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Socio-Economic and Personal Factors as Predictor of Agricultural Information Utilization among Farmers

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ABSTRACT

Utilization of Agricultural information among rural farmers is a major challenge facing governments, rural development experts, and stakeholders across Africa. Thus, this study was conceived to examine socioeconomic and personal factors as a predictor of agricultural information utilization among rural farmers in Imo State Nigeria. The descriptive survey research design was adopted in conducting the study. Three research questions and hypotheses were formulated to guide the study. The population of the study was made up subsistence farmers in all the three senatorial district in Imo State -Nigeria. The instrument for data collection was self-designed validated survey questionnaire developed by the researcher. Data collected were analyzed using multiple regression. The findings from the study showed that all the socio-economic variables, as well as the personal factors when taken together, were effective in predicting farmers' use of agricultural information. The observed F-ratio (F-statistics =56.216) was statistically significant at, $p<.05$ given 7 and 423 degrees of freedoms-an indication that the effectiveness of a combination of the independent variables in predicting farmers' use of agricultural information could not have occurred by chance. The magnitude of the relationship between farmers' use of information and a combination of the independent variables is reflected in the values of coefficient of multiple correlations (0.694) and multiple correlation R2 (.482). It may, therefore, be said that about 48.2% of the total variability in farmers' use of agricultural information is accounted for by a linear combination of the personal and socio-economic variables. Based on the findings, it was recommended among other things that there is a need for change agents to identify and use farmers' preferred media of information delivery, as this is likely to facilitate their acceptance and use of information presented to them.

KEYWORDS

Agricultural Information, Rural Areas, Farmers Personal Factors and Socioeconomic factors, Nigeria

INTRODUCTION

There is a consensus among Nigerian policy makers, her development partners, and experts in Nigerian agriculture that the wealth of the country can substantially be derived from agricultural production (Opara, 2010). It is believed that the small scale farmer holds the key to the realization of this possibility. However, the average Nigerian small scale farmer is poor, none- literate, and lacks access to most basic social amenities, as well as improved varieties of inputs and modern farming implements (Ohaeri, 2015). The consequence of these has been low production and productivity. The agricultural sub-sector of the economy accounts for about 4 1.5% of the country's Gross Domestic Product (Olawunmi, 2014). This is in contrast to the -4.82% contribution of the oil sub-sector. The oil sub-sector accounts for over 95% of the nation's total revenue from 2009-2012 (CBN, 20013). The problem, according to Bello (2013), is that as many as 65% of the country's population is producing 4 1.5% of the GDP. This shows that the percentage of Nigerians engaged in agriculture is more than the world average of 45.7% (Ama, 2005). The

implication of this is that the productivity of this sub-sector of the Nigerian economy is quite low. The consequence is that food production is not keeping pace with the country's population growth rate. While the annual rate of population growth is estimated at between 2.5 and 3%, that of good production is between 1 and 1.5%, Opara (2010). This is consistent with Munyua's (n.d.) findings that while agricultural yields in developing countries continue to decline despite technological innovations, their population continues to expand beyond food production capacities.

The performance of Nigerian agriculture so far indicates that the farmers have neither used nor absorbed most of the technologies being introduced to them (Atande, 2009). This appears to be the case considering the findings of Anyikwa (2014) which showed that there existed a wide gap between farmers' improved technology yields and farmers' traditional technology yields. This scenario may be attributed to the gap between available agricultural information on improved practices and its use in particularly in the rural areas since majority of subsistence happens in the rural areas. Thus, in agricultural information use studies, it is usual to investigate the personal and social characteristics of farmers to understand their relative influence in the farmers' information use behaviors (Onu, 2001). First of all, information use is dependent on the capacity of the user to access information and later use it. This capacity is dependent on certain cultural, socio-economic, personal, political and geographical variables. It also includes the appropriateness of the information, the credibility of the information channel, and the information provider's characteristics (Opara, 2010).

Nelemaghan (2011) believes that one of the prerequisites for information use is its accessibility. Information may be physically accessible but may not be intellectually so. Some users possess the intellectual capacity might suffer from lack of the financial capacity necessary for the physical accessibility. This introduces the factors of illiteracy and poverty as militating variables in information use. Exposure to education permits an individual to control the rate of message input and develop the ability to store and retrieve information for later use (Sheba, 2013). For certain technical information, the retrieval capacity may be quite important (Mohammedali, 1977). Education enables the individual to know how to seek for and apply information in day- to-day problem solving. This is because as the individual gained the ability to read, he is able to extend the scope of his experience through the print media.

The mere provision of agricultural information to farmers does not guarantee its use. One his is because a host of social, economic, and psychological factors influence the rate of agricultural information use (Surry, 2013; Akande, 2009). It is against this background that the study was conceived to examine the effect of socioeconomic factors and some personal factors as a predictor of utilization of agricultural information among rural agricultural farmers in Imo State.

Statement of the Problem

For far too long, a variety of agricultural extension methods has been in use in teaching rural farmers and in assisting them to solve their farming problems. The extension has hardly exerted the desired impact in educating rural farmers and in improving rural agricultural performance:

Nor has its objective on accelerated food production, assess and utilization of agricultural information been achieved going by poor knowledge of local farmers on issues relating modern farming, the high cost of food items and increasing food insecurity in the country. Uzoma (2010) argued that most rural farmers have remained traditional and primitive in their production systems, which have led to declining yields, poor incomes, hunger and chronic poverty despite many decades of operation of agricultural extension as the core farmer education approach to educating rural farmers. A critical examination of available literature indicates that previous researches, despite their scope and perhaps depth are yet to examine the role personal as well as socio-economic factors of farmers about agricultural information utilization. The few ones that attempted to do also did not provide empirical evidence of the chronological order and strength of any relationship between farmers' use of agricultural information, (personal) factors agricultural productivity. This gap gave the background on the need to bring into focus research which seeks to use a multivariate analytical procedure to explain farmers' use of agricultural information regarding their personal and socio-economic characteristics about agricultural productivity in the rural areas.

OBJECTIVES OF THE STUDY

The main purpose of this study is to examine personal and socio-economic characteristics of farmers as a predictor of the use of agricultural information in rural areas.

Specifically, the study will;

1. Determine if personal factors such as gender, education, age among others will predict local farmers utilization of agricultural information
2. Determine if socio-economic characteristics of local farmers has a significant effect on farmers utilization of agricultural information

3. Determine the joint contribution of personal factors and socioeconomic characteristics of local farmers on their level of utilization of agricultural information.

Research Hypothesis

The following research hypothesis guided the study:

1. The personal factors of farmers do not equally contribute to the prediction of farmers' use of agricultural information in rural areas.
2. Socio-economic characteristics do not equally contribute to the prediction of farmers' use of agricultural information in rural areas.
3. Personal and socio-economic characteristics of farmers when taken together do not significantly predict the farmers' use of agricultural information.

METHODOLOGY

The research design adopted for this study is the ex-post facto type. The target population for the study comprised all local farmers in the three senatorial zones of Imo State, Nigeria. Stratified random sampling technique was used to select 450 (150 respondent each) subsistence farmers from the three senatorial zones across 12 local government areas. The main instrument for data collection was a questionnaire titled: Socio-economic and Agricultural Information Questionnaire for Rural Farmers (AIQRF) developed by the researcher. A reliability coefficient of 0.79 was obtained for the instrument using the Cronbach alpha coefficient (r). A total of 450 copies of the questionnaire were directly administered to 450 local farmers across the 12 states in the three senatorial zones of Imo State under study. The data collection lasted for 10 days with the use of some undergraduate students from Imo State University who served as assistants. Out the 450 questionnaires administered, a total of 430 copies of the questionnaire (representing 95.6%) were returned and used for data analysis. Data collected were coded and analyzed using multiple regression.

RESULTS AND DISCUSSION

Table 1: Multiple Regression Analyses showing the relationship between Personal and Socio-Economic Variables on Farmers' Agricultural Information use.

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.695(a)	.482	.473	.52255

a. Predictors: (Constant),

Table 2: Analysis of Variance showing the relationship between Personal and Socio-Economic Variables on Farmers' Agricultural Information use**.**

	Model	Sum of Squares	df	Mean Square	F	Sig.
1	Regression	107.452	7	15.350	56.215	000[b]
	Residual	115.505	423	.273		
	Total	222.957	430			

The results show that the use of all the variables of personal and socio-economic variables (age, gender, educational qualification, years of farming experience, preferred media, indigenous agricultural knowledge system, social participation, income, tenancy status, size of land cultivated, marital status, and part- or full-time farming) to predict farmers' use of agricultural information yielded a coefficient of multiple regression (R) of 0.695 and multiple regression square (R2) of 0.482. The results also show that analysis of variance of the multiple regression ANOVA was statistically significant since F statistics 56.216 at, $p<.05$ given 7 and 423 degrees of freedoms.

Table 2: Relative Contribution of the Independent Variables to the Prediction

S/N	Variable	Beta (b)	SE (b)	-ratio
1	Gender	0.072959	4.95813	0.603
2	Age	0.34369	2.185062	0.277
3	Educational Qualification	0.271508	1.75446	2.19S4
4	Years of Farming Experience	0,160856	1.487583	1.55
5	Marital Status	0.241909	9.670391	2.189*
6	Part- or Full-Time Farming	0.032048	4.962468	0.28 1
8	Tenancy Status	0.149136	6.047861	0.92
9	Size of Land Cultivated	0.075815	2.983931	0.541
10	Income	0.329815	1.002141	2.644*
11	Preferred Media	0.262797	21.371563	2.152*
12	Social Participation	0.168218	2.967827	1.415

* Significant at the 0.05 level

The findings of the present study reveal that the twelve personal and socio-economic variables. When taken together was effective in predicting farmers' use of agricultural information. The observed F-ratio is significant at the 0.05 level an indication that the effectiveness of a combination of the independent variables in predicting farmers' use of agricultural information could not have occurred by chance. The magnitude of the relationship between farmers' use of information and a combination of the independent variables is reflected in the values of coefficient of multiple correlations (R= .695(a)) and multiple correlation R2 (.482) as shown in Table 1. It may, therefore, be said that about 48.2% of the total variability in farmers' use of agricultural information is accounted for by a linear combination of the all the personal and socio-economic variables. With regards to the extent to which each of the independent variables contributed to the prediction, the value of the t-ratio associated with respective variables as shown in Table 2. The results indicate that each of the following variables: Educational qualification (V3), Marital status (V5); Income (V18); and Preferred Media (V27) contributed significantly to the farmers' use of agricultural information. Furthermore, the values of the standardized regression weights associated with these variables (as shown in Table 3) indicate that variables 18 (income) is the most potent contributor to the prediction followed by variable 3 (educational qualification), variable 5 (marital status), and variable 27 (preferred media) in that order.

Discussion of Findings

Personal factors, as well as socio-economic variables, play a significant role in the overall life of average human being. Thus findings from the study revealed a significant correlation between income and agricultural information use among the present day farmers in Imo State. This finding is consistent with the findings of previous investigations such as Opara, (2010), Osuji (2013), Atala (2014). Income is crucial in agricultural information use because the higher the income of the farmer, the more likely he

would seek and obtain information for to better his production and life. With improved income, the farmer will be better disposed to spend more on recommended farm practices that would further increase his farm earnings. However, most of the small-scale farms in Nigeria are poor and have little or no access to credit facilities. They, therefore, have no access to modern farming inputs which involve huge capital outlay that is far beyond their financial resources. Poverty is the denial of opportunities and choices (UNDP, 2013). The poverty profile of Nigeria is so high that the World Bank Group (2016) considered it crucial for targeted efforts aimed at reducing the depth and severity of poverty in all regions of the country.

Findings from this study also reported that Formal education in this study was measured by the highest educational qualification attained. Findings from the table show a positive correlation between educational qualification and agricultural information use. This is consistent with results of previous studies such as those of Osuji (2013), and Atala (2014). However, it is inconsistent with the finding of Chikwendu et al. (2016). All the same, the result of the present study is not surprising, because exposure to education permits an individual to control the rate of message input and develop the ability to store and retrieve information for later use. For certain technical information such as that dealing with agricultural innovations, the retrieval ability may be quite important. Education enables the individual farmers to know how to seek for and apply information on improved farm practices. This is because as the individual gained the ability to read, he can extend the scope of his experience through the print media. An illiterate farmer is apathetic and lacks choice, and according to Flyvberg (2000) and Mabogunje (2009), lack of choice is due largely to lack of knowledge which can be epistemological, technical or prudential. It is widely acknowledged that farmers with basic education are more likely to adopt new technology and become more productive. With basic education, they are better equipped to make more informed decisions for their lives and their communities and to be active participants in promoting economic, social and cultural dimension of development (UNESCO, 2013.). It is, therefore, possible to expect educated farmers to have a favourable attitude toward change.

As indicated in Table 3, marital status was also significantly associated with agricultural information use. One of the most important factors affecting the level of production and productivity on peasant farms is the composition and size of farming family. The finding is not surprising considering the finding of Igben (2018) that reported that married men and women were into farming than unmarried in Imo State. This is because married farmers are more likely to be under pressure to produce more, not only for family consumption hut also for sale. Their desire to produce more could lead to agricultural information seeking and use. Similarly, the availability of family labor could be an incentive to the married farmer to cultivate more crops and to use agricultural information.

Findings from the study also revealed that the use of preferred media contributed significantly in predicting agricultural information use by farmers. This result perhaps emphasizes the fact that communication is at the heart of any change process in society. Particularly in the farming community, communication of farm information provides a major breakthrough from the traditional to modernity. This position is consistent with the view of Savile (1965) in which he reported that if the aim of the agricultural extension is to find out what the farming community feels. It needs and what problems are involved, then the extension agent needs to first identify farmers' preferred media for agricultural information provision. This will enable the information provider to re-examine the sources of information, which are currently used in disseminating farm practices information to farmers. Meyer(2000) also noted, the manner in which information is communicated, will largely determine whether the user community will react positively to it or not. The result of an investigation by Meyer (2000) shows how the information behavior of traditional people was unwittingly applied to encourage a group of traditional farmers to produce food for their consumption. The incoming information was better understood and used by the group because the messages were communicated in a way with which they could identify. Therefore, Meyer (2003) noted that rural people used to oral tradition have their peculiar way of handling information that is closely related to their social and cultural background. This makes choice of appropriate medium very crucial in agricultural information delivery. Djojomartono and Pertini (2008) note that no one medium is best. The selected medium, they argue, must be adapted to the message, target audience and the social-economic environment of the farmers.

The statistical results of the present study show that eight of the twelve independent variables did not significantly associate with agricultural information use. However, in previous studies such as that of Chikwendu et al. (2016), age and years of experience in farming were found to have significantly associated with information use. Furthermore, Atala (2014) found that age and social participation significantly associated with agricultural information use. The differences in the results of the present study and results of some of the previous ones may be accounted for by the variation in the personal, social, economic, and cultural backgrounds of the farmers who participated in these studies, as well as differences in time and environment.

CONCLUSIONS

The present study has shown that educational qualification, marital status, income, and preferred media contributed significantly to the farmers' use of agricultural information. On the other hand, social participation, reliance on indigenous knowledge, tenancy status, gender, the size of land cultivated, years of fanning experience, part- or full-time farming, and age. Did not correlate NIH agricultural information use. However, the twelve personal and socio-economic variables, when taken together were found to be effective in predicting farmers' use of agricultural information.

RECOMMENDATIONS

The following recommendations are made based on the findings of the present study.

1. More attention should be given to the socio-economic conditions of the small scale farmers. Where these conditions remain poor, the farmers are unlikely to be active participants in development. Specifically, effective poverty reduction programs should be initiated and religiously implemented. Political patronage should not be allowed to hamper the success of such programs.
2. There is urgent need to intensify adult literacy campaign among the rural dwellers. Literacy is capable of making people more conscious and receptive of innovations. As a corollary. Agricultural literacy centers should be established and maintained in rural communities not only to provide reading materials to the neo-literate but also to attend to the information needs rural farmers
3. There is a need for change agents to identify and use farmers' preferred media of information delivery as this, is likely to facilitate their acceptance and use of information presented to them.

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