DISSEMINATION OF INFORMATION TO THE DISADVANTAGED

John S Miller and Carl F Hummel, University of Arkansas, Fayetteville

ISSUES

This paper will focus on techniques which increase citizen participation in environmental policy decision making. Concerned authorities include Creighton (1980); Institute for Participatory Planning (1978); League of Women Voters (1977); Rogers (1981a); Council on Environmental Quality (1980); Dunlap, Van Liere & Dillman (1979); Hummel (1978); Lowe (1980); and Miller & Donoho (1980). In January 1980, the Arkansas Science Information Exchange began a 24-month *Science for Citizens* planning project funded by the National Science Foundation. A major objective is to develop techniques to disseminate environmental information to the aged, the poor, and those with little formal education, so that they can participate more effectively in public policy making. If these target groups had information, and were made aware of issues and alternatives, they could enter more effectively and more often in environmental policy decision making.

Arkansas ranks 49th in per capita income, and second in proportion of elderly population. Over 40 percent of adults have not completed high school. Like other sunbelt states, Arkansas' abundant resources have plunged the state into a rapidly developing industrial and technological revolution. Despite the current economic downturn, neither industrial growth nor the population boom is projected to slow in the 1980's. These conditions, while containing promise of enhanced quality of life for the citizens of Arkansas, also hold the threat of ecologic disaster for the poor, the aged, and the less educated, who are most likely to live near a waste disposal site, drink polluted water, and breathe polluted air.

In Arkansas, accelerated economic and population growth and change has been accompanied by water, land, and air quality problems involving mining, waste management, transport, forest management, and energy production. Many of these problems and issues were unrecognized or unappreciated only a few years ago. Citizen responses to these changes, particularly in our target groups, have been sporadic, and have had mixed results.

HYPOTHESES

Research and training in citizen participation has shown that four conditions must be met if participation is to be expected (Buskirk & Auker 1980; Downs 1957; Lawson 1980; Miller & Barrington 1981; Regan 1977).

1) The citizen must perceive that the decision is personally important.
2) The citizen must believe that personal participation will make a difference.
3) The citizen must gain some satisfaction from participation.
4) The cost of participation must be low.

In each case, timely, objective, understandable information is essential to citizen participation. Based on these factors, we hypothesize that the aged, the poor, and those with little formal education will be less likely than others to participate in environmental public policy decision making.

SOURCE OF INFORMATION

In addition to determining who participates, we are interested in *where citizens read or hear about environmental issues. This question is important because the applied component of our research concerns developing a mechanism to reach the target groups with environmental information. Due to the pervasiveness of television and radio, we hypothesize that there will be no significant difference by age, education or income groups in use of these media for information for environmental information (Rogers 1981b).*

Access to printed media, including books, magazines, and newspapers demands money, literacy, and time. We hypothesize that the use of these media as a source of environmental information will vary with income, education, and age. Our target groups will have less frequent access to these media than other groups.

For the target groups, face-to-face discussion of environmental issues among family, friends, and work and business associates will vary by age, education, and income. If environmental concern is low, face-to-face information exchange is likely to be low. It is also likely that our target groups will interact mainly with those of similar age, income, and education.

NEED FOR INFORMATION

A final concern is the perceived need of the target group for environmental information. Do they feel that they could use additional information? Whether they do or not will affect the information dissemination strategy. Based on studies which have found that environmental concern among the target groups is low, we hypothesize that the aged, and those with little income or formal education will be less likely than others to recognize a need for environmental information.

METHOD

Data was gathered through two separate statewide telephone surveys. In each study, the sample was found to be representative of the state population in demographic character. There were 600 respondents in the first study and 400 in the second.

Each sample was stratified geographically by county to reflect the approximate geographic distribution of the population of the counties in the state. The total sample was proportioned in about the same percentage as the population of the counties. Respondents were selected at random in counties by systematic random sampling from current telephone directories. Thus, all residents in a county listed in a telephone directory had an equal probability of inclusion in the sample.

The questionnaires used in the surveys included a wide range of items relating to concepts and dimensions of environmental concern, participation, and perceived need for information.

RESULTS

Educational level proved to be the best predictor of responses to the quesiton: Have you ever attended a a hearing or meeting about an environmental issue? About 26 percent of those with college training had attended such meetings, while less than 7 percent of the less educated had done so ($Chi^2 = 68.6$, $df = 1$, $p = .001$, $N = 977$). As hypothesized, attendance at environmental hearings and meetings increases at the higher level of education. A similar relation was found with income. At the higher income levels, attendance at environemntal meetings increases. The relation of age to attendance at such meetings could not be determined.

On the source of information on environmental issues, our target groups accessed the same information sources as other groups, but did so less frequently. They ranked television first, radio second, and newspapers third in frequency as a source of information. Family and friends ranked fourth. Work and business associates and magazines and books were rarely used as information sources (See Table 1).

One of the most striking results of the research on citizen needs for information was the large number of those who did not recognize any needs for environmental information. More than half (200) of those interviewed in Study A denied having any information needs. The question was: "What issues facing Arkansas today do you feel you could better understand if you had more environmental information? Nearly 69 percent of those aged over 60 responded negatively regarding their information needs. Overall, those 40 and younger were less likely to answer negatively to this question.

At the higher level of education, the percent of negative responses decreases. Nearly 80 percent of those with eight or fewer years' education reported no environmental information needs, compared to 24 percent of college graduates who reported negatively.

At lower income levels, the proportion of negative responses also increases. About 69 percent of those with incomes under $5000 recognized no need for more environmental information, compared with 30 percent of those with incomes of $20,000 or more.

On the question: Do you believe that you are being adequately informed about governmental decisions which affect the environment? – those who were older, less educated, and of lower income were most likely to feel that they are *adequately* informed. Are these individuals well informed, or are they perhaps *unaware* that added information might be necessary? A possible answer to this question may be implicit in the response to the question: Which do you think would provide the cleanest, not necessarily the cheapest, energy? Of the alternative energy sources, solar power is generally regarded as the cleanest. Again, the earlier pattern was repeated. The elderly, and those with lower income and education are *least likely* to select solar power as the cleanest. This

TABLE 1: SOURCES OF ENVIRONMENT INFORMATION BY AGE, EDUCATION & INCOME (Percent)

	Age		Education		Income, 1000's		
Source	**18-40**	**41+**	**To 12**	**College**	**14-**	**15-20**	**21+**
Newspaper	43	46	38	58	34	48	65
Radio	42	31	33	44	31	38	51
Television	67	64	63	70	59	70	78
Magazines	21	15	14	27	14	24	25
Books	11	7	8	12	8	12	6
Family, Friends	26	21	19	32	18	26	33
Coworkers	21	17	13	31	14	33	26
(N)	(203)	(195)	(267)	(128)	(236)	(50)	(83)

suggests that these groups are less well informed than they evidently assume.

DISCUSSION

We began with the objective of developing a strategy for disseminating environmental information to the poor, and aged, and those with little formal education. We can list five findings which relate to these groups.

1)They participate less in environmental meetings and hearings than others.

2) They assume that they are adequately informed on environemntal issues.

3) They deny any need for added information on such issues.

4) They know less than they think about environmental problems.

5) They receive most of their information on environmental matters from television, radio, and newspapers.

In short, our target groups are neither highly motivated nor deeply interested in environmental issues. They lack formal background and lack direct experience with little awareness of the significance of environmental issues in their lives. Despite their relative ignorance, they assume that they are sufficiently informed.

If these groups are to participate in environmental policy decision making, they should have more information. We suggest a two-phase strategy for disseminating the necessary information.

INFORMATION STRATEGY: PHASE ONE

A first step in reaching the target group with envirnomental information must focus on increasing their interest level. Citizens who are not interested in an issue will pay little attention to information which is made available. Miller and Barrington (1981) found that individuals are faced with a vast array of attractively packaged and easily accessible information. This makes it unlikely that a citizen would choose to become more informed without a *pior level of interest.*

Interest should thus be seen as playing a crucial mediating role in information dissemination. Nearly two-thirds of our target groups report that they frequently hear about envirnomental issues from television. Between 33 percent and 45 percent frequently read about environmental issues in the newspapers. A third hear about it on the radio and about a fifth hear about such issues from family and friends.

Since our target groups most frequently receive environmental information from passive media sources such as television and radio and newspapers, these are the vehicles through which interest must be raised. If such interest is raised, then a broader information dissemination strategy can be implemented.

PHASE TWO

Phase Two has three parts.

Part 1: The program should focus on an issue of current interest. This strategy will be effective only if citizens are seeking or are open to the idea of assistance on an issue which directly affects them, and in which they are interested. The message must be presented in such a manner that the target person believes that personal participation is important, and that it can make a difference. Otherwise the target person may become resigned

to inaction, saying, "What can I do?" Answering that question must be a part of the information dissemination package.

Part 2: The program must provide a mechanism for conveying information that the target groups will access. Our results suggest that television, radio, and newspaper series on environmental issues might be effective. Television especially has the potential to raise awareness and inform our target groups. Once an interest has been raised, efforts could be made to bring the issue to the target groups through neighborhood and community forums. This outreach effort can be seen as a means of providing a place where citizens can make a difference through their direct participation. It would help to convince them that the issue is important and of interest to them in their own neighborhood. This approach also makes the cost of citizen participation relatively low, especially if the program is made a part of the regular agenda of a civic group, church, school, or senior center. This two-phase approach has had some success (Creighton 1980; Lawson 1980; Regan 1977).

Part 3: The program should complement, support and cooperate with existing state or private organization efforts in public involvement. There are may environmental public participation efforts in progress, but rarely are they coordinated. Although not revealed in our research, a reason for non-participation may be conflicting information which leads to confusion and apathy.

A complementary and cooperative effort is important, not just for cost-effectiveness, but because the success of any public participation program will hinge largely on whether the target citizen gains satisfaction from that participation. Such satisfaction comes both from seeing how one's advice is used, and the perceived impact of the involvement on organizations working on the issue.

REFERENCES

Buskirk E, D Auker 1980 *Public Participation.* Washington DC U.S. Environmental Protection Agency

Council on Environmental Quality 1980 Public Opinion on Environmental Issues: National Public Opinion Survey. Washington DC

Creighton J L 1980 *Public Involvement Manual.* Washington DC U.S. Dept of Interior

Downs A 1957 *Economic Theory of Democracy.* New York Harper

Dunlap R F, K D Van Liere, R J Loomis 1979 Evidence of decline in public concern with environemntal quality. *IRural Sociology* 44 204-212

Hummel C F, L Levitt, R J Loomis 1978 Perceptions of the energy crisis: Who is blamed and how do citizens react to environmental lifestyle tradeoffs? *Environment & Behavior* 10 37-88

Hummel C F, J S Miller 1981 What are the predictors of pro-environment behaviors? The need for a guiding model. Paper, Mid-South Sociology Assn

Institute for Participatory Planning 1978 *Citizen Participation Handbook.* Laramie Wyoming

Lawson Barry 1980 *Public Participation Concepts and Skills.* Boston Lawson & Associates

League of Women Voters 1977 Getting in the swim: How citizens can influence water quality planning. *League of Women Voters Education Fund* Washington DC

Lowe G, T K Penhey, M D Grimes 1980 Public support for environmental protection: New evidence from national surveys. *Pacific Sociol Rev* 23 423-445

Miller J S, T Donoho 1980 Environmental energy survey 1980: Social bases of environmental concern in Arkansas. Paper. Arkansas U, Little Rock

Miller J S 1982 We had a public meeting and nobody came: A sociological analysis of EPA's public participation program. Paper. Mid-South Sociological Assn

Miller J S, T M Barrington 1981 Acquisition & retention of scientific information. *J of Communication* 31 Spring

Regan J F 1977 *The Effective Meeting in Water Quality Planning.* Washington DC U.S. Environmental Protection Agency

Rogers Carol L 1981a Science information for the public: The Role of Scientific Societies. *Science, Technology & Human Values* 6 No 36 Summer 36-40

– – – – – – 1981b *Science, the Media and the Public: Selected Annotated Bibliographies.* Washington DC American Assn for Advancement of Science

Van Liere K D, R E Dunlap 1979 The social bases of environmental concern: A review of hypotheses, explanations and empirical evidence. Paper Southern Sociol. Society