water resources development planning.

At the workshop meeting the University study team requested that each participant fill out a one-page pre- and post-meeting opinionnaire. This was done to obtain some idea of what both local and agency participants saw as major problems in the local area, and to establish what they expected and felt they had received from the meeting.

The results of the pre- and post-meeting opinionnaires seemed to indicate several things:

- (1) Many local and agency participants felt they had received a good deal of new information on local water problems and solutions. However, in neither case did as many receive such information as had expected to prior to the meeting.
- (2) A majority of both local and agency participants at the workshop expected to be able to express to a large extent their opinions on local water resource problems and solutions. In the case of both groups, this expectation was felt to have been realized by a majority of those questioned following the meeting.

- (3) The overall rankings of important County water problems by local and agency workshop participants did not change significantly for either group from the beginning to the end of the meeting, although a number of persons within the two groups did shift their own individual priority rankings. However, the relative importance attributed to various problem categories by the local participant group and the agency representative group was significantly different in terms of the ranking order.

Pollution-sewage disposal was overwhelmingly seen both before and after the meeting as the County's most important water problem by local workshop participants. It was followed by water supply which was also ranked quite highly on both opinionnaires.

Prior to the workshop, agency representatives ranked recreation and acid mine pollution, in that order, as the County's most important water problems, while following the meeting acid mine pollution assumed the top ranking, with recreation second. However, the weight given by agency participants to water supply as an important County problem was significantly larger following the meeting.

A second water resources informational workshop which will also involve interested local community leaders from Tioga County will be held February 21, in Wysox, Pennsylvania. At that meeting a number of the same types of concerns may be raised by local people--this time in the context of the broader framework of the Northern Tier Region.

The communication process begun in the January 4 meeting at Wellsboro is continuing in several ways: (a) the Wysox meeting on February 21; (b) the consideration being given to establishing a planning group in the Cowanesque Valley to focus on water supply problems; (c) the possibility of establishing more effective coordination with planning agencies and public groups in neighboring New York State Counties; (d) the submission of questions to water agencies by people in Tioga County and the publication of agency responses; and (e) continued informal contact by Tioga planners and others with the federal and state technical people who are continuing to refine the Susquehanna "prospectus." We hope that local people will continue to take the initiative in making their water resource needs and preferences known."

February 4, 1969

In the initial feedback report to the agencies, the research team outlined a series of suggestions regarding operating procedures for future workshops, based upon the Wellsboro experience. These were as follows:

"Practices to Repeat

- a) Mailing of Basin information packet to all workshop participants prior to the meeting.
- b) Pre-meeting planning sessions at the local level.
- c) Briefing sessions between local host committee and federal and state personnel prior to the workshop.
- d) General introduction on Basin planning efforts to date followed by a statement of objectives for the workshop to lead off the meeting.
- e) Individual discussion subgroups followed by general closing session featuring subgroup summary presentations.
- f) Brief pre and post-meeting questionnaires given to help participants focus on the purposes of the meeting and to help evaluate the outcomes.
- g) Meeting arranged and coordinated by local persons.

Practices to Avoid

- a) Some participants not receiving preliminary materials prior to the meeting.
- b) Insufficient personal invitation contacts by phone and/or mail.
- c) "Sterile" physical setting and overly formal seating arrangements.
- d) Different stopping times for subgroup discussions.
- e) Saturday morning meetings.
- f) Direct and formal presentation of the development prospectus as a method to obtain ideas about or for projects in the prospectus.
- g) Formal statistical presentations.

Practices to Initiate

- a) Susquehanna River Basin Study staff should participate more actively in the workshop design and planning.
  - 1) A federal representative and a state representative should participate in the "planning session" for the information workshop.
  - 2) The local planning committee should meet with the federal and state participants before the information workshop (discussion would focus on the structure and content of the workshop).
- b) Discussion subgroups should be chaired jointly by a local non-agency individual ("influential") and a local

technical agency participant. The former would assume formal leadership of the group and the latter would provide technical support for the "influential" leader in sketching out problem areas and phrasing questions and subsequent staff support in summarizing and following-up major concerns of the discussion group. (recorder, etc.)

- c) A one-page summary of planned subgroup discussion items (problems, etc.) should be prepared prior to the meeting of the groups by the local agency "discussion group co-chairman" and be made available to the discussion group participants at the meeting.
- d) To improve attendance at the workshop, the local discussion leaders should be encouraged to actively recruit the invited participants through personal contacts as well as through more formal mechanisms such as letters, etc.
- e) Subgroups should be delineated by problem areas or problem situations.
- f) Summary presentations from subgroup discussions should itemize concisely the: (1) points covered; (2) problems or questions which remain unresolved; and (3) how their various subgroup concerns are inter-related with those of other subgroups.
- g) Weekday evening meeting times should likely be used.
- h) More formal on-site follow-up activity to ensure accurate feedback should be arranged between the local planning committee and the Coordinating Committee representatives."

#### The Bath Follow-up Workshop

In June 1969, because of the participant interest shown and issues raised at the initial workshop held in Corning, New York,<sup>1</sup> the Chemung Regional Water Resources Planning Board decided to hold a set of follow-up workshops. These follow-up meetings were scheduled at two different locations within the area. The first of these was held in Bath, New York, in June and was intended to focus around the interests in irrigation and water supply prevalent in the more agricultural portions of the Board's jurisdiction.

The meeting was chaired by a member of the Regional Board. Because of the relatively small total attendance at the meeting, the chairman, with group concurrence, decided not to break into smaller discussion subgroups after the opening presentation by the Regional

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<sup>1</sup>The workshop had attracted more than 50 local people. About 20 Federal and State agency representatives also attended.

Engineer of the New York State Division of Water Resources. The initial presentation reviewed the major water resource conditions of the area as opportunities and constraints in deciding on future management strategies. It set an issue-oriented framework for the discussion which followed between the some twenty local participants and seven Federal and State agency representatives present. A discussion of area water resource issues and a summary description of the preliminary management proposals of the Susquehanna River Basin Coordinating Committee were also included in the informational packet mailed to workshop invitees prior to the meeting. (See Attachment A for a copy of the Bath workshop pre-meeting material.)

At the conclusion of the Regional Engineer's presentation, the agency representatives were introduced and a local participant was designated to take notes on the discussion which followed. The local attendees' initial questions concerned the Coordinating Committee's need projections and allocation of future water supplies for irrigation. A number of the agricultural attendees expressed strong doubts that their future water requirements had been sufficiently taken into account. They cited examples of other studies which projected significantly larger irrigation needs. Agency participants admitted that their initial figures should perhaps be increased and asserted that a major purpose of the workshop was to find out what adjustments local people felt should be made in the preliminary prospectus estimates of water use needs. As one agency spokesman commented: "Go ahead and tear the information packet figures apart; that's why we put the material together."

Discussion by the group of the specific irrigation need projections led to a more general discussion of competing water supply requirements, e.g. agricultural versus municipal and industrial. Local participants inquired about the assumptions that had been used by the planning workgroup to develop various water supply needs. They voiced the belief that knowledge of such assumptions was really antecedent to any reasonable consideration of the individual project proposal's merits and disadvantages.

Next, in the context of the prior group discussion of competing water supply needs, a member of the Coordinating Committee's plan formulation group was asked to review the prospectus proposals for the area. Since a major emphasis of the meeting up to this point had been on water supply limitations due in part to extreme seasonal fluctuations in river flow, the participants were particularly interested in the two large reservoir project alternatives proposed and their potential low flow augmentation benefits. The design characteristics of the two reservoirs were described and the attendees were asked by one of the Regional Board members for an expression of their preferences between the two. To help them in framing judgments, local participants requested that the Coordinating Committee's planning workgroup spokesman review the comparative benefits and costs projected for each structure.

This was done and the figures for each were written in tabular form on the blackboard. The group then discussed these and other project implications (e.g., communities which would directly benefit in terms of the alternative locations; differing multiple-use capabilities and possible conflicts between uses; for instance, between recreation and low flow augmentation.)

At the close of the meeting, the recorder was asked to review the major points covered. The chairman adjourned the two-hour session by thanking everyone for their participation and urged them to continue to make their opinions and concerns known to the Chemung Board. After formal adjournment, a number of the local workshop participants stopped briefly to talk further with the agency participants and look over their charts and maps.

This workshop was notable for a number of reasons. It was the first instance of a "second generation" workshop, that is a follow-up meeting subsequent to an initial regional Susquehanna workshop. A number of the people who attended the first meeting (about eight local participants and five agency representatives) also attended this workshop or had talked with someone who had. The issues discussed at Bath, e.g., irrigation needs and water supply allocation to different users, had been introduced at the first workshop, but this second meeting provided an opportunity for a more intensive and focused discussion of them. In addition, many of the participants seemed to have had time in the intervening period to think about the issues and form more definite opinions or questions.

A number of the participants at the Bath workshop saw a direct relationship between the impending water policy decisions and recommendations to be made by the Coordinating Committee and their own future livelihood in agriculture. Thus they were relatively well-informed on the implications of water supply allocations and came to the meeting prepared to state definite opinions and present counter-arguments. There also were, however, representatives of certain other interests present among the local attendees, e.g., the county planning director and the head of a municipal utility corporation, and these people's comments tended to broaden the discussion focus. In addition, the agency representatives responded to the local participants' comments in an open, flexible and informed manner that seemed to be positively perceived and encouraging to the attendees. These factors combined to stimulate a frank exchange of viewpoints and a discussion which centered more on water management issues than merely on specific management proposals. The latter were also discussed but in a broader issue context.

Another notable feature of the meeting was the degree to which the agency representatives played the role of technical resource persons. Rather than assuming a major directive role in guiding the workshop discussion, the agency people served mainly to provide background and reference information requested by local participants. This agency role of responding to information requests, rather than initiating the presentation of information was a noteworthy aspect

of the Bath workshop. It is the research team's contention that generally information provided in this context will be more meaningful and better remembered by the local participants since they have actively sought it.

It also appears, however, that a certain informational framework must first be established before local attendees are confident and informed enough to determine what information they need and to make such requests. In the case of the Bath meeting, this framework seems to have been established by the first Corning regional workshop, by the mailed pre-meeting orientational material and finally by the initial issue-focused workshop presentation.

A final characteristic of the Bath workshop which deserves mention was the informality of the meeting and familiarity of the participants with each other. Discussion questions and comments were generally couched on a first name basis. This contributed to an ease of communications and coupled with the responsiveness of the agency representatives created a discussion atmosphere of trust in the process and mutual respect for the differing opinions expressed.

#### Summary

In conclusion, the research team believes that the Bath workshop provides an important example of the type of effective opinion and information interchange that can be a part of a communication-involvement program. While neither the Tioga pilot experience nor the Bath meeting experience can be described as typical, the case studies do provide some useful contrasts and indications of the potentials and the problems which can be a part of such efforts.

Appendix C

"Influential" Identification:  
Research Methods and Socio-economic Characteristics

Susquehanna Basin Communication Study  
School of Natural Resources  
and  
Center for Research on the Utilization of Scientific Knowledge  
University of Michigan  
(Originally published) January 21, 1969

## Purpose

A research team from the University of Michigan is conducting a study on public participation in water resource planning in the Susquehanna River Basin. The purpose of the study is to develop new ways of informing influential segments of the public about the problems and issues in water resource development in their own region, as well as about the process of water resource planning in general. Also, the study is aimed at developing more meaningful mechanisms of public participation in the planning process. The purpose of this paper is to explain the method by which key local individuals were identified and to describe some of the more salient characteristics of these influentials.

## Introduction

For over fifteen years social scientists have studied actions by local leaders trying to ascertain who, in fact, are the people who really make the decisions about key issues in given communities. For convenience, the various research methods used can be grouped in four main categories:

- 1) Positional. Using this approach, the researcher assumes that the individuals occupying positions of formal authority and prestige have the primary influence upon major community decisions.
- 2) Reputational.<sup>1</sup> This approach assumes that there is "power behind the scenes", that there are people who persuade, advise, or strongly influence the positional authorities, and that this group can be identified by asking informed

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<sup>1</sup> See Floyd Hunter, Community Power Structure, Chapel Hill, N.C.: University of North Carolina Press, 1953.

local people who they think has this influence, i.e., who has the reputation for being influential.

- 3) Decisional.<sup>2</sup> Using this method, the researcher assumes that the power structure can best be identified by analyzing which people have been influential in past key decisions. The presumption is that they will continue to exercise influence in similar decisions in the future.
- 4) Verstehen.<sup>3</sup> This method incorporates elements of the first three along with a subjective interpretation by the research team of the meaning of the various statements and events. Use of this technique contrasts with a rigorous application of a single empirical approach.

Whatever method is used, valid results may have the following significant implication. Local people with influence may not have access to the technical knowledge they need for decisions. If indeed the people who make or influence major community decisions can be identified, they can also be provided with technical and social knowledge which may help make the decisions and planning process itself more rational, democratic, and productive. This is particularly important with respect to the problems which transcend the local community, involving state, regional and federal agencies. When key people lack issue and process knowledge in technically complex areas, such as water resource planning and development, local interests and preferences may be preempted by state and federal agencies. This is, in fact, what

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<sup>2</sup>See Robert Dahl, Who Governs?, New Haven: Yale University Press, 1961.

<sup>3</sup>See T. Abel, "The Operation Called Verstehen," American Journal of Sociology, Vol. 54, November, 1948, pp. 211-218.

frequently happens in water resource development since many of the policy decisions are made on the basis of federal or state laws, regulations and standards. Identifying and informing local influentials, then, can have significant potential for increasing local participation in planning and decision-making in issue areas which extend beyond the community. Increasing local water influentials' store of knowledge and their ability to use it could thus significantly alter both their relationship with state and federal authorities and the process by which water resource decisions are made.

#### Definition of Community Water Influentials

For the purposes of this study, influence was examined in terms of one area: water resource planning and development. Even with respect to this one issue area, influentials can be characterized in terms of several dimensions. First, their influence may be prescribed or attributed; that is, they may exercise it by virtue of their formal position or by virtue of the fact that other people look to them for guidance and decisions. Secondly, such individuals may actually exercise influence (in observable situations) or they may merely have the potential to exercise influence if they wish. Thirdly, their influence may be positive in the sense of initiating action, or negative, in terms of stopping or vetoing action initiated by others.

In this study, "community water influentials" are defined as those people who have the greatest demonstrated or perceived ability to make or affect policy decisions about water resources in their area of the Susquehanna River Basin.<sup>4</sup>

<sup>4</sup>This definition derives in part from a prior study by Spenser W. Havlick in the Milwaukee River Basin. Spenser W. Havlick, Attitudes Held by Water Influentials about Major Obstacles in Establishing Institutional Arrangements in an Urban River Basin, PhD. Dissertation, University of Michigan, 1967.

### Research Methods

The following method was employed by the University of Michigan research team to secure information about individuals who are influential in one problem field (water resource planning), in one geographical area (five counties in the Susquehanna Basin.) Simultaneously, it was also aimed at establishing a rapport with and active concern on the part of such persons for public participation in water resource decision-making. In some cases, the data acquired in the interviews and questionnaires were viewed as somewhat less important than the personal involvement obtained.

The approach used in this study for identifying influentials is best classified as Verstehen. (In many respects it resembles the "Community Social Profile" technique developed by Irwin T. Sanders.<sup>5</sup>) A team of five research interviewers was formed. The team first compiled available published data on the five designated counties and their major cities with particular regard to local water resource problems and issues. Newspaper files in the area were reviewed regarding such issues and names of key individuals involved in local water problem decisions over the past 20 years were noted. In addition, discussions were held with state and federal officials involved in water resource planning and management for the respective areas. Finally, a list of potential community water influentials was compiled. The list included: nominations from national organizations such as the Chamber of Commerce, and AFL-CIO, the National Association of County Organizations, and the National League of Cities; names of individuals who had participated in public meetings held by the Susquehanna River Basin

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<sup>5</sup>Irwin T. Sanders, "The Community Social Profile," American Sociological Review, XXC, No. 1, February, 1960, pp. 75-77.

Coordinating Committee; and individuals whose names were mentioned in newspaper articles as having been active in water resource projects or decisions in the past.

Following Sanders' method, the research team operated as a group. At least three members of the team actively interviewed to acquire data in each county. Sanders pointed out that "this builds more cross-checking into the operation because more trained people are reacting to the community and interacting with each other."<sup>6</sup> The interview team met nightly to compare notes and to prepare a written summary of the day's events and interview results.

The purpose of the interviews was not only to collect data on the respondent's perceptions, preferences and knowledge about water resource problems. It was also designed to add to the list of names of water influentials. In the course of the interview, each respondent was asked to name other community people whom he felt were water influentials. Specifically, he was asked, "Suppose a major problem in water resource development was before the community- one that required a decision by a group of leaders who nearly everyone would accept. Which people would you choose to make up this group-regardless of whether or not you knew them personally? Why would you choose them?" This technique of identifying more influentials on the basis of nominations by those interviewed- the "snowball" technique- brought to light a number of names not originally listed.

The interview also included other questions regarding what major disagreements, if any, had occurred in the community over the use of water

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<sup>6</sup> Sanders, op.cit., p.76.

resources; which people the respondents felt were technically knowledgeable; and which organizations were actively concerned with aspects of water resource development. Answers to these questions provided additional insights about which persons exercise influence in dealing with community water problems. For example, when discussing issues or organizations, the interviewer would ask the respondent who were the key people involved, and if the respondent himself was one of them.

Most of the respondents had some influence in one or several areas of water resource development since, in fact, the initial list was designed to include most of the individuals who had prescribed influence based on their formal positions. Because the public-at-large does not generally involve itself in water problems until there is a crisis, the initial list concentrated on identifying relevant governmental officials, representatives of various interest groupings in the community (such as farmers, industrialists, sportsmen, conservationists, etc.) and general civic and private organizational leaders. Reputational or attributed influentials were then identified and in each community, the interviewers attempted to contact any individual named at least twice by other respondents. On the average, this resulted in doubling the number of people to be interviewed. The final influential list for the water resource area was probably smaller than a list intended to reflect general community influentials over a whole range of public issues.

## Findings

For purposes of analysis, the research team differentiated between reputational and prescribed community water influentials. A reputational influential was defined for study purposes as an individual who was mentioned as being influential five or more times by other respondents.<sup>7</sup> On this basis, in the whole five county study area there were 64 reputational influentials interviewed. Fourteen additional reputational water influentials were identified but not interviewed due to time limitations. The remaining respondents were classified as prescribed influentials since their inclusion in the study list was based on either their organizational position or on actions they had taken in regard to various community water issues. The following table shows the number of reputational and prescribed influentials identified for each county.

I.	Total	Reputational	Prescribed
<u>County</u>	<u>Influentials</u>	<u>Influentials</u>	<u>Influentials</u>
	<u>Identified</u>	<u>Identified</u>	<u>Identified</u>
Broome County, New York	45	12	33
Tioga County, New York	20	8	12
Chemung County, New York	45	16	29
Steuben County, New York	39	10	29
Tioga County, Pennsylvania	35	18	17
Outside 5 County Area	<u>5</u>	<u>0</u>	<u>5</u>
Totals:	189	64	125

## Characteristics of Respondents

The 64 reputational influentials interviewed can be compared with the prescribed influentials in terms of various characteristics such as: position,

<sup>7</sup>The number of nominations was reduced to three for Broome and Tioga counties (N.Y.) because of the larger population in relation to the number of people interviewed in Broome County and because of the smaller number of interviews done in Tioga County.

amount of education, age, time in county, perceived influence on the planning process and knowledge about water problems.

Proportionally, more reputational influentials were either heads of private enterprises or elected officials. All those in appointed public offices who were classified in the reputational category were heads of agencies rather than line staff members. The following table summarizes the positional differences between the reputational and prescribed influential groups.

#### II. POSITIONS OF REPUTATIONAL AND PRESCRIBED WATER INFLUENTIALS

<u>Positions</u>	<u>Reputational Influentials</u>		<u>Prescribed Influentials</u>		<u>Total</u>	
	<u>No.</u>	<u>%</u>	<u>No.</u>	<u>%</u>	<u>No.</u>	<u>%</u>
Private Industry-Head	25	39%	40	32%	65	34%
Private Industry-Nonhead	4	6	11	9	15	8
Elected Official	21	33	12	9	33	17
Public Agency-Head	10	16	25	20	35	19
Public Agency-Nonhead	0	--	13	10	13	7
Other (education, philanthropy, housewife, etc.)	<u>4</u>	<u>6</u>	<u>24</u>	<u>20</u>	<u>28</u>	<u>15</u>
Total:	64	100%	125	100%	189	100%

The predominance of private enterprise chief executives and elected officials among reputational influentials coincides with findings of other studies.<sup>8</sup> A more striking finding was the complete absence of second level public agency people in the reputational grouping. Typically, individuals interviewed in this category were environmental health engineers, public health and pollution officials, and others directly concerned with water

<sup>8</sup>See Kent Jennings, Community Influentials (New York: The Free Press of Glencoe, 1964, pp. 44-48) and Robert Presthus, Men At the Top, (New York: Oxford University Press, 1964), pp. 178, and Havlick, Op. Cit., pp. 60-61.

resource problems. Many of them were named, however, as technical people to whom the reputational influentials turned for reliable information.

Reputational influentials did not differ appreciably from prescribed influentials with respect to the amount of formal education they had obtained. The level was generally high for all those interviewed: nearly 60% had college degrees and over one-fourth had taken some graduate work. Overall, the level of education of community water influentials was quite a bit higher than that of the 1960 general adult population of the five-county study area. The following table compares the educational levels of reputational and prescribed influentials and the area's adult population.

### III. EDUCATIONAL LEVELS: REPUTATIONAL AND PRESCRIBED INFLUENTIALS AND 1960 ADULT POPULATION

<u>Educational Level</u>	<u>Reputational Influentials</u>		<u>Prescribed Influentials</u>		<u>1960 Adult, Population<sup>9</sup></u>
	<u>No.</u>	<u>%</u>	<u>No.</u>	<u>%</u>	<u>%</u>
Less than HS degree	2	3%	5	4%	58%
High school degree	10	16	20	16	28
Some college	12	19	16	13	8
College degree	20	31	41	33	} 7% <sup>10</sup>
Graduate work	5	8	11	9	
Graduate degree	9	14	24	20	
No response	<u>6</u>	<u>9</u>	<u>8</u>	<u>6</u>	<u>—</u>
Totals:	64	100%	125	100%	100%

Community power studies have generally shown that influentials have lived the majority of their adult lives in the community being studied.<sup>11</sup>

<sup>9</sup>Those 25 years and over.

<sup>10</sup>The equivalent percentages for an educational level of a college degree or more are: reputational influentials--53%; and prescribed influentials--62%.

<sup>11</sup>See Kent Jennings, Community Influentials, (New York: The Free Press of Glencoe, 1964), and Robert Presthus, Men At The Top, (New York: Oxford University Press, 1964).

Community water influentials in this study are no different. All but three of the 64 reputational influentials interviewed had lived ten years or more in the present county, while 63% of the prescribed influentials were also ten year or longer residents. Overall, only 26 % of those interviewed had lived in their present county less than ten years.

Reputational community water influentials on the average tended to be older than prescribed influentials. The following table shows the two groups' age distributions as well as that of the 1960 general adult population of the five-county study area.

IV. AGE LEVELS: REPUTATIONAL AND PRESCRIBED INFLUENTIALS AND 1960 ADULT POPULATION

<u>Age Levels</u>	<u>Reputational</u> <u>Influentials</u>		<u>Prescribed</u> <u>Influentials</u>		<u>1960 Adult</u> <sup>12</sup> <u>Population</u>
	<u>No.</u>	<u>%</u>	<u>No.</u>	<u>%</u>	<u>%</u>
Under 40 years	7	11%	27	22%	40%
40-49 years	16	25	40	32	19
Over 50 years	37	57	54	43	41
No response	<u>4</u>	<u>6</u>	<u>4</u>	<u>3</u>	<u>--</u>
Totals:	64	100%	125	100%	100%

The researchers were interested in learning whether reputational and prescribed water influentials could be differentiated in terms of the influence they felt they had had on local water resources planning development. The reputational influentials were more likely to feel they had personally exercised some influence on water resource development in their area. Nearly 30 % said they had a good or great deal of influence, compared to 14 % of the prescribed influentials. The next question then becomes, why do they think they have more influence and on what factors are their opinions based? The reputational influentials felt their power was based somewhat more than did the prescribed influentials

<sup>12</sup>Those 20 years and over.

on actions they had taken and on the fact that they represented an organization. The major difference between the two groups was the extent to which they perceived their influence to be based on knowledge. Less than 12% of the reputational community water influentials felt that their influence was based to a good or great extent on their technical knowledge, according to their questionnaire responses. On the other hand, 28% of the prescribed influentials who answered the questionnaire felt that whatever influence they had had was based to a good or great extent on their technical knowledge.

#### Summary

This paper has described the method by which community water influentials in five counties of the Susquehanna River Basin were identified and studied. The method was eclectic, using certain aspects of positional, decisional, and reputational approaches. Influentials were then described in terms of selected socio-demographic characteristics.

There is no "typical" community water influential. However, to summarize, a community water influential in the study area could generally be characterized as: the head of a business organization or a public agency, over 50 years of age, college educated, a county resident for most of his life, and a man who generally perceives his influence in water resources planning to be based on his organizational position rather than on his technical knowledge of water resources.

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Appendix D

Susquehanna Basin Communications Study

Summary Feedback Reports

Part I - Preliminary Overall Summary From  
Pre-Interviews and Questionnaires

Part II - Perceived Water Problems in Broome  
and Tioga Counties, New York (Sample  
of one local area feedback report)

PRELIMINARY

SUSQUEHANNA BASIN COMMUNICATION STUDY SUMMARY REPORT

School of Natural Resources

and

Center for Research on the Utilization  
of Scientific Knowledge

The University of Michigan

December 1968

INTRODUCTION

The growing complexity and importance of water resource problems in our society increasingly demand joint, coordinated action by all levels of Government (federal, state, and local) in planning and developing water policies and facilities. The Susquehanna River Basin Coordinating Committee was formed in 1963 to ensure that the seven federal agencies<sup>(1)</sup> and three states<sup>(2)</sup> responsible for drawing up a long range plan for the development of the Susquehanna Basin's water resources have their views represented in the final plan. An essential component of this long range planning effort is a knowledge and consideration of the needs and preferences of local residents throughout the Basin.

Researchers from the University of Michigan are currently studying ways to improve communication between Federal and State planners and local community leaders with regard to the future water resources development of the Susquehanna Basin. The study has focused on four counties in the southern tier of New York State: Chemung, Steuben, Tioga and Broome; and Tioga County, in north central Pennsylvania. (See Figure 1. Map of the Susquehanna Basin Communication Study Area.)

In these counties 189 interviews were conducted with government, civic and community leaders who had some interest in and/or potential for affecting water resource development in their local areas.<sup>(3)</sup> Of those interviewed,

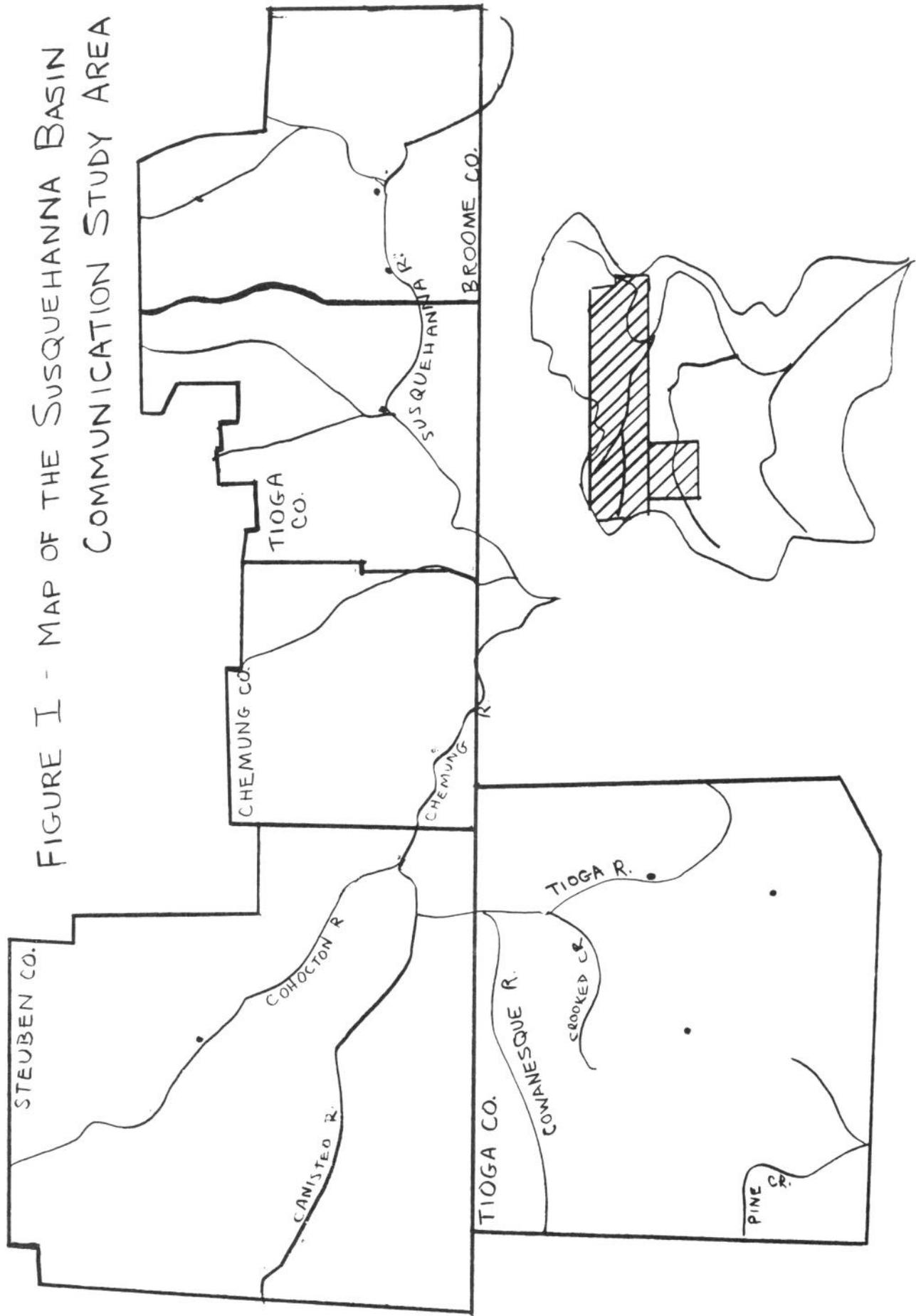
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(1) U.S. Army Corps of Engineers, Department of Agriculture, Department of Commerce, Federal Power Commission, Department of Health, Education and Welfare, Department of Housing and Urban Development, Department of the Interior.

(2) New York, Pennsylvania and Maryland

(3) A more detailed description of the procedures used in selecting those persons to be interviewed, as well as a summary of the characteristics of those interviewed, is contained in Appendix I to this report. A copy of this Appendix as well as Appendix II, which is a bibliography of water resource references on the Susquehanna River Basin, is available on request to anyone interested in pursuing these topics further.

FIGURE I - MAP OF THE SUSQUEHANNA BASIN  
 COMMUNICATION STUDY AREA



Location of Study Area in the Basin

155 also returned written questionnaires given to them at the time of the interview.

The purpose of this report is to provide a summary of preliminary findings to local residents in the five-county area, and to concerned water resource agencies. Particular emphasis is placed on what local people believe to be the most serious water problems.

#### MAJOR PROBLEM CATEGORIES

Two key questions were asked about water problems: (1) respondents were asked to rank in order the four most important current problems; and (2) they were asked to evaluate the seriousness of these problems now and the expected seriousness in twenty years if no increased action is taken.

What did the people interviewed in the five counties feel, as individuals, were the most important current water problems in their local area? Three problem categories stood out: (1) water pollution, (2) water supply, and (3) recreation.

Those interviewed reflected a growing national concern for water pollution and sewage disposal. This was regarded as the most serious problem in all five counties. In three New York counties (Chemung, Tioga, and Broome), it was ranked as a key problem at least three times as often as any other problem category and, on nearly half the questionnaires received, it was listed as the number one priority problem. In addition, local people saw the pollution problem becoming more serious within twenty years if increased levels of public action are not undertaken. In that case, 83% of the respondents felt pollution will be an "extremely serious problem", while only 45% classified it as extremely serious now.

Water supply was viewed as the second most important problem category in the overall rankings by local people. In two of the more western counties (Chemung, New York, and Tioga, Pennsylvania), the concern with water supply was nearly as great as with water pollution. An adequate supply of water to meet present and future needs was often mentioned by local people as a necessary

condition for the continued economic growth in their area. In addition, the problem of water supply was expected to become much more critical in the future if no increased public action is undertaken. Of those responding, 48% felt that currently, water supply was not a serious problem, while only 13% viewed it as "extremely serious." However, given no additional public action, 47% expected it to be "extremely serious" within twenty years.

Recreation received the third highest overall number of mentions as a priority problem, ranking considerably higher than flood control. In two New York counties (Broome and Tioga), water-related recreational development placed second in the local people's listing of important water concerns. It was a problem that a majority (63%) of the study's respondents expected would become "extremely serious" within twenty years if increased public and private action is not taken. Present recreational shortages were viewed as an "extremely serious" problem by 25% of the respondents, while 55% saw them as "moderately serious."

Figure 11 provides a county by county breakdown of the four highest priority problems as listed by the study respondents.

#### ADDITIONAL IMPORTANT PROBLEM CATEGORIES

The three other problem categories which local people viewed as also being of major importance were flood control, preservation of environmental quality, and low flow augmentation--in that order.

As an area of public concern, flood control ranked third in Chemung and Tioga Counties, New York; fourth in Tioga County, Pennsylvania, and fifth in Steuben and Broome Counties, New York. Increased concern about the

FIGURE II  
 PRIORITY WATER PROBLEMS BY COUNTY OF RESPONDENTS\*  
 (Based on total ranking score for each problem category)

ORIGIN OF Respondents	FIRST PRIORITY	SECOND PRIORITY	THIRD PRIORITY	FOURTH PRIORITY
WESTERN COUNTIES				
Chemung Co., N.Y.	Pollution	Water Supply	Recreation and Flood Control	Low Flow Augmentation
Steuben Co., N.Y.	Pollution	Water Supply	Recreation	Environmental Quality
Tioga Co., Pa.	Pollution	Water Supply	Recreation	Flood Control and Mine Acid Pollution
EASTERN COUNTIES				
Broome Co., N.Y.	Pollution	Recreation	Water Supply	Environmental Quality
Tioga Co., N.Y.	Pollution	Recreation	Flood Control	Water Supply

\*For a detailed discussion of the major water resource problems perceived by respondents in your County, see Part II of this report.

seriousness of flood control problem in the next 20 years, if no additional public actions are taken, was not a major factor. Only 25% of the respondents expressed the feeling that flood problems would be extremely serious in the future without additional action.

In the opinion of 53% of those interviewed, preservation of environmental quality was expected to be an "extremely serious" problem within twenty years if current public action programs are not significantly expanded. A number of local people expressed marked interest in improving the quality of their urban areas by emphasizing and enhancing the relationship between these areas and the rivers and streams flowing through them.

Forty percent of the local respondents feel low flow augmentation will be an "extremely serious" problem within twenty years if additional public action is not undertaken--an increase of 27% over those who classify it presently as "extremely serious." Since there is a close interrelationship between the volumes of water flowing in rivers and streams and the seriousness of pollution, water supply, recreation, flood control, and even environmental quality problems, the significance attributed to these latter problem areas by local respondents seems to imply added attention to flow augmentation as well.

Several problem-related topics were also covered by the respondents. For example, when asked which organizational level (federal, state, local, etc.) should be primarily responsible for taking action on various types of water problems, there was no clear consensus of opinion among the respondents. The tendency was to assign primary responsibility to those organizational levels which are presently the usual administrators of programs in the different problem fields (e.g., flood control as a federal responsibility).

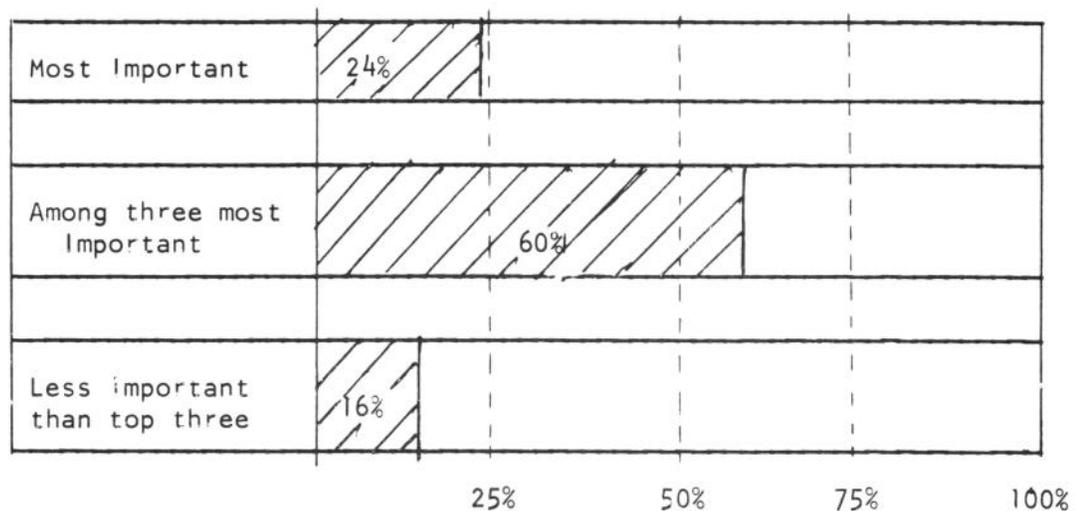
In addition, many local respondents commented on the organizational and jurisdictional problems inherent in area water resources management and

planning. For example, respondents often felt that the proliferation of small and usually uncoordinated water and sewage districts has hindered the development of an integrated, efficient program for use of water resources.

Finally, at a more general level, 83% of the respondents thought the water resource problems in their local areas were among the three most important types of public concerns, but less than 25% felt that water problems were the most important public concern. (See Figure III below.)

FIGURE III

General Importance of Water Resource Problems



#### DIFFERENCES IN PROBLEM PERCEPTIONS

One of the major concerns of the study has been the degree to which federal and state technical water experts and planners perceive the problems of an area differently than the local residents and community leaders. To provide a rough indication of such differences, members and staff personnel of the Susquehanna Coordinating Committee were also asked to fill out a written questionnaire at a recent meeting. On one of the questions, they ranked what

they, as planners, felt were the major problems of the region which includes Broome and Tioga Counties in New York State. They were also asked to rank the problems in the order they believed local people in this region would order them. The results are shown in the Figure below, along with the actual rankings of the Broome and Tioga residents who were contacted by the research team.

FIGURE IV  
Differences in Perceptions of Priority Water Problem Categories

Source and Basis of Rankings	1st Priority	2nd Priority	3rd Priority
Coordinating Committee (Own Evaluation)	Flood Control	Water Supply	Pollution
Coordinating Committee (What Local People Would Think)	Water Supply	Flood Control	Pollution
Local Residents of Broome and Tioga Counties	Pollution	Recreation	Water Supply

There appears to be some discrepancy between local respondents and the Coordinating Committee members and staff regarding the relative importance of flood control and pollution problems. The local people are much more concerned about pollution than flood control, while the Coordinating Committee planners rate flood control higher (and also feel that local people think it is more important than they actually do).

#### ESTABLISHING COMMUNICATION LINKAGES

The results of the preceding table seem to indicate a need for improved communications between the Federal and State water development planners and

the local community leaders in this area of the Susquehanna Basin. However, the amount of overlap present in the rankings implies that a certain degree of basic agreement still exists between the two levels as to what the most important problems of the area are. The major differences occur in the ordering of problem priorities. To generate the widest possible support for carrying out the provisions of a long range regional water development plan for the Susquehanna Basin, an effort should be made to align, as closely as possible, the problem priorities of both groups. This means that the two-way communication linkage between local community leaders and the Coordinating Committee should be significantly strengthened.

Two necessary ingredients for the establishment of stronger bridges of water problem agreement between the local and federal-state levels are:

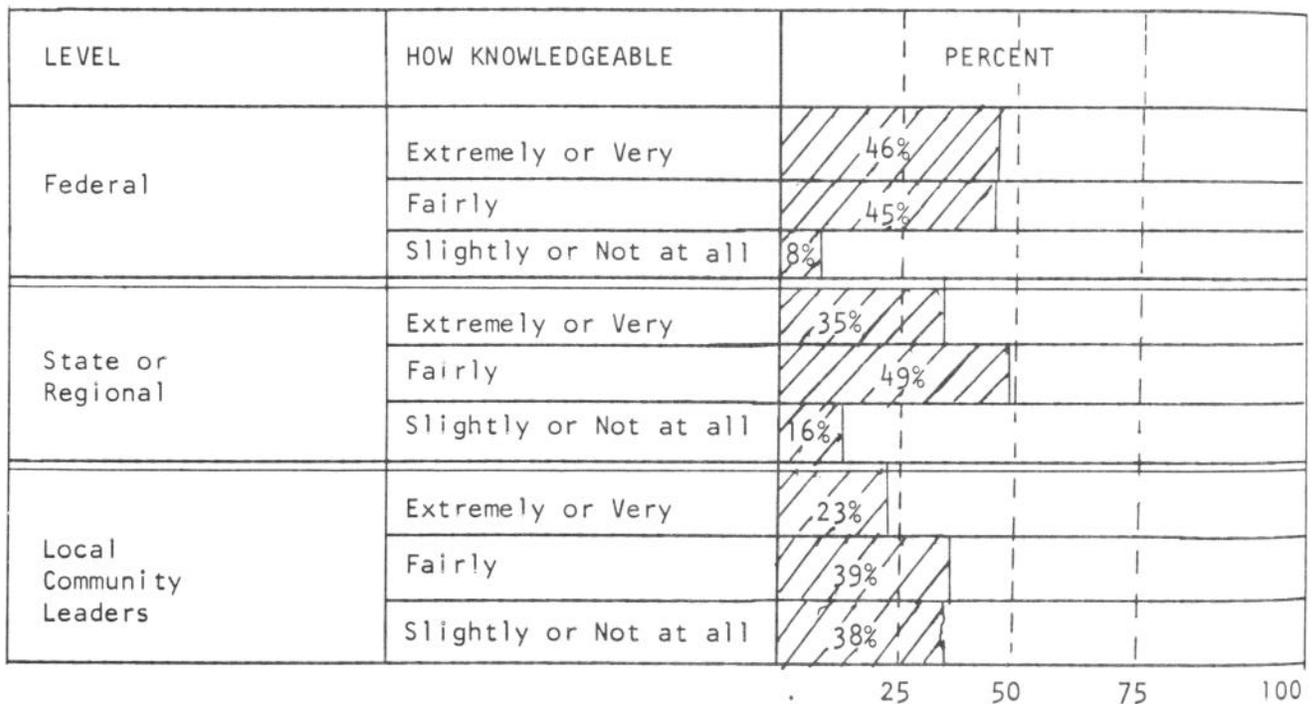
- 1) An increased effort by Federal and State planning personnel to explain and publicize the technical dimensions of various water problems, e.g., their source and magnitude; their seriousness in terms of future consequences; the degree to which they are interrelated with other water problems; and the costs and benefits of various potential programs or projects for alleviating them.
- 2) Increased opportunities for local residents, officials, and community leaders to make their views known to Federal and State planners through participation in meaningful dialogues and work sessions in which misperceptions at both levels could be ironed out and attempts could be made to hammer out mutual accommodations where the goals and viewpoints of the two levels do objectively differ.

#### HOW KNOWLEDGEABLE ARE PEOPLE AT VARIOUS LEADERSHIP LEVELS

Local people were asked to evaluate how knowledgeable they felt officials and leaders at three jurisdictional levels (federal, state-regional, and

local) were on area or basin water resource problems. Their replies showed a distinct trend toward attributing greater knowledge to those with broader spheres of jurisdictional responsibility (see Figure V below). Thus, federal officials were seen as "extremely or very knowledgeable" by 46% of the respondents, while 35% placed state-regional leaders in this category, and only 23% felt local community leaders possess this level of knowledge. In contrast, 38% regarded local community leaders as being generally uninformed on local water resource problems.

FIGURE V  
Perceived Knowledge of Various Leadership Levels



Despite this lower evaluation of the degree to which their community leaders are informed about local water resource problems, the overwhelming majority (70%) of the respondents still maintained that the public should share equally with technical experts in making final water policy decisions. However, this ideal does not appear to be working out in actual practice since only 15% of the respondents felt local community leaders and organizations had been involved to any great extent in the planning done in their local areas. For 33%, such involvement was, in fact, seen as extremely minimal. When asked how they felt local participation in such planning decisions could be increased, the respondents ranked as the three most important means for achieving this:

- 1) Increased publicity on planning activities.
- 2) Formation of citizens advisory planning organizations.
- 3) Workshop sessions emphasizing working discussions with planning agency personnel.

Taken together, these study findings on perceived levels of knowledge and on preferred versus actual participation in planning decisions, (along with suggested ways for increasing the levels of local participation) seem to imply several things. First, federal officials and state-regional leaders were perceived as having a reasonably high degree of technical competency in the area of local water resource problems. In addition, local residents saw a definite role for experts as co-partners in influencing and making water resource decisions affecting their local areas. Finally, local leaders felt that increased publicity on planning activities would be the most effective mechanism for expanding local involvement in the planning process.

These tentative findings seem to point to a need for expanded informational efforts on the part of federal and state agencies. These should be directed toward increasing the knowledge of local leaders and residents concerning the technical and policy implications of water resource problems in their respective areas. Such efforts could strengthen the capacity of local community leaders to effectively use the other two highly rated means for stimulating meaningful local planning involvement, namely, formation of citizens advisory planning organizations and active participation in program and policy-oriented workshop sessions.

#### INFLUENCE ON LOCAL WATER RESOURCE DEVELOPMENT

When asked how much influence they felt they personally had on water resource development in their local areas, 53% of the respondents replied "little or none," while only 19% felt they had exercised a substantial amount of influence. (See Figure VI) In addition, the respondents most often singled out their organizational position as the primary source of whatever influence they had exerted, rather than their technical knowledge of water problems or any activities they had undertaken to promote a particular program of water resource development. (5)

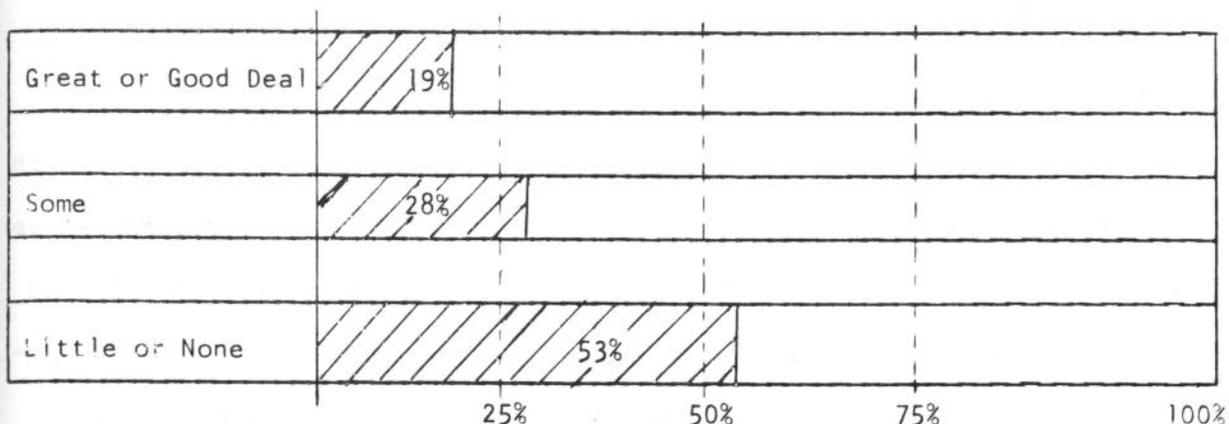
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(5) The two types of activities most frequently engaged in during the last three years by local respondents to express their opinions on water problems were:

- 1) Attending a local meeting to discuss water problems. (67% of the respondents did this at least once).
- 2) Visiting or calling a water resource planning or development agency. (41% of the respondents did this at least once.)

FIGURE VI

Perceived Influence of Community Leaders on Water Resource Planning



SUMMARY AND CONCLUSIONS

This is the first part of a two-part report presenting the summary findings of the interview-questionnaire survey conducted with community leaders in the five county study area. Part II concentrates upon particular local problem concerns. Individual reports on such local concerns have been prepared for each of the following sub-areas in the study region: (1) Broome-Tioga Counties, New York; (2) Chemung County, New York; (3) Steuben County, New York; and (4) Tioga County, Pennsylvania. The relevant Part II version for his area of residence is being supplied to each respondent in the study. If versions for other areas are desired, the research team will provide them upon request.

Several general conclusions can be drawn from the findings presented in the foregoing section of the report. First, water problems were not the top priority concern of local respondents in the five-county area. There was interest and concern but there were also many competing matters confronting each individual. Yet each person had perceptions and opinions about the character of the water problems in his own area and there appeared to be significant

unity of opinion about which general problem categories were of high priority. The problem categories upon which local interest centered were pollution, water supply and recreation. However, almost all types of water resource problems were seen as becoming more serious in the next 20 years if no increased level of public action is undertaken.

What needs to be done in each local area to provide a sound basis for such long range public action? The study respondents strongly favored a cooperative program of planning with local community leaders and technical experts sharing responsibility in reaching program decisions. Respondents neither viewed themselves as technical experts, nor did they feel that they were particularly influential in water resource planning, although they did express opinions on various means they felt could be most effective in assuring the expression of local concerns in such planning. They specified that more information on water problems and on the planning efforts being conducted to alleviate them is needed. They also rated attendance at local meetings and direct dealings with planning or development agencies as the most effective means for expanding local community participation in the water resources planning process.

The research team agrees with and supports the proposition that more and better dissemination of information between concerned parties is a necessary step toward achieving effective local participation in the planning process. It is hoped that this preliminary report will be the first step in that direction. The report (Parts I and II), and its appendices, are intended to serve as one basis for community level meetings in the study area between representatives of state and federal agencies and concerned individuals from each local area.

## PART II

### Perceived Water Problems in Broome and Tioga Counties, New York

Part II describes local water problems in Broome and Tioga Counties in New York, as perceived by 65 local respondents who were identified as being concerned with or influential in water resource planning. These two New York counties include part of the North Branch of the Susquehanna River and its tributaries.

It should be emphasized at the outset that the problems described here are only those perceived by the respondents. As such, they are very real for the respondents, but they are not necessarily substantiated by supporting physical or economic data. However, because people generally act according to the way in which they perceive problems, the perceptions described below are important for planners and for citizen respondents.

The two most important water problem areas for respondents in Broome and Tioga counties were pollution and recreation, in that order. Three other problem areas were of secondary importance: water supply, flood control, and preservation of environmental quality. After pollution and recreation, Broome respondents were more concerned about water supply, and Tioga respondents were more concerned about flood control. However, all three secondary problem areas were perceived to be of almost equal importance.

#### Water Pollution-Sewage Disposal

Respondents were generally aware of the significant efforts being made to correct the pollution problem by the State of New York under legislation which went into effect on January 1, 1966. However, the lower end of the Susquehanna in New York was still seen as being seriously polluted. As one respondent stated, "The river is simply an open sewer." But the situation is improving. For example, another added, "I would not eat the fish that come out of the river,

but it seems that pollution is not as bad as it used to be." Specific problems which were noted include:

1. Many of the smaller communities, like Nichols, Chenango, Twin Orchards, Apalachin and Waverly, were still dumping raw municipal sewage into the river, largely because of inadequate financial resources to put in primary treatment facilities. Most of the local governments have not yet installed the secondary treatment facilities which will be mandatory by state law in 1970.
2. There was some feeling that the State of New York either did not have sufficient surveillance authority or was not making use of it to insure compliance with the law.
3. Some industries (like dairy and tanning) and certain public institutions were still thought to be putting polluted effluents into the river. However, people generally felt that both municipal government and local industry were committed to cleaning up the river. One respondent even noted that "pollution exists due to the irresponsibility of the public--in not demanding treatment by local government and industry."
4. In the rural areas some people were concerned about pollution caused by sedimentation and erosion.
5. Many respondents noted that even with adequate treatment facilities, there may still be a problem in certain times of the year when the flow of the river is not sufficient to assimilate an effluent receiving secondary treatment. Low flow augmentation was seen as a possible remedy. Tertiary treatment, which is in operation in several cities elsewhere, was seldom mentioned.

## Recreational Water Use

Recreational use of water resources was clearly secondary to the problem of water pollution in Broome and Tioga counties, but at the same time it is inextricably tied to pollution abatement. Recreational development of the Susquehanna Basin was seen as a possibility, not as an accomplishment. As one respondent said, "This is a 30 mile lake as far as I am concerned." Another added: "People are just waking up to the recreational possibilities of the river in this area." Frequent lack of awareness or enthusiasm may in part be due to the proximity of the Finger Lakes and the opportunities they afford. Specific problems and issues brought up included:

1. The most publicized issue or problem was the prohibition of water skiing on the Susquehanna in the Tri-City area by the Broome County Health Department in the summer of 1968, due to pollution levels. There was some question by the public as to how polluted a river must be to prohibit water skiing.
2. Small city and county parks have significant potential for local residents (as opposed to tourists), because most of the populated segments of Broome and Tioga counties are concentrated along the River. Some towns and villages have successfully developed such parks (e.g., Hickories Park near Owego).
3. Several respondents felt that recreational potential would be enhanced merely by cleaning up the riverbank and through low flow augmentation in dry seasons. Groups such as the Endicott Rotary Club have undertaken clean-up campaigns which have been moderately successful.
4. Respondents were generally aware of the successful multi-purpose use of the Whitney Point dam with its strong emphasis on recreational attractions for tourism. There was some interest in developing new

dam sites (and reservoirs) near the cities for recreational purposes (e.g., in Binghamton-Johnson city below the confluence of the Chenango and the Susquehanna; and in Owego near the old dam at Hiawatha Island-- which would enhance Hickories Park).

5. Several respondents were interested in the development of small recreational water projects in the area (e.g., Spencer Park on Nichols Lake; Hawkins Pond in Broome County). However, these efforts seemed to be generally unrelated, and there was no coordinated recreational development program with strong public support.

#### Water Supply and Distribution

Water supply and distribution problems seemed to be more salient for respondents in Broome County than in Tioga. Neither county experienced serious problems during 1965 when the downstate area suffered a major drought. With the exception of Binghamton and portions of the water supplies of other towns, most areas were not largely dependent on the river for water supply, but relied instead on ground water. However, concern about the water supply was not limited to public officials and planners. Major concerns included:

1. The need to repair and/or reconstruct Rockbottom Dam in Binghamton was recognized long before the serious breakthrough which occurred in October, 1968. Two issues were involved: one had to do with the cost of repair and reconstruction, which increased each time it was reappraised (largely due to the inflation); and the other was whether to abandon the old dam entirely and to construct a new one below the confluence of the Chenango and Susquehanna Rivers. The October damage probably will force a decision in the Spring of 1969.

2. A study of Broome County indicated that there were 47 water supply agencies. The proliferation of districts was also common in Tioga county. Overlapping, ambiguous or noncontiguous supply jurisdictions result in uneven distribution and costs.
3. The flouridation controversies which caused major community conflict 5 or 6 years ago seem to be all but forgotten.
4. The respondents' orientation seemed to be futuristic in terms of need. Virtually, all areas currently have sufficient water supplies. There was some concern by industry that future industrial expansion in the area might be hampered by water supply constraints. Several respondents were concerned about the possibility that New York City in the future may turn to the Susquehanna to supplement its water supply, which might in turn reduce local water availability. Several studies were underway regarding groundwater resources and river water supply potential.

#### Flood Control

While there has been no major flood afflicting the two counties for more than twenty years, one respondent cogently noted that "A major flood would still be a catastrophe." Flood control measures have traditionally been the focus of community dissention, regarding such issues as: whether any measures are necessary; whether the projects should be large dams or small watershed projects; who should pay for them; who should construct and administer them; whether flood control projects benefits should be combined with other uses in large multi-purpose projects which displace portions of the population and eliminate some of the tax base for the county or local government. Flood control problems currently of concern to respondents included:

1. Minor flooding on parts of Patterson Creek, Trout Brook, Apalachin Creek, Owego Creek and Cataton Creek concerned some respondents. It

- was believed, however, that this could be remedied through small watershed projects.
2. Limited attempts at effective flood plain management and zoning have been undertaken only during the past 15 years. There were still some areas where rising water levels cause problems in the flood plain virtually every spring (e.g., Conklin).
  3. The two major dams proposed for the North Branch of the Susquehanna (Davenport Center and Genegantslet) were not as controversial in Broome and Tioga Counties as they were upstream. Some respondents noted, however, that current flood walls and dikes were inadequate because they were installed on the assumption that the upstream dams would be constructed years ago.
  4. There was still some conflict between big dam supporters and those who thought small watershed projects will do the job. Several people felt that supporters of big dams are now promoting them on the basis of expected recreation as well as flood control benefits.
  5. Approval of certain small watershed projects by the Soil Conservation Service of the Department of Agriculture (under P.L. 566) caused some controversy because Nanticoke, Patterson, and Little Choconut Creek watershed projects primarily benefitted urban (the Tri-City area) rather than rural areas. Many respondents, however, were only vaguely familiar with the P.L. 566 projects which cost about \$10 million. Some concern was expressed about access to small watershed projects and adequate maintenance provisions.
  6. The most publicized conflict in the area was the proposed floodwall-dike system for part of the Nichols area on Wappasining Creek which would affect some 100 properties and cost \$1,300,000. Some local people felt

that too much land was being expropriated and too much fill required for a project that might not prevent flooding in the village of Nichols.

#### Preservation of Environmental Quality.

The maintenance of scenic beauty and environmental quality was closely related to pollution control, recreational use, and the kinds of flood control measures undertaken. Respondents mentioned several problems regarding environmental quality:

1. The exclusion of the New York portion of the Susquehanna from the Scenic Rivers Bill was the subject of extended controversy. Those favoring exclusion were worried about limitations on measures for flood control, industrial development and road construction. It is possible that a compromise effort might be made to amend the Scenic Rivers Bill to include portions of the North Branch of the Susquehanna, excluding the Tri-City area and other urban zones.
2. The creation of a Broome County Conservation Commission was pushed by the Susquehanna Conservation Council in order to insure adequate representation of conservation and environmental quality interests in public policy planning. It was felt by several individuals that this aspect had been neglected; that public works projects are often undertaken without adequately considering their possible effects on the natural environment (e.g., drainage of Hawkins Park Pond).
3. Road construction was seen by many respondents to be destroying the beauty of the river. One respondent stated flatly that "Route 7 is the immediate threat to the Susquehanna River in the State of New York." Frequently, road construction operations destroy old towpaths, change the channel of the river and limit public access to the river. Individuals also expressed feeling that insufficient information about public

works plans was being disseminated to the public in advance. "Eighty percent of the problem is communication."

4. Flood walls, rip-rap and old buildings overhanging the river in several places have made it unsightly. Low flow coupled with significant amounts of debris intensified the problem.

#### Other Problems

Respondents generally felt that problems of finance and governmental organization inhibited the effective utilization of water resources in their part of the Susquehanna. The problems were compounded by a lack of communication between the federal, state, and local governments, and by the governments to the public-at-large. While the Eastern Susquehanna Regional Water Resources Board was perceived by some to be a step in the right direction, there had been little publicity about the activity of this organization, and consequently little public awareness of its existence.

Most of the respondents thought the major barrier to more effective water resource development in the area was public apathy. In addition, the age-old problem of upstream projects providing primarily downstream benefits still plagued the area. As one respondent noted, "Everyone is looking for someone else to pay for the development." Moreover, it is frequently most politically expedient to let problems alone until they become crises.

#### Summary

This paper has attempted to describe specific water problems which concerned a select group of individuals who were identified as being influential in, and/or informed about water resources planning for Broome and Tioga Counties in New York. Water resources development problems are generally interrelated, but for purposes of description they have been divided into major categories of perceived priority: pollution, recreation, water supply, flood control, and environmental

quality. No solutions are proposed; rather, it is hoped that this summary may serve to stimulate discussion and action by local people on integrated water resource planning for the two counties.

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Appendix E

Supplementary Figures: Susquehanna  
Communication-Participation Study

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FIGURE E-1 SUSQUEHANNA COORDINATING COMMITTEE WORKSHOP MEETINGS--  
LOCATION, DATE AND ATTENDANCE

Location of Workshop	Date of Workshop	Attendance
Tioga (Wellsboro), Pennsylvania	January 4, 1969	39
Bel Air, Maryland	January 24, 1969	22
Harrisburg, Pennsylvania	February 11, 1969	71
Altoona (Loretto), Pennsylvania	February 17, 1969	41
Emporium, Pennsylvania	February 18, 1969	34
Lewisburg, Pennsylvania	February 19, 1969	44
Scranton, Pennsylvania	February 20, 1969	34
Towanda (Wysox), Pennsylvania	February 21, 1969	42
Binghamton, New York	March 12, 1969	35
Corning, New York	March 13, 1969	53
Oneonta, New York	March 19, 1969	59
Cortland, New York	March 20, 1969	29
Bath, New York	June 3, 1969	18
Elmira (Horseheads), New York	June 4, 1969	26
Total:		547

FIGURE E-2 SUSQUEHANNA COORDINATING COMMITTEE PUBLIC FORUM MEETINGS--  
LOCATION, DATE AND ATTENDANCE

Location of Forum	Date of Forum	Attendance
Wilkes-Barre, Pennsylvania	May 27, 1969	93
Towanda, Pennsylvania	May 28, 1969	69
Harrisburg, Pennsylvania	June 4, 1969	144
Oneonta, New York	June 11, 1969	631
Binghamton, New York	June 12, 1969	107
Huntingdon, Pennsylvania	June 17, 1969	74
Lock Haven, Pennsylvania	June 18, 1969	97
Elmira, New York	June 19, 1969	100
Baltimore, Maryland	June 23, 1969	65
Total:		1380

FIGURE E-3 WORKSHOP ATTENDANCE: TOTAL AND  
UNIVERSITY OF MICHIGAN RESPONDENTS

Workshop Location	Total Attendance	U. of M. Respondents Attending	% U. of M. Respondents of Total Attendees
Tioga, Pennsylvania	39	21	54%
Wysox, Pennsylvania	42	8	19%
Binghamton, New York	35	25	71%
Corning, New York	53	15	28%
Oneonta, New York	59	21	36%
Cortland, New York	29	14	48%
Bath, New York	18	4	22%
Horseheads, New York	26	15	58%
Totals:	301	123	41%

FIGURE E-4 PUBLIC FORUM ATTENDANCE: TOTAL AND  
UNIVERSITY OF MICHIGAN RESPONDENTS

Public Forum Location	Total Attendance	U. of M. Respondents Attending	% U. of M. Respondents of Total Attendees
Towanda, Pennsylvania	69	6	9%
Oneonta, New York	631	27	4%
Binghamton, New York	107	22	21%
Elmira, New York	100	23	23%
Totals:	907	78	9%

FIGURE E-5 WORKSHOP AND PUBLIC FORUM ATTENDANCE  
 PATTERNS OF THE RESEARCH STUDY'S LOCAL RESPONDENTS

		Number of Forums Attended				Totals-- Workshop Attendance
		0	1	2	3	
Number of Workshops Attended	0	188	15	1	0	204
	1	36	28	1	0	65
	2	6	12	4	1	23
	3	0	1	2	1	4
Totals-- Forum Attendance		230	56	8	2	296

Of the total 296 University of Michigan local opinion leader study respondents:

92 Different Respondents (31%) Attended at least One Workshop.

66 Different Respondents (22%) Attended at least One Forum.

108 Respondents (36%) Attended Either a Workshop or Forum.

50 Respondents (17%) Attended Both a Workshop and Forum.

42 Respondents (14%) Attended a Workshop but Not a Forum.

16 Respondents (5%) Attended a Forum but Not a Workshop.

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FIGURE E-6 MEAN RESPONSES FOR THE "HOW MUCH NEW INFORMATION" QUESTIONS ON THE WORKSHOP PRE-POST OPINIONNAIRES

1. How much new information about local WATER PROBLEMS (DO YOU EXPECT TO GET) (did you get) in this meeting? (circle the most appropriate number)

1      2      3      4      5      6      7      8      9      10  
 Great Deal None

2. How much new information about possible SOLUTIONS to local water problems (DO YOU EXPECT TO GET) (did you get)? (circle the most appropriate number)

1      2      3      4      5      6      7      8      9      10  
 Great Deal None

	Information on Problems		Information on Solutions	
	Pre (Expected)	Post (Received)	Pre (Expected)	Post (Received)
All	5.02	5.38	5.40	6.08
Oneonta	4.43	6.43	4.86	6.29
Cortland	5.56	5.56	5.46	6.12
Binghamton	4.81	4.69	5.62	4.88
Corning	5.20	5.33	5.50	6.57
Scranton	4.45	3.59	4.90	4.86
Wysox	5.58	4.63	5.30	5.80
Lewisburg	5.00	4.09	4.45	5.00
Altoona	4.90	5.81	5.35	6.50
Emporium	4.89	5.72	5.33	6.11
Harrisburg	5.45	5.66	5.70	6.16
BelAir	4.72	4.39	5.33	5.60
Tioga (Wellsboro)	5.56	6.80	6.20	7.76

Overall N = 323 (matched pre-post)

FIGURE E-7 MEAN RESPONSES FOR "EXTENT ABLE TO EXPRESS OPINIONS"  
 QUESTIONS ON WORKSHOP PRE-POST OPINIONNAIRES

1. To what extent (DO YOU EXPECT TO BE) (were you) able to express your opinions about local water PROBLEMS in this meeting? (circle the most appropriate number)

1	2	3	4	5	6	7	8	9	10
Very Great Extent									No Extent

2. To what extent (DO YOU EXPECT TO BE) (were you) able to express your opinions about possible SOLUTIONS to local water problems? (Circle the most appropriate number)

1	2	3	4	5	6	7	8	9	10
Very Great Extent									No Extent

	Opinions on Problems		Opinions on Solutions	
	Pre (Expected)	Post (Able to )	Pre (Expected)	Post ( Able to)
All	<u>5.26</u>	<u>3.97</u>	<u>5.50</u>	<u>4.96</u>
Oneonta	5.62	4.65	5.97	6.00
Cortland	5.17	4.38	5.80	5.52
Binghamton	4.73	3.38	4.83	3.96
Corning	5.18	4.02	5.24	4.88
Scranton	4.38	3.19	4.81	4.14
Wysox	5.65	3.40	<u>5.10</u>	4.70
Lewisburg	4.18	3.36	5.18	3.82
Altoona	5.48	3.57	5.52	4.33
Emporium	5.33	4.11	5.12	4.88
Harrisburg	5.71	4.36	5.76	5.62
Bel Air	4.94	3.12	5.47	4.18
Tioga (Wellshoro)	5.21	5.00	5.82	5.82

Overall N = 323 (matched pre-post)



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<p>This research was conducted by the Environmental Simulation Laboratory and the Institute for Social Research of the University of Michigan. The study represents an effort to introduce and evaluate selected approaches to public involvement in the Susquehanna River Basin Study. The public involvement activities centered upon establishing a program of lined contacts between agency planners and local residents. Some of the important activities were identification and interviews with local opinion leaders, mailing of brochures, newsletters, and surveys, and workshops and forum meetings. Questionnaires were used throughout the study to evaluate changes in attitudes and the effectiveness of the techniques used. The findings indicate that the workshops were particularly successful in improving the understanding of attitudes and objectives between the agency planners and local representatives. The research evolved a public participation process model indicating the relation of public involvement to the phases of planning.</p>			

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