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Southern Association of Agricultural Scientists
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The Problem

The necessity for the effective communication of information to facilitate programs of planned technological and social change has been widely recognized by both researchers and practitioners. The realization of organizational goals depends, in part, on the extent to which agencies are able to successfully disseminate information to client groups about their activities and programs. Furthermore, an increase in legal or formal requirements for agencies to provide for more extensive public participation in planning and management policies places new emphasis on the importance of information dissemination as a means for citizen involvement (Ross, Spencer, Peterson, 1974). Not only must people be informed to participate, but education/information programs, i.e., communications originating from the agency, constitute a major means for involving a maximum number of citizens in the decision-making process (Warner, 1971).

Concomitant with the significant expansion in the number and scope of development programs is a need for new or reassessed knowledge about the process of information dissemination and its relevancy to action programs. A recent survey of water resources agencies in a southern state revealed that the need for more information regarding educational/communication strategies to enhance program planning was second in importance only to the need for an increased level of funding (Ross, Spencer, Peterson, 1971:26). Thus, this paper focuses on selected findings of a research study undertaken to examine differential use of mechanisms for the dissemination of information in rural and urban groups.

Research Orientation

Past sociological research, particularly studies dealing with the role of communications in the process of diffusion of innovative ideas and practices, has generally indicated that primary differences exist in patterns

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of communication in rural and urban settings. Numerous studies including work by Beal, et. al. (1960), Copp, et. al. (1958), Katz, et. al. (1966), Lazarsfeld and Menzel (1963) have demonstrated that in rural groups certain types of information have traditionally been disseminated through sources which entailed personal or face-to-face contact. In fact, interpersonal communications channels were posited (Rogers, 1960) as key integrative forces in rural communities. Conversely, in large and spatially diffused urban communities with limited opportunities for contacts through personal, informal channels, the dominant pattern has been heavy reliance on mass media as the major sources of information (Lazarsfeld, et. al. 1963; Parsons, 1971).

Previous differences in rural and urban communication use patterns may be disappearing. Several studies of rural populations have evidenced that mass media forms were the most important sources of information, while person-to-person sources were used less frequently (Rogers, 1971; Andrews, et. al. 1960). Recent trends toward large scale exchanges of rural/urban populations through migration may be reducing cultural distinctions. This contention is congruent with the theoretical argument (Greer, 1962) that interpendency of a system's parts often leads to a diminution of cultural differences among its components. Since there is still ample evidence to suggest that the rural/urban distinction is a meaningful one in explaining variations in attitudes and behavior, (see Napier, 1972) other factors may be operating to affect a shift in emphasis in rural areas on mass media use.

One possible factor stimulating changes in the uses of mass media by rural groups is the rapidly expanding technological development within the United States. Mass media has been cited (see Rogers, 1960) as playing a significant role in creating an awareness of a new idea or innovation among potential users of technology. In one recent study (Webb, 1971), it was found that the most successful farmers indicated that highly technical information commonly distributed through the Cooperative Extension Service or other university related information sources was not typically disseminated through personal contacts with friends and neighbors.

A factor associated with advancing technology is the necessity to disseminate information with great rapidity. In a society under-going rapid advances in farm technology, an innovation in farm production may be antiquated in a relatively short time. To stay in pace with rapid change, a person must be rapidly informed of new technological advances. The same argument applies to other facets of contemporary social reality. One example is community affairs where rapid social change requires an informed electorate to make effective decisions.

Objectives

Against this theoretical backdrop, a small-scale research study was carried out in Spring, 1973 in the state of Ohio to examine communication systems in rural and urban groups. The research hypothesis underlying the study was that the most frequently used sources for all types of information in both rural and urban populations are mass media.

Specific objectives of the study were:

(1) to compare rural and urban groups on the use of communication mechanisms.

(2) to identify mechanisms for dissemination of agricultural information and the extent of their utilization.

Research Procedures

Consistent with the research aims, data were obtained from samples of rural and urban populations. Systematic random samples of residents listed in directory sources for one metropolitan and one non-metropolitan county in the state of Ohio were drawn. The selection of the two counties was based on the extent to which they were believed to be representative of major rural/urban distinctions in the state.

A review of existing literature aided in the construction of a mail questionnaire utilized to elicit information from the sample cases. Of the 400 questionnaires distributed, 99 usable ones were returned. According to self-definition of rural/urban residence, 45 of the respondents were rural and 54 were urban residents. The data for the study were generated from a pretest of the instruments and methodology of a more detailed and comprehensive project which is currently underway. Results of the initial effort contributed to improvements in the research design and instrumentation for the later study. Thus, findings as reported herein are subject to comparisons with future results of the current project, and interpretation of the findings should be made within the context of apparent limitations.

Selected demographic characteristics of the respondents appear in Table 1. The rural and urban samples were homogeneous in age, distribution by sex and education. The median income was lower, as might be expected, for the rural than the urban group. The combined sample did not differ significantly in socioeconomic level from the general state pattern as reflected in measures of education and income.

Data analysis involved several steps. The first was to codify, tabulate and computer analyze the information from the questionnaires. In order to facilitate rural/urban comparisons as specified in the research objectives, contingency tables were prepared; and statistical evaluations were made employing chi square to test for significant differences at the five percent level of probability.

The results of the analysis have been organized into four tables. The purposes of two of these are descriptive and/or elaborative; therefore, no significance tests were applied. The measures shown in the tables contained in the following section on findings are, in most instances, self-explanatory. Where indicated, however, an explanation about the treatment of the data or operationalization is given.

Table 1. Selected Demographic Characteristics of Sample

Characteristic	Value
1. Median Age	
Rural residents	42.0
Urban residents	41.3
Total sample (N=99)	41.6
2. Percent Male Respondents	
Rural residents	68.9
Urban residents	63.0
Total sample (N=99)	65.7
3. Median Education	
Rural residents	12.1
Urban residents	12.4
Total sample (N=99)	12.3
Ohio*	12.2
4. Median Income	
Rural residents	8,790
Urban residents	12,960
Total sample (N=99)	11,550
Ohio*	10,313

*Source: U.S. Bureau of the Census; U.S. Census of Population: 1970, General Social and Economic Characteristics, Ohio. Washington, D.C., U.S. Government Printing Office.

Findings

The results address several questions regarding rural/urban use of communication mechanisms. (1) To what extent were mass media used by rural and urban residents? (2) What communication mechanisms were most frequently preferred relative to different types of information? (3) Did rural and urban residents differ on the use of mechanisms preferred for various types of information? Additionally, a fourth question is: what were the important mechanisms for agricultural information?

Rural/Urban Use of Mass Media

Table 2 contains data whereby rural and urban residents are compared on the extent of use of several mechanisms commonly recognized as mass media sources. The data show that both rural and urban residents regularly utilized television, radio and newspapers extensively; no significant differences were observed between the groups in the extent of use of these mass media sources. Significant differences were noted, however, between the rural and urban groups in the extent to which selected magazines were regularly read. Significantly larger proportions of urban than rural residents acknowledged regular use of Time, Newsweek and National Geographic while the preponderance of those regularly reading Life and Readers' Digest were rural residents.

Rural/Urban Use of Mechanisms For Selected Types of Information

Table 3 shows the percentage distributions for the first choice preferences of seven communication mechanisms for 14 different types of informational material; the percentage of respondents who did not indicate a preference in each instance is also shown. Although no statistical evaluations on rural/urban differences were made for Table 3, an inspection of the modal categories for each of the different types of information reveals some interesting patterns. The first is that mass media sources were predominantly favored for all types of information. Secondly, rural and urban residents exhibited the identical patterns in their preferences of mechanisms for all but one of the information types. Newspapers were favored over other sources for most kinds of information, particularly informational needs with a local orientation. Information regarding national and state issues was typically elicited from television. The one exception was the case of occupational information. Fellow workers was the modal choice for rural residents in contrast with the category, magazines, for urban dwellers.

Table 4 represents an aggregated form of the data shown in Table 3. Two categories, mass media and personal contacts, were formed through a combination of first choice preferences for multiple sources. Mass media included radio, television, newspapers, and magazines while sources which had the possibility for face-to-face interaction, i.e., fellow workers,

Table 2. Comparisons of Rural/Urban Use of Mass Media

Measures	Area of Residence: Rural (N=45)	Area of Residence: Urban (N=54)	Total (N=99)	Level of Statistical Significance*
Radio				
Percent regularly listening to:				
1 or more stations	100.0	92.6	96.0	n.s.
2 or more stations	64.4	55.6	59.6	n.s.
Percent regularly listening:				
2 or more hours daily	73.3	68.5	70.7	n.s.
Television				
Percent regularly watching:				
1 or more stations	95.6	96.3	96.0	n.s.
2 or more stations	71.2	87.0	79.8	n.s.
Percent regularly watching:				
2 or more hours daily	97.8	92.6	94.9	n.s.
Newspapers				
Percent regularly reading:				
1 or more papers	93.3	98.1	96.0	n.s.
2 or more papers	57.7	53.7	55.6	n.s.
National News Magazines				
Percent reading regularly:				
Time	4.4	24.1	15.2	$P < .001$
Newsweek	6.7	14.8	11.1	$P < .05$
Life	11.1	3.7	7.1	$P < .01$
Reader's Digest	60.0	48.1	53.5	$P < .01$
National Geographic	17.8	29.6	24.4	$P < .05$
U.S. News/World Report	8.9	13.0	11.1	n.s.

*Statistical comparisons of rural and urban differences using chi square.

Table 3. Comparisons of Rural/Urban First Choice Preferences of Mechanisms for Selected Types of Information

Type of Information	Mechanisms							
	Radio	Tele-vision	News-papers	Maga-zines	Fellow Workers	Friends & Neighbors	Extension Agents	No Response
	Percent of Respondents*							
World/National News								
Rural	13.3	46.7**	22.2	4.4	- -	- -	- -	13.4
Urban	14.8	48.1	22.2	1.9	- -	- -	- -	13.0
Total	14.1	47.5	22.2	3.0	- -	- -	- -	13.2
State/Regional News								
Rural	20.0	35.6	26.7	- -	- -	- -	- -	17.7
Urban	20.4	35.2	29.6	- -	- -	- -	- -	14.8
Total	20.2	35.4	28.3	- -	- -	- -	- -	16.1
Local News								
Rural	22.2	4.4	46.7	- -	4.4	6.7	- -	15.6
Urban	20.4	31.4	35.2	- -	- -	- -	- -	13.0
Total	21.2	19.2	40.4	- -	2.0	3.0	- -	14.2
Community Affairs								
Rural	4.4	- -	44.4	- -	2.2	24.4	4.4	20.2
Urban	13.0	13.0	48.1	- -	1.9	7.4	1.9	14.7
Total	9.1	7.1	46.5	- -	2.0	15.2	3.0	17.1
Consumer Products								
Rural	6.7	15.6	4.4	46.7	- -	- -	6.6	20.0
Urban	1.9	14.8	24.1	33.3	3.7	1.9	3.7	16.6
Total	4.0	15.2	15.2	39.4	2.0	1.0	5.0	18.2
Occupational Information								
Rural	2.2	2.2	6.7	15.6	35.6	2.2	6.6	28.9
Urban	1.9	3.7	5.6	35.2	18.5	3.7	9.3	22.1
Total	2.0	3.0	6.1	26.3	26.3	3.0	8.1	25.2
Entertainment								
Rural	4.4	20.0	40.0	4.4	2.2	6.7	2.2	20.1
Urban	5.6	16.7	42.6	1.9	- -	16.6	- -	16.6
Total	5.1	18.2	41.4	3.0	1.0	12.1	1.0	18.2

Table 3. Continued

Type of Information	Mechanisms: Radio	Television	Newspapers	Magazines	Fellow Workers	Friends & Neighbors	Extension Agents	No Response
	Percent of Respondents*							
Technical Reports								
Rural	- -	4.4	8.9	37.8	2.2	- -	15.5	31.2
Urban	1.9	7.4	7.4	37.0	1.9	- -	14.8	29.6
Total	1.0	6.1	8.1	37.4	2.0	- -	15.1	30.3
Environmental Issues								
Rural	4.4	15.6	20.0	13.3	4.4	2.2	11.2	28.9
Urban	5.6	20.4	22.2	20.4	- -	- -	3.8	27.6
Total	5.1	18.2	21.1	17.2	2.0	1.0	7.1	28.3
Local School Affairs								
Rural	8.9	- -	46.7	- -	- -	17.8	6.6	20.0
Urban	5.6	11.1	33.3	1.9	5.6	16.7	3.7	22.1
Total	7.1	6.1	39.4	1.0	3.0	17.2	5.1	21.1
Community Health Centers								
Rural	11.1	- -	33.3	- -	2.2	15.6	4.4	33.4
Urban	5.6	5.6	37.0	3.7	9.3	9.3	3.8	25.7
Total	8.1	3.0	35.4	2.0	6.1	12.1	4.0	29.3
Area Politicians								
Rural	4.4	2.2	64.4	- -	- -	8.9	- -	20.1
Urban	9.3	22.2	42.6	1.9	5.6	3.7	- -	14.7
Total	7.1	13.1	52.5	1.0	3.0	6.1	- -	17.2
Social Activities								
Rural	6.7	- -	42.2	- -	2.2	20.0	4.4	24.5
Urban	3.7	1.9	48.1	- -	3.7	24.1	1.9	16.6
Total	5.1	1.0	45.5	- -	3.0	22.2	3.0	20.2
Community Development Programs								
Rural	13.3	2.2	26.7	- -	- -	8.9	11.1	37.8
Urban	5.6	9.2	37.0	- -	3.7	5.6	1.9	37.0
Total	9.1	6.1	32.3	- -	2.0	7.1	6.1	37.3

*(N=45 rural; 54 urban; 99 total)
**Modal category underscored

Table 4. Comparisons of Rural/Urban First Choice Preferences of Mass Media or Personal Contact Sources for Selected Types of Information

Type of Information	First Choice Sources* Mass Media	Personal Contacts	Level of Statistical Significance**
	Percent of Respondents***		
World/National News			
Rural (N=37)	100.0	- -	n.s.
Urban (N=46)	100.0	- -	
State/Regional News			
Rural (N=39)	100.0	- -	n.s.
Urban (N=47)	100.0	- -	
Local News			
Rural (N=38)	86.8	13.2	$P < .02$
Urban (N=47)	100.0	0.0	
Community Affairs			
Rural (N=36)	61.1	38.9	$P < .01$
Urban (N=46)	87.0	13.0	
Consumer Products			
Rural (N=36)	91.7	8.3	n.s.
Urban (N=45)	88.9	11.1	
Occupational Information			
Rural (N=32)	37.5	62.5	n.s.
Urban (N=42)	59.5	40.5	
Entertainment			
Rural (N=36)	86.1	13.9	n.s.
Urban (N=45)	80.0	20.0	
Technical Reports			
Rural (N=31)	74.2	25.8	n.s.
Urban (N=38)	76.3	23.7	
Environmental Issues			
Rural (N=32)	75.0	25.0	$P < .02$
Urban (N=39)	94.9	5.1	
Local School Affairs			
Rural (N=36)	69.4	30.6	n.s.
Urban (N=42)	66.7	33.3	
Community Health Centers			
Rural (N=30)	66.7	33.3	n.s.
Urban (N=40)	70.0	30.0	
Area Politicians			
Rural (N=36)	88.9	11.1	n.s.
Urban (N=45)	89.1	10.9	
Social Activities			
Rural (N=34)	64.7	35.3	n.s.
Urban (N=45)	64.4	35.6	
Community Development Programs			
Rural (N=28)	67.9	32.1	n.s.
Urban (N=34)	82.4	17.6	

*Mass media includes radio, television, newspapers, and magazines. Personal contacts includes fellow workers, friends/neighbors and extension agents.

**Statistical comparisons using chi square with $P < .05$.

***Percentages were recomputed to reflect elimination of the no response cases on each item. Accordingly, chi square values were based on the readjusted marginal totals.

Table 5. Rankings of Mechanisms Preferred for Agricultural Information

Mechanism	Percent of Respondents Ranking (N=99)	Percent of Urban Respondents Ranking (N=54)	Percent of Respondents Assigning Rank 1 (N=99)	Mean Rank
Magazines	49.5	33.3	23.2	2.2
Newspapers	51.5	48.2	25.3	2.4
Radio	34.3	27.8	12.1	2.7
Television	38.4	42.6	8.1	2.8
Community Extension Service	23.2	11.1	17.2	2.8
Extension Bulletins	27.3	14.8	5.1	3.5
Books	29.3	16.7	7.1	3.8
Neighbors	26.3	11.1	3.0	4.5

given, particularly by those engaged in rural development, to the increased and expanded uses of mass media information sources in program activities. Mass media sources have potential for functioning in several ways as a viable and effective communications tool. For one, mass media are effective mechanisms for widespread dissemination of information. This is particularly true when the intent is to inform or interest a maximum number of persons in a particular issue or program. Mass media may also be used for teaching purposes; i.e., a program, technique or plan can be pictorially and/or verbally explained in detail via mass media sources, and the advantages visually represented. Another role that mass media may play is to provide means for reinforcing or supporting programs that have already been launched in the community.

Even though more extensive use of mass media is advocated, the importance of utilizing multiple mechanisms in communications systems cannot be discounted. Communications research (Berelson, et. al. 1954; Klapper, 1960, Tichenor, et. al. 1970) has indicated that interpersonal contacts which permit two-way flow of information are vital to facilitate exchange between community leaders and change agents and to reach certain categories of people, such as the undereducated. Thus, effective information dissemination entails an appropriate "mix" of mass media forms with other methods of communication, including interpersonal contacts. What "mix" is best depends on the target population, the goals of the program and the resources of the agency.

REFERENCES

Andrews, Wade W., Ward W. Bauden and Everett M. Rogers
1960 Benchmarks for Rural Industrialization, Research Bulletin 870, Wooster, Ohio: The Ohio Agricultural Research and Development Center.

Beal, George M., and Everett M. Rogers
1960 The Adoption of Two Farm Practices in a Central Iowa Community, Special Report 26, Ames, Iowa: Iowa Agricultural and Home Economics Experiment Station.

Berelson, Bernard R., Paul F. Lazarsfeld and William N. McPhee
1954 Voting: A Study of Opinion Foundation in a Presidential Campaign, Chicago: University of Chicago Press.

Copp, James H., Maurice L. Sill and Emory J. Brown
1958 "The function of information sources in the farm practice adoption process," Rural Sociology, 23:146-57.

Greer, Scott
1962 The Emergency City, New York: The Free Press.

Katz, Elihu and Paul F. Lazarsfeld
1966 Personal Influence, New York: The Free Press.

Klapper, Joseph T.
1960 The Effects of Mass Communication, Glencoe, Illinois: Free Press.

Lazarsfeld, Paul F. and Herbert Menzel
1963 "Mass media and personal influence," pp. 94-115 in Wilbur Schramm (ed.), The Science of Human Communication, New York: Basic Books, Inc.

Napier, Ted L.
1972 "Current rural-urban attitudinal differences," Ohio Report 57(1), (January-February): 6-7.

Parsons, Jerry
1971 "Inter-city youth programs: guidelines," Journal of Extension, IX, No. 2 (Summary):2.

Rogers, Everett M.
1960 Social Change in Rural Society, New York: Appleton-Century-Crofts, Inc.

Rogers, Everett M. and Floyd E. Shoemaker
1971 Communication of Innovations, New York: The Free Press.

Ross, Peggy J., Barbara G. Spencer and John H. Peterson, Jr.
1974 Public Participation in Water Resources Planning and Decision-Making through Information-Education Programs: A State-of-the-Arts Study, Mississippi State University: Water Resources Research Institute.

Tichenor, P. J., G. A. Donohue and C. N. Olien
1970 "Mass media flow and differential growth in knowledge," Public Opinion Quarterly, 34:159-70.

Warner, Katharine P.
1971 Public Participation in Water Resources Planning, Ann Arbor: University of Michigan.

Webb, Gordon
1971 "Communication, bridge to a better world," pp. 215-21 in Yearbook of Agriculture, Washington, D.C.: U.S. Department of Agriculture.