The Changing Face of the Environmental Issue*

A Research Note

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INTRODUCTION

The environment may prove to be one of the most important public policy issues of the 1990s. It is already one of the most salient issues on the public agenda. Public opinion on this issue is changing rapidly, and in one direction. The public is increasingly aware of and concerned about the environment. Americans express more willingness to take steps to preserve and protect it. (See Dunlap, 1985 for a summary of these changes; also Dunlap, 1987; Gallup, 1989).

Whenever public opinion on an issue changes this much the next natural question concerns whether there are also changes in the demographic bases of opinion. How has the coalition favoring greater environmental protection changed? The answer has clear policy implications. Decision makers will have to rely on a base of public support to formulate and implement environmental regulatory policy. What groups are most amenable to these appeals? Has the group basis for environmental concern changed in the 1980s? This note addresses these questions.

During the 1970s and early 1980s opinions on the environment showed signifcant relationships to ideology, education, age, and urban residence (Jackson, 1983; Van Liere and Dunlap, 1981, 1980; Sigelman and Yanarella, 1986; Lowe and Pinhey, 1982; Buttel, 1978; Weigel, 1977; Althoff and Greg, 1977). Repeatedly, it was shown that concern over the environment and support for environmental regulation were greatest among the young, the educated, urbanites and liberals. The recent changes in opinion on the environment may have

resulted in changes in these relationships, producing a slightly different environmental coalition for the 1990s.

Examining these changes empirically requires longitudinal data throughout the 1980s using a similar measure of opinion on the environment. The National Election Studies from the ICPSR provide such data since one of the environmental questions was asked in the 1980, 1984 and 1988 presidential election surveys. This particular item is not ideal, but it is the only item available over the decade in a similar (but not identical) form. The question is part of a grid of items asking respondents about the federal budget. The exact wording changes from 1980 to 1988 are reported in the Appendix.

Table 1 documents the increasing willingness to spend money on improving and protecting the environment in the NES data. The Michigan surveys confirm Gallup Polls and New York Times/CBS News Polls. Clearly, awareness of the environmental issue has increased throughout the decade; the percentage saying "don't know decreases dramatically. Just as dramatic is the post-1984 increase in the percentage saying "increase spending" for the environment. The proportion favoring more spending doubles from 1984 to 1988.

How have relationships to demographic variables changed with this change in opinion? Table 2 presents bivariate Pearson correlations of the environment question with key variables identified in past literature. In 1980 ideological self-

TABLE 1

SUPPORT FOR INCREASED SPENDING ON THE ENVIRONMENT, 1980-1988

"Improving and Protecting the Environment"	1980	1984	1988
INCREASE SPENDING	32%	30%	62%
KEEP SAME	31	45	33
DECREASE SPENDING	11	7	2
DON'T KNOW	26	18	3
	100% (1008)	100% (2257)	100% (2040)

Actual wording of NES questions is in Appendix.

TABLE 2

CORRELATES OF FAVORING INCREASED SPENDING ON THE ENVIRONMENT, 1980-1988

	Bivariate Pearson's Coefficients		
	1980	1984	1988
PARTY ID	-.14	-.14	-.05
IDEOLOGICAL ID	-.22	-.18	-.12
URBAN RESIDENCE**	.03*	.04	.12
EDUCATION	-.02*	.04	.16
AGE	-.17	-.05	-.07
Range of N's	(548-749)	(1347-1838)	(1411-1979)

* Insignificant at .05.

** Urban residence was defined for each year using the "size of place of interview" variable in the National Election Study data. Urban is defined as any area, whether or not included in an SMSA, not specifically designated as "rural". The variable was constructed as a dummy variable with 1 indicating residence in an urban area.

identification exhibited the highest correlation with spending on the environment. This is to be expected throughout the decade since the environment question has a clear ideological cue, "spending". Age and party ID are also significantly related to spending on the environment in 1980, with youth and Democrats more favorable. Neither education nor urban residence has a significant relationship to opinion on the environment in the 1980 survey.

By 1988 the environment coaltion has changed in two significant ways. First, party ID, ideology and age all become less associated with environmental attitudes. All correlations retain statistical significance, but decrease in magnitude. It appears that Republicans, conservatives and older people all became more supportive of spending on the environment through the 1980s.

The second change is the increased predictive power of education and urban residence. Through the decade urban residents and those with higher levels of education became more supportive of spending on the environment, while there was less change on the part of rural residents and less educated citizens. In sum, it appears from bivariate relationships that some demographics have become less significant and some more significant in predicting environmental attitudes.

Multivariate analysis is necessary to disentangle the effects of these variables. There are known relationships among the independent variables such as between education and urban residence and between ideology and party ID. We have used logistic regression as the multivariate technique because our

dependent variable is best conceived as a dichotomy. The variation in opinion on the environment centers primarily on the "increase" category, thus we opperationalize opinion on the environment as a dichotomy of willingness to spend more on the environment vs. all other responses.

Ordinary least squares (OLS) regression can lead to misinterpretations of the results with dichotomous dependent variables. Logitistic regression allows us to estimate the impact of a set of predictor variables on such a dependent variable without the biases of OLS (Walsh, 1987; Jackson and Hanushek, ; Aldrich and Nelson, 1984). Logistic regression produces coefficients which are not readily interpretable, but one can use the ratio of the coefficient to its standard error to determine which of the predictor variables are signficantly related to the dependent variable (Walsh, 1987). We computed three logistic regression equations, one each for 1980, 1984 and 1988, using the predictor variables from Table 2.

In 1980 ideology and age have the most influence on a person's willingness to spend more on the enviroment (Table 3). The ratios of their coefficients to the standard error terms are comfortably over two. But by 1984 age becomes insignificant and remains insignificant through 1988. In contrast, ideology and party ID both become more significant in 1984. The influence of ideology and partisanship probably varies with the presidential candidates and their emphasis on environmental issues. 1984 was an election with strong ideological cues. The Republican Party had not yet realized the value of the environmental issue,

TABLE 3

DEMOGRAPHIC VARIABLES AND INCREASED SPENDING ON THE ENVIRONMENT, 1980-1988

	LOGISTIC REGRESSION COEFFICIENTS (Ratio of Coefficient to Standard Error)					
	1980		1984		1988	
	B	Pred. Prop. Change*	B	Pred. Prop. Change	B	Pred. Prop. Change
PARTY ID	-.029 (1.40)	.08	-.057 (4.24)	.16	-.030 (2.33)	.08
IDEOLOGICAL ID	-.127 (3.40)	.36	-.119 (5.07)	.32	-.084 (3.69)	.22
URBAN RES.	.179 (2.08)	.09	.038 (0.65)	.02	.205 (3.86)	.10
EDUCATION	-.013 (0.84)	.04	.018 (1.88)	.06	.063 (6.49)	.19
AGE	-.008 (3,39)	.14	-.002 (1.31)	.03	-.002 (1.31)	.03
INTERCEPT	5.875		5.204		4.881	
CASES	707		1736		1876	
PEARSON'S GOODNESS OF FIT PROBABILITY	.398		.404		.503	

*Predicted Proportional Change represents the probability of, eg., a strong Democrat favoring increased environmental spending minus the probability of a strong Republican favoring the same, controlling for the other variables. In the case of ideological ID the PPC represents the difference between the most liberal and the most conservative ends of the seven point scale. For urban residence we compared urbanites to all others. The PPC for education represents the difference between those with education beyond college to those with a 10th grade education. Age compares a 25 year old to a 60 year old. These comparisons are arbitrary points selected by the researcher.

thus the environment had strong partisan and ideological overtones.

By 1988 we can clearly observe the new environmental coalition forming. Ideology remains important, though less so than in 1984. The strong ideological cue in the question undoubtedly keeps ideology significant. Party ID, too, has less impact than in 1984. Most notable is the increased importance of education and urban residence. The education coefficient is six times its standard error, whereas in the previous years education did not achieve even minimal significance. Urban residence also has a greater impact than in the previous years. By 1988 the best predictors of opinion on the environment are education, urban residence and ideology.

Logistic regression also allows us to estimate the probability of a person favoring increased spending on the environment given certain values on the independent variables.[1] For example, in the case of party ID, we can estimate the probability of a strong Democrat favoring increased spending vs. the probability of a strong Republican favoring increased spending while holding other variables constant. The process is repeated for all independent variables, comparing values selected by the researcher. This is expressed as "predicted proportional change" in Table 3. The greater the predicted proportional change, the greater the impact of the variable.

Changes over time in predicted proportional change reflect the changes in the environmental coalition. The proportional changes associated with ideology and age decrease over time, although within each election year ideology is the most powerful

predictor. Education and urban residence result in larger proportional changes over the decade. By 1988 a person with some education beyond college is twenty percent more likely to favor increased spending on the environment than a person with a tenth grade education, controlling for other variables. Urban residents are ten percent more likely than rural residents to favor increased spending. The impact of partisanship varies as expected with the rhetoric of the presidential election.

The explanations for these findings seem evident. Age has been influenced by both cohort and period effects. The older members of the population whose lack of awareness of environmental issues contrasted so sharply with the younger generation in the 1960s and 1970s are now passing out of the population as the activists move into their middle years. In addition, the period of the 1980s has been one of mass media emphasis on environmental issues which is exposing people of all ages to the issues rather than only the youth involved in the environmental social movement.

The two variables which have emerged as important share a cognitive commmonality. Exposure to environmental problems and having an adequate education to grasp their implications are likely explanations for these findings. There are greater opportunities for confronting environmental problems in the urban environment because industrial activities and high concentrations of people stress the environment in increasingly evident ways (Van Liere and Dunlap, 1980). The stress on the environment of maximum use so clearly described by Garrett Hardin (1968) as

the "tragedy of the commons" is realized more frequently today in the urban setting.

Finally, education appears as the most consistently increasing predictor of support for environmental improvement. Environmental issues are very complex. Debates rage constantly in the media with scientific evidence being presented on both sides. This evidence frequently addresses a very complex etiology of causes comprehended more easily by the better educated.

In sum, the new cleavages in public opinion on the environment have resulted from the well-educated, urban residents, conservatives, and older citizens becoming more receptive to environmental appeals.

FOOTNOTES

1. From the logistic regression equation,

$$L = a + b_1X + b_2X \text{ etc.,}$$

one can compute the probability of a person favoring increased spending on the environment (Y=1) given his party ID, ideology, residence, age and education.

$$P(Y=1) \mid \text{PartyX, IdeologyX, EducationX, AgeX, Urb.X} \mid = \frac{e^L}{1 + e^L}$$

Where:

$P(Y=1) \mid \text{PartyX, IdeologyX, EducationX, AgeX, Urb.X} \mid$ = the probability of a person favoring increased spending on the environment = a given variable profile determined by the researcher

e = the base of natural logarithms

L = the logit score computed by: $a + b_1X + b_2X + b_3X$ etc., for the given variable profile

The above is adopted from Walsh (1987:181)

APPENDIX

1980 ENVIRONMENT QUESTION

"We are faced with many problems in this country, none of which can be solved easily or inexpensively. I'm going to name some of these problems, and for each one I'd like you to tell me whether you think we're spending too much money on it, too little money, or about the right amount. Are we spending too much, too little, or about the right amount on improving and protecting the environment?"

1984 ENVIRONMENT QUESTION

"If you had a say in making up the federal budget this year, which programs would you like to see increased and which decreased. Should federal spending on improving and protecting the environment be increased, decreased, of kept about the same?"

1988 ENVIRONMENT QUESTION

Ronald Reagan was elected President in November 1980 and took office in January 1981. He will soon be leaving office after eight years as President. During these eight years, some federal programs have increased, some have decreased, and others have remained about the same. Do you think that programs to improve and protect the environment should have stayed about the same, or been increased, or decreased?"

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