

Industrial Development in a Depressed Area: Male-Female Differences in Attitudes

Nancy Stout-Wiegand, Dennis K. Smith, and Saba Jallow

The primary objective of this research was to examine attitudes toward industrial development activities in a depressed rural county, and to document differences in those attitudes between men and women residents of the area.

Research on attitudes toward industrialization in rural areas has consistently found that residents of rural communities generally favor industrial development in their areas (Andrews and Bauder, 1976; Summers, et al., 1976; Meisson, et al., 1980; Bachtel and Molnar, 1981; Maurer and Napier, 1981; Thompson and Blevins, 1983; Stout-Wiegand and Trent, 1983). It has also been noted that men are generally more favorable towards development than are women (Bachtel and Molnar, 1981; Stout-Wiegand, Trent, and Smith, 1982; Stout-Wiegand and Trent, 1983).

Several related explanations have been offered for this difference between men and women in their attitudes toward industrialization. One explanation is that those who benefit more directly from industrialization have been found to be somewhat more favorable (Summers, et al., 1976). Women and lower class people are disadvantaged in competition for industrial benefits (Summers, et al., 1976). Women are less likely to share the economic and employment benefits of rural industrial growth (Clemente and Summers, 1983; Gilmore and Duff, 1975) and are more likely to suffer the negative impacts such as poor housing conditions, and inadequate child care, recreational facilities, and community services (Albrecht, 1978; Clemente and Summers, 1973; Moen, et al., 1979; Susskind and O'Hare, 1977).

Thus it has been argued that "perceived benefits of industrial development" is an intervening variable between socioeconomic characteristics of community residents and

their attitudes toward development (Hough and Clark, 1969; Maurer and Napier, 1981). In other words, those who are more likely to benefit directly from development are also more likely to favor those developments, and men have traditionally received more economic benefits from industrialization in rural areas than have women.

There is also evidence that while men tend to view industrial developments in terms of their economic benefits, women tend to view them in terms of their environmental disadvantages (Stout-Wiegand and Trent, 1983). Women are significantly more concerned about protecting environmental quality than are men (McStay and Dunlap, 1983). Moreover, men are more likely to hold the economic breadwinner role, while women are more likely to be responsible for child care and domestic tasks directly influenced by the quality of the home environment (Berk and Berk, 1979). Thus it has been theorized that women's lower levels of support for industrial development is due to their concern with the negative environmental impacts, while men's greater support is due to their concern with economic benefits of such development (Stout-Wiegand and Trent, 1983).

Research that has documented sex differences in industrial development attitudes has been conducted in rural Appalachian areas (Bachtel and Molnar, 1981; Stout-Wiegand and Trent, 1983). However, the areas previously studied were not characterized by extreme economic depression. This research sought to determine whether sex differences in these attitudes persist under dire economic conditions.

In light of previous findings of research on attitudes toward rural industrial development, it was expected that the majority of the study county's residents would favor new industry in their area, and that men would be more favorable toward such developments than would women. It was also expected that men would anticipate more economic benefits associated with new development, while women

The authors are Research Associate, Professor, and former Graduate Student, respectively, of Agricultural Economics, Division of Resource Management, College of Agriculture and Forestry, West Virginia University, Morgantown, West Virginia 26506-6108.

would expect more environmental costs of new industry in the county.

The Study Area

The analysis reported in this paper is based on primary data collected from the residents of McDowell County, West Virginia. The purpose of this data collection was two-fold: to examine industrial development attitudes in an economically depressed Appalachian county in order to identify types of developments most needed or desired by the local residents (Jallow, 1983); and to examine the relationship between industrial development attitudes and gender to determine whether the previously documented relationships exist under extreme economic conditions. McDowell County is located in the Southeastern corner of the State on the border with Virginia. It is characterized by rugged terrain and a long-time specialization of its economic activity in deep coal mining. High levels of unemployment have been a prevalent problem in McDowell County with levels often cited at two to three times the State average levels (Zeller and Smith, 1968). This problem has accentuated in the 1980's with the closing of many coal mines in the County and it was estimated to have the highest unemployment rate (exceeding 25 percent) in the State in 1982 (The Dominion Post, 1982).

The results of a 1981 sample survey of rural residents in nine selected counties in West Virginia revealed that McDowell County residents had the lowest levels of satisfaction with community services and were characterized by low income and low educational levels (Colyer, Smith, Ferrise, and Akamonu, 1983). In 1979, 19.3 percent of the County's families were below the poverty level compared to 11.7 percent for the State (U.S. Bureau of the Census, 1983). In 1980, only 35.9 percent of the County's residents aged 25 years or older were high school graduates compared to 56.0 percent for the State (U.S. Bureau of the Census, 1983).

In 1980, McDowell County's population was 49,899 persons with a population density of 93.3 persons per square mile (U.S. Bureau of the Census, 1982). The peak population level of the County occurred in 1950 when there were 98,887 residents. The 1980 population was only 50.5 percent of that in 1950. The decline occurred steadily from 1950 to 1980. In

the 1970's, West Virginia experienced the rural population reversal characteristic of much of the United States. Its non-metropolitan counties had a 16.0 percent population growth rate compared to a 5.2 percent increase for metropolitan counties (Kahende, 1983). Only three counties experienced population declines—two of these counties were "central city counties" of SMSA'S; the third county was McDowell County, the only non-metropolitan county in West Virginia to experience a population decline during the 1970's.

The housing situation in the County is poor relative to the rest of the State. In 1980, the median value of owner-occupied housing units in McDowell County was \$15,900 compared to an overall State value of \$38,500 (WV State Census Data Center, 1982). The median rent in the County was \$92 per month compared to a State value of \$137. Occupied housing units lacking complete plumbing accounted for 10.5 percent of the total occupied housing units compared to 5.7 percent for the State. In addition, a high level of dissatisfaction with the County's housing situation was voiced by rural residents in a 1981 survey of the County (Colyer, Smith, Ferrise, and Akamonu, 1983).

In 1980, there were 12,072 employed residents in McDowell County (U.S. Bureau of the Census, 1983). Mining accounted for 41.4 percent of the total employed followed in importance by Services (22.1 percent), and Retail Trade (13.7 percent). Manufacturing accounted for 3.5 percent of total employment and Agriculture accounted for only 0.4 percent of the County's total employment. Mining accounted for 10.0 percent and Manufacturing accounted for 18.4 percent of West Virginia's total employment in 1980. Thus, the extreme specialization of economic activity in coal mining in McDowell County is evident.

In general, McDowell is characterized by high unemployment levels, low income levels, and high poverty levels. It has an apparent lack of adequate employment opportunities for its residents with consequent heavy out-migration of its population during the past 30 years.

Methods and Data

The primary data for this study were collected during the Summer of 1982 using an interviewer administered questionnaire to a ran-

lom sample of households in McDowell County. According to the 1980 Census of Population, there were 16,096 households in the County (U.S. Bureau of the Census, 1982). These households were geographically stratified according to sub-county Minor Civil Divisions ("Magisterial Districts¹") in the bounty. The interviewers used a "road count technique" to draw a 2.5 percent stratified systematic sample of households by MCD to be interviewed. Completed questionnaires were obtained from 400 respondents in the County (Jallow, 1983).

The questionnaire included sections on satisfaction with public services, respondent demographic characteristics, land ownership and use, housing and water supply conditions, sources of income and employment, and attitudes toward the future expansion of various types of economic activities in the County.

The persons interviewed were one member of each household selected in the sample who was 18 years of age or older. Sixty-two percent of the respondents were female and 38 percent were male. Seventy-nine percent were white and 21 percent were black. Married respondents comprised 68 percent of the sample, 23 percent were widowed, separated, or divorced, and 9 percent were never married (Jallow, 1983).

The respondents generally had positive attitudes about the County. As a "place to live," 9 percent rated it excellent, 39 percent rated it good, 32 percent rated it fair, and 20 percent rated the County as a poor place to live. The attributes of the County that respondents liked most were the "people" (42 percent), feelings that the area was "home" (18 percent), and the "scenery and mountains" (17 percent). In contrast, the major dislikes in the County were "roads" (22 percent), "high unemployment" (13 percent), and "littering" (12 percent) (Jallow, 1983).

Results

Respondents were asked a series of questions concerning their attitudes toward economic development in McDowell County. They were first asked: "Do you feel that current job opportunities are adequate in McDowell County?" Nearly all respondents (98 percent) answered no. When asked what specific job opportunities they would like to see become available in the County, the most frequent responses were: "factories" (33 percent); "coal mining" (29 percent); and "any kind of job opportunities" (12 percent). Other responses included "youth job programs" (7 percent) and "construction jobs" (6 percent).

Next respondents were asked to indicate how strongly they favored or opposed the expansion of economic activities in several specific natural resource based areas (Table 1). The most frequently favored economic activity for expansion was tourism, with 93 percent of the respondents favoring tourism (combined responses of "favor" and "strongly favor") followed by deep coal mining (91 percent), farming (85 percent) and gas and oil extraction (81 percent). The least favored economic activity for expansion was coal surface mining which 39 percent of the respondents opposed or strongly opposed. Coal surface mining was the only activity towards which a majority of the respondents were not favorable.

Although most respondents generally favored the expansion of these natural resource based economic activities, males and females differed significantly in their degree of favorability to each of these six areas of activity (Table 1). For five of the six activities—farming, forestry, coal deep mining, gas and oil extraction, and tourism—male respondents were significantly more favorable than were females. The differences in opinion were not

Table 1. The Percent of Survey Respondents Favoring Versus Opposing the Expansion of Natural Resource Based Economic Activities in McDowell County, WV by Sex, 1981

Activity	Strongly Favor		Favor		Neutral		Oppose		Strongly Oppose		Significance Level	Gamma
	M	F	M	F	M	F	M	F	M	F		
Farming	29	19	59	68	5	10	4	3	3	1	.02	.17
Forestrv	27	12	49	58	5	5	9	17	10	8	.001	.23
Coal Surface Mining	5	2	41	46	10	13	14	20	30	18	.04	-.08
Coal Deep Mining	53	30	41	58	3	7	1	3	1	2	.0002	.42
Gas and Oil Extraction	36	21	51	59	8	10	3	8	3	2	.01	.27
Tourism	43	30	49	63	3	5	3	2	1	1	.04	.23

generally due to females opposing the economic activities, but rather that males favored them more strongly. In other words, both males and females generally favored the activities, but males indicated a greater degree of favorability than did females.

For one economic activity, however, males were more opposed than were females. Attitudes toward the expansion of coal surface mining in McDowell County differed significantly by sex, but the difference was due to males indicating stronger opposition to this activity than females.

Respondents were asked what they felt would be the most important benefits and costs to McDowell County if these types of natural resources based economic activities expanded in the next ten years. The most frequently mentioned benefits were "more jobs" (47 percent), "increased income" (22 percent), and "population growth" (10 percent). In terms of the expected costs or negative effects to the County resulting from these activities, 84 percent of the residents surveyed responded "none." Five percent felt the County would become overcrowded, and 2

percent thought crime would increase. The lack of concern for negative consequences of development, particularly environmental consequences, is noteworthy. Only 4 of the respondents listed "land destruction" as a possible cost of development and only 3 people said "pollution." This extremely low level of environmental concern is a unique finding among recent research on attitudes toward economic development in rural areas.

Nearly all respondents (97 percent) felt that the expected benefits would be more important than the expected costs. There was no significant differences between males and females in their attitudes toward these perceived costs and benefits.

Finally, respondents were asked to indicate their degree of favorability or opposition to each of 14 possible changes that could take place in McDowell County within the next ten years (See Table 2). Again, the majority of residents were in favor of all of the possible changes except one—the opening of a large surface coal mine. The changes toward which the respondents indicated the greatest favorability (combined responses of strongly favor

Table 2. The Percent of Survey Respondents Favoring Versus Opposing the Expansion of Natural Resource Based Economic Activities in McDowell County, WV by Sex, 1981

Activity	Strongly Favor		Favor		Neutral		Oppose		Strongly Oppose		Significance Level	Gamma
	M	F	M	F	M	F	M	F	M	F		
Location of a Large Manufacturing Plant	55	37	41	59	1	2	2	2	1	<1	.006	.33
Location of Several Small Manufacturing Plants	53	34	45	62	0	2	2	1	0	<1	.001	.35
Location of a Large Lumber Mill	39	21	44	64	5	5	8	8	4	1	.0005	.21
Opening of a Large Deep Coal Mine	49	27	48	63	1	2	1	5	1	2	.0001	.44
Opening of a Large Surface Coal Mine	9	2	43	45	4	10	11	24	33	19	.0001	-.001
Increase of Natural Gas and Oil Extraction	34	21	54	63	3	10	5	3	3	3	.006	.25
Development of a Large Shopping Mall	45	32	48	61	3	4	3	3	1	<1	N.S.	
Establishment of Tourism Activities	45	32	48	61	3	4	3	3	1	<1	N.S.	
Increase in Farming Activities	28	18	68	74	2	4	2	3	0	0	N.S.	
Clearing of Large Areas for Agriculture	28	12	63	72	1	7	7	7	1	2	.0002	.40
Increase of Small Forest Products Plants	41	30	54	62	1	2	3	4	1	1	N.S.	
Increase in Small Business Activities	50	37	47	58	1	3	2	2	0	<1	N.S.	
Increase in Job Training	64	52	36	48	0	0	1	<1	0	0	N.S.	

* N.S., not significant at the .05 level of significance.

and favor) were "increase in job training opportunities" (99 percent), "location of several small manufacturing plants" * (97 percent), "increase in small business activities" (96 percent), and "location of a large manufacturing plant" (96 percent). Eighty percent or more of the respondents favored each of the possible changes with the exception of opening of a large surface coal mine.

Male and females differed significantly in their attitudes toward eight of the 14 proposed changes (Table 2). Men were more favorable than women toward: "location of a large manufacturing plant," "location of several small manufacturing plants," "location of a large lumber mill," "opening of a large deep coal mine," "increase of natural gas and oil extraction," "clearing of large areas for agricultural purposes," and "opening of several small coal mines." Again, the difference in opinions by sex could not be attributed to women opposing the changes, but rather to the greater degree of favorability expressed by men. In general, women were more likely to indicate that they "favored" each activity, where men were more likely to say they "strongly favor" the changes.

Attitudes toward the opening of a large coal surface mine also differed by sex, but men were more strongly opposed to this change than were women. Thirty-three percent of the men compared to 19 percent of the women were strongly opposed to the opening of a large surface coal mine.

The results of this research are consistent with findings of previous studies that men tend to favor economic development more than do women. The explanation in the literature for this sex difference, that men tend to give more consideration to economic benefits of development while women are more concerned with environmental costs associated with such changes, is not as apparent in the results of this survey. Very few respondents listed any potential costs or negative effects associated with development, and among those who did perceive costs, there were no significant differences by sex.

At the time of the survey, McDowell County was in a dire economic situation. Unemployment was very high with many lay-offs in the coal mines, and there seemed to be little hope of employment opportunities increasing substantially in the near future. Unlike less isolated areas with a more diverse industrial mix and in closer proximity to urban areas, the

residents of this County appeared desperate for any type of industry or development that might bring jobs and increase economic opportunities. The results of this survey indicate that residents—men and women alike—are not concerned about or do not even recognize the potential negative effects of such development.

The proposed activity with the most obvious negative environmental consequences—surface mining—men were significantly more opposed to than were women. This seems inconsistent with theories of attitudes toward rural development. Attitudes of McDowell County residents toward this particular activity may be due to a distinct factor. McDowell County is primarily a deep coal mining county and a strong union county. Surface mining operations generally employ non-union workers, thus union coal miners oppose surface mining and consider it a threat to their jobs and employment opportunities. Since coal mining is a male dominated occupation, it is reasonable that males hold stronger opinions toward this issue than do females.

Summary and Conclusions

The objective of this research was to document sex differences in attitudes toward industrial development in an economically depressed rural area, and to further test previous findings of differences between men and women in their perceptions of economic benefits and environmental costs associated with rural development.

Consistent with the expectations of this study, both male and female residents of McDowell County were favorable toward nearly any type of economic development in the County. With the exception of surface mining, men indicated a significantly greater degree of favorability toward most new industry and employment opportunities than did women. Contrary to the expectations of this study, there was no strong indication that the sex difference in attitudes towards potential economic developments was related to concern for the environment, or concern with any potential negative effects of such development. Very few respondents in this study anticipated any negative impacts to be associated with new resource development in McDowell County.

It is possible that the concern for environ-

mental consequences was overshadowed by the need for economic opportunities in the area. Previous studies that found rural residents, particularly women, expressing concern for environmental costs of development were conducted in areas characterized by a more stable economy. Yet the female respondents of this research did express significantly less support for development than did their male counterparts. Since those sex differences cannot be attributed to women's environmental concerns in this particular area, it is reasonable that the differences may be due to women's perceptions of opportunities for personal economic gain from these developments. With the possible exception of tourism, the developments discussed in this research are primarily male dominated industries. Perhaps women were less supportive because they did not anticipate an increase in employment opportunities for women to result from the proposed industries.

Several implications and recommendations are justified on the basis of this investigation. When industries propose to locate in rural areas, support from local residents can generally be expected. However, this support may not be uniform across the population. Pockets of opposition, particularly among women, can be expected even in areas suffering extreme economic depression. The basis of differences in support for new developments, whether it be perceptions of environmental or economic consequences, or of other factors remains unclear.

It is suggested that future research examine men's and women's employment opportunities associated with proposed developments and their effects on the relationship between sex and attitudes toward development. It would also be beneficial to explore the influence of other demographic characteristics of residents (e.g., age, education, occupation, income) on the sex-development attitudes relationship in order to further identify the correlates and determinants of attitudes toward industrial development in rural areas.

References

- Albrecht, S. L. "Social-Cultural **Factors and Energy Resource Development** in the West." *Journal of Environmental Management* 7(July, 1978):73-90.
- Andrews, W. H., and W. W. Bauder. "The Effects of Industrialization on Rural County: Comparison of Social Change in Monroe and Noble Counties of Ohio." Wooster, Ohio: Ohio Agricultural Research and Development Center, Department Series A.E. 407, 1967.
- Bachtel, D. C., and J. J. Molnar. "Women as Community Decision Makers." *Human Services in the Rural Environment* 6: 2(1981):3-10.
- Berk, R. A., and S. F. Berk.** *Labor and Leisure at Home: Content and Organization of the Household Day.* Beverly Hills, California: Sage Publication, 1979.
- Clemente, F., and G. Summers. "Large Industries in Small Towns: Who Benefits?" Madison: University of Wisconsin, Center for Applied Sociology. Working Paper RID 739, 1973.
- Colyer, D., D. Smith, A. Ferrise, and E. Akamonu. "Characteristics of Rural Residents in Nine Counties of West Virginia." Staff Paper SP 82-1. Morgantown WV: Division of Resource Management, West Virginia University, 1983.
- Dominion Post, The. Morgantown,* West Virginia, Tuesday, **October 19,** 1982, p. 1A.
- Gilmore, J. S., and M. K. Duff.** *Boom Town Growth Management: A Case Study of Rock Springs-Green River, Wyoming.* Boulder, Colorado: Westview Press, 1975.
- Hough, R. L., and J. P. Clark. "Some Determinants of Attitudes Toward Industrialization in a Rural Community." Working Paper RID 693, Madison, Wisconsin: Center of Applied Sociology, University of Wisconsin, 1969.
- Jallow, S. "An Analysis of Economic Development Factors in McDowell County, West Virginia." M.S. Thesis, Agricultural Economics, West Virginia University, Morgantown WV, 1982.
- Kahende, W. J. "An Analysis of Population Characteristics in Rural West Virginia." M.S. Thesis, Agricultural Economics, West Virginia University, Morgantown WV, 1983.
- Maurer, R. C., and T. L. Napier. "Rural Residents* Perspectives of Industrial Development." *Rural Sociology* 46: 1(1981):100-111.
- McStay, J. R., and R. E. Dunlap. "Male-Female Differences in Concern for Environmental Quality: An Empirical Analysis." *International Journal of Women's Studies* 6: 4(1983):291-301.
- Meissen, G. I., A. T. Seibel, and B. H. Bronfman. "Social Impacts of Nuclear Power Plant Construction." *Human Services in the Rural Environment* 7: 3(1980):3-8.
- Moen, E., E. Boulding, L. J. Lillydahl, and R. Palm. "Women and Energy Development: Impact and Response." Boulder, Colorado: Institute of Behavioral Science, 1979.
- Stout-Wiegand, N., R. B. Trent, and D. K. Smith. "Monongalia Area Survey 1981: Citizens' Views on Industrial Development and Quality of Life." Morgantown WV: West Virginia University Agricultural and Forestry Experiment Station, Bulletin 676, 1982.
- Stout-Wiegand, N., and R. B. Trent. "Sex Differences in Attitudes Toward New Energy Resource Developments." *Rural Sociology* 48: 4(1983):637-646. Summers, G. F., S. D. Evans, F. Clemente, E. M. Beck,

- and J. Minkoff. *Industrial Invasion of Nonmetropolitan America: A Quarter Century of Experience*. New York: Praeger Publishers, 1976.
- Susskind, L., and M. O'Hare. *Managing the Social and Economic Impacts of Energy Development: Strategies for Facility Siting and Compensating Impacted Communities and Individuals*. Cambridge: Massachusetts Institute of Technology, Laboratory of Agriculture and Planning, 1977.
- Thompson, J. G., and A. L. Blevins. "Attitudes Toward Energy Development in the Northern Great Plains." *Rural Sociology* 48: 1(1983): 148-158.
- U.S. Bureau of the Census. *1980 Census of Population, Number of Inhabitants, West Virginia*, PC 80-1-A50. Washington, DC: U.S. Government Printing Office 1982.
- U.S. Bureau of the Census. *1980 Census of Population, General Social and Economic Characteristics, West Virginia*, PC 80-1-C50. Washington, DC: U.S. Government Printing Office, 1983.
- West Virginia State Data Center. "1980 Population and Housing Characteristics for West Virginia.¹" Morgantown WV: Office of Health Services Research, 1982.
- Zeller, F. A., and W. J. Smith. "Information Series 6," Research and Development, Appalachian Center. Morgantown, WV: West Virginia University, 1968.