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Correlates of farmers' use of information sources in Benue, Nassarawa and Plateau state, Nigeria

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ABSTRACT

Pearson product moment correlation coefficient (r) was employed to ascertain the relationships between certain independent variables and three categories of information sources, namely, personal localite, personal cosmopolite and mass media sources. The results indicate that social participation, leadership, estimated annual income, farm income, yield, age, aspiration, knowledge and attitude are significantly related to one or more of the information sources. Additionally, radio, family members, village extension agents and direct observations constituted the major sources of information which were ranked first, second, third and fourth, respectively.

Keywords: Correlation, farmers, information sources, Nigeria.

INTRODUCTION

When adoption is viewed as a transitive process occurring at several stages over time, different kinds of information are likely to be needed. This information may come from many sources (Mason 1964). It is only when the rural people remain in continuous contact with proven technologies and apply this valuable knowledge in their fields that they can effectively participate and contribute to both societal growth and development.

In their study of the relationship between certain personal characteristics and the use of various categories of information sources for some improved practices, Jha and Singh (1966) observed significant association of age, size of holding and caste system of the farmers with their choice for various categories of information. Parshad and Sinha (1971) reported that farmers of young age and educated categories made more use of informal personal sources. Parshad (1966) also studied the relationship of some personal characteristics with the use of various information sources and observed significant association of age and education. Sawhney (1967) indicated that farmers young in age, more educated, operating bigger farms, had higher income and were more effectively participating in formal organizations used personal cosmopolite sources to a greater degree than those who were older, less educated, operating smaller farms, had less income and were less active in formal organization.

In Nigeria, results obtained in this area are mixed. This is expected since these research efforts were carried out in different parts of the country and farmers cannot be treated as a homogenous category. Williams and Williams (1971) reported that age, occupation, farming experience and land holdings were associated with the use of the village extension workers, radio and fellow farmers as sources of information about new farm practices. On the other hand, Bogunjoko (1980) reported that age, level of education, number of plots owned and farmed and net farm income had no significant relationship to the use of the extension workers as source of information.

From the perspective of relative importance of information sources, radio is considered the most important mass medium for farmers in less industrialized countries (van den Ban and Hawkins 1996; Behrens and Evans 1984). In Nigeria, Osuji (1983) reported the minimal use of radio and television as channels of communicating farm information to farmers in Eastern Nigeria. Osuji's reasons were derived from inability of most of the farmers to own these media and lack of adequate infrastructural facilities to use them. Almost in the same vein, Mohammed and Wanaso (1993) observed that only a small proportion of respondents (12%) in the western zone of Plateau ADP cited radio as the main channel through which they obtain farm information.

There is a no doubt that information flow is crucial in agricultural growth. The logic, according to Hornik (1988) is overwhelming. An extension service that provides such information may enhance

farmer's technical and allocative efficiency.

This study had two-fold objectives. First, the study was prompted by the desire to determine the variables which are closely associated with information sources. And second, the study aims at facilitating a choice process by the ranking of information sources.

METHODOLOGY

Data for this study were secured through the administration of an interview schedule. The resource-poor farmers constituted the respondents. The 251 farmers were selected using the multi-stage sampling techniques in a manner that took cognizance of the delineation of the study area into zones, areas, blocks and circles.

The farmers were asked to indicate their extent and use of information source employing such descriptive adjectives as "frequently", "occasionally", "rarely" and "never" which attracted scores of 4, 3, 2 and 1, respectively. In addition, the respondents were also requested to rank the information sources.

Using the classificatory scheme that synthesized those of Rogers and Meynen (1965) and Wilson and Gallup (1955) the information sources were categorized into personal localite, personal cosmopolite and mass media sources (these served as the dependent variables). Included in the personal localite sources were family members, neighbours and friends, direct observation, cooperatives/farm service centres, village heads and contact farmers. In the case of personal cosmopolite sources, village extension agents, field days, demonstrations/small plot adoption technique, office calls and meetings were the sources considered. With respect to media source, radio, television, extension bulletins and posters were included. Fifteen specific information sources were thus considered.

The data obtained were machine edited and summarized using SAS software. The major statistical tool employed in data analysis was the Pearson product moment correlation coefficient (r) at the a priori 0.05 and 0.01 levels of significance.

RESULTS

Farmers' characteristics and information sources

Table 1 shows the magnitude of relationships between some selected farmers' characteristics and the sources of information. In each cell, the first value represents the Pearson product-moment correlation (r), while the second value represents the probability level at which the correlation (r) is significant.

At 0.01 level of probability, social participation was negatively but significantly related to personal cosmopolite source (r = -0.262), mass media sources (r = -0.263) and combined information sources (r = -0.203). This suggests that as the level of social participation of the farmer increases, there is less dependence on the sources of information emanating from personal cosmopolite and mass media and the three sources combined.

A positive and significant relationship exists between leadership and mass media sources (r = 0.198) at 0.01 level of probability and with the combined information sources (r = 0.156) at 0.05 level of probability. This implies that as the leadership role of the farmer increases, there is a great tendency to depend on the use of mass media sources for this information. Here, the principal item of the mass media is radio. Both estimated total annual income and farm income were found to be positively and significantly related to mass media sources (r = 0.151 and 0.163) at 0.05 and 0.01 levels of probability, respectively.

The yield that farmers obtain from their fields seem to be negatively but significantly correlated with the use of personal localite source (r = -0.141) as well as all sources combined (r = -0.125). Age of farmers was found to be negatively but significantly correlated with the use of mass media sources suggesting that as the farmer grows older, there is decreasing dependence on this source of information

Table 1. Correlates of farmers' utilization of information sources.

No	Variables	Personal localite sources	Personal cosmopolite sources	Mass media sources	Combined information sources
1	Duration (how long farmer has been in farming business)	0.224 0.730	-0.049 0.453	0.005 0.938	0.007 0.918
2	Tenurial status	0.101 0.120	0.093 0.154	0.093 0.156	0.073 0 262
3	Total land size	0.053 0.412	0.092 0.155	0.001 0.988	0 024 0.707
4	Social participation	-0.119 0.128	-0.262 0.003	-0.263 0.003	-0.203 0 020
5	Leadership score	0.099 0.128	0.075 0.252	0.198 0.002	0.156 0.016
6	Estimated annual income	0.002 0.969	0.079 0.226	0.151 0.021	0.144 0.499
7	Farm income	-0.038 0.555	0.059 0.364	0.163 0.013	0.037 0.564
8	Adoption score	0.001 0.994	0.083 0.354	0.147 0.104	0.143 0.564
9	Yield	-0.141 0.028	-0.747 0.251	-0.114 0.082	-0.125 0.253
10	Age	-0.769 0.236	-0.014 0.483	-0.131 0 046	0.085 0.189
11	Family size	0.073 0.259	0.001 0.994	0.232 0.625	0.042 0.513
12	Education	-0.099 0.123	-0.021 0.753	0.927 0.157	-0.397 0.541
13	Literacy score	-0.080 0.222	-0.003 0.969	0.113 0.088	0.152 0.703
14	Socio-economic status	0.049 0.463	-0.018 0.787	0.019 0.774	0.006 0.929
15	Aspiration	0.303 0.000	0.069 0.305	0.211 0.001	0.294 0.000
16	Knowledge score	0.029 0.651	0.208 0.001	0.142 0.029	0.131 0.043
17	Attitude score	0.066 0.308	0.278 0.000	0.111 0.088	0.050 0.489

for agricultural techniques (r = -0.131). Older farmers seem to be less inclined to use mass media sources than younger ones.

Aspiration was found to be positively and significantly correlated with the use of personal localite sources (r = 0.303), mass media source (r = 0.211) and all sources of information combined (r = 0.294). These values were significant at 0.01 level of probability. These findings indicate that as the level of aspiration increases there is a corresponding desire on the part of the farmers to acquire information on agricultural production using these sources of information. Knowledge was found to have positive and significant relationship with the use of personal cosmopolite sources (r = 0.208), mass media sources (r = 0.142) and all sources combined (r = 0.131). These findings may indicate that the increased knowledge of farmers about agricultural practice may remove any inhibition and therefore increase their contact with extension workers. Attitude of farmers was found to be positively and strongly related to the use of personal cosmopolite sources (r = 0.278). This finding is logical as a positive predisposition of farmers to the extension system would only make them interact intimately with extension agents.

Relative importance of information sources

The data on the relative importance of information are presented in Table 2. Farmers ranked radio as the major source through which they obtain farm information. It was followed by information from family members, village extension workers, direct observations and contact farmers which were ranked second, third, fourth and fifth, respectively. Cooperative storemen, television and extension bulletins were less important and were ranked thirteenth, fourteenth and fifteenth, respectively.

Assessed from the mean of added ranks, the personal localite sources (with a mean of 6.33) represent the most important channel of communication. Next to personal localite sources are the personal cosmopolite sources (with a mean of 8.20) and mass mediated channels of communication (with a mean of 11.40).

Table 2. Ranking of information sources by farmers.

Major information Sources	Serial No	Specific information sources	Ranking
Personal Localite Sources	1	Family members	2
	2	Neighbours and friends	6
	3	Direct observation	4
	4	Cooperative storeman	13
	5	Village heads	8
	6	Contact farmers	5
	Mean of added ranks		6.33
Personal Cosmopolite Sources	7	Village extension agents	3
	8	Field days	10
	9	Demonstrations	9
	10	Office calls	12
	11	Meetings	7
	Mean of added ranks		8.20
Mass media Sources	12	Radio	1
	13	Television	14
	14	Extension bulletin	15
	15	Posters	11
	Mean of added ranks		10.25

DISCUSSION

Nine (out of seventeen) variables considered in this study were found to be significantly related to one or more of the information sources. These variables are: social participation, leadership, estimated annual income, farm income, yield, age, aspiration, knowledge and attitude. This implies that these variables could be taken as surrogate for the major information sources concerned. In other words, knowledge of these variables may be helpful in making a useful prediction of the information sources.

On the relative importance of information sources, particularly radio, the findings reported here are at variance with the findings of Osuji (1983) and Mohammed and Wanaso (1993) but are in congruence with the findings of Kidds (1968), Williams (1978), Behrens and Evans (1984) and van den Ben and Hawkins (1996). In the three states of Nigeria covered by this study, radio sets are readily available and are owned by farmers even in the remotest parts. Limited radio listening groups operate and farm programmes are aired in indigenous languages. Indeed, radio offers immediacy and provides the warmth of the human voice which ties into the strong oral traditions of communities.

Ineffectiveness of cooperative organisations (resulting from suspicion and lack of mutual trust among members), absence of dependable source of power/electricity to operate television and low level of education (high rate of illiteracy) may help to explain why these sources of information (cooperative storemen, television and extension bulletins) are not frequently cited by farmers as channels through which they obtain information. It will, therefore, be counter-productive if extension services in these states concentrate their efforts on these communication channels in disseminating information to farmers since they do not have popular appeal to farmers.

Potentially, the greatest benefit of the findings reported here is the promotion of effective extension through skilful guidance of change agents in the selection of appropriate communication channels to reach farmers. This is achieved by matching information sources with those farmers' characteristics that are significantly correlated to

these information sources. Additionally, the ranking of information sources removes emphasis on the coverage of the whole spectrum of communication channels and identifies for the extension workers a few of the most important sources of information. This minimizes extension costs, improves the agents efficiency, simplifies the evaluation of the agents' efforts and allows extension managers and administrators to more appropriately allocate resources.

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