

## Agricultural Marketing Information Usage among Soybean Farmers in Nigeria

*Asogwa, B. C., Ezihe, J. A. C., and Ogebe, F.O.*

Department of Agricultural Economics,  
University of Agriculture,  
Makurdi, P.M.B. 2373,  
Makurdi, Benue State, Nigeria

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**ABSTRACT:** This study examined agricultural marketing information usage among soybean farmers in Nigeria using data from randomly sampled 150 soybean farmers in Benue State. The soybean farmers get agricultural marketing information mainly through other soybean producers (83.33%), family (70.00%), neighbours (67.33%), farmer's cooperative organization (65.33%) and extension agents (62.67%). Other soybean producers (83.33%), family (81.33%), neighbours (80%), farmer cooperative society (80%), extension agents (66.67%) were highly evaluated as USEFUL by the farmers. Other soybean producers, cooperative society, off-farm employment, extension services and access to markets significantly influenced the probability of producers evaluating their agricultural marketing information as adequate. The greatest constraint to access to agricultural marketing information by soya bean farmers included inadequate access to extension services (22%), ineffective communication (20%), distance from other soya bean producers (16.67%), middlemen (16%), lack of capital (13.33%) and illiteracy (12%). Information sources and marketing information usefulness were not independent of one another among the respondents. Information sources and marketing information adequacy are not independent of one another among the respondents. More extension agents should be deployed to where the farmers are residing so as to reach a large number of the farmers and teach them on their areas of critical needs. Other methods of extension information dissemination should be used to transfer current, adequate and useful marketing information to the farmers. It should be ensured that any extension method being used to disseminate marketing information to the farmers is such that the farmers understand the message and marketing information being communicated to them.

**KEYWORDS:** Agricultural marketing, information sources usefulness, information utilization, information adequacy, soybean, farmers.

### 1 INTRODUCTION

Information is an indispensable factor in the practice of farming and it is the basis of extension service delivery. It is defined by [1] as data that have been put into a meaningful and useful context which is communicated to recipient who uses it to make decisions. [2] opined that information can also be described as power which an individual in every society should have easy access to.

Agricultural information, as suggested by [3], is defined as all published or unpublished knowledge in all aspects of agriculture. He classified agricultural information into four categories namely, technical, commercial, socio-cultural and legal information.

According to [4], market information is of great importance to the farmers, merchants and governments as well. Price information is very vital for farmers in their decision of timing the sales. Merchants require market information to carry on their routine transactions like buying, storing and selling. This information facilitates them in planning their strategies like quantities to be purchased, quantity to be sold immediately and quantity to be stored in the market, where they should plan

their sales (local markets or distant markets). Government too needs this information to keep an eye on the price trends and for market intervention, maintenance of buffer stock.

The quality of information rests solidly on three pillars which are accuracy, timeliness and relevance. Adereti et al. (2006) stated that accuracy implies that information is free from bias; timeliness means that recipients can get information when they need it, while relevance implies whether the piece of information specifically answers the users' question of what, why, when, who and how? An individual consciously or unconsciously engages in information search in order to find appropriate information which can fill the information gap thereby regaining physiological and psychological balance. Access to adequate information is very essential to increased agricultural productivity [5] and marketing efficiency [6].

The ultimate aim of the farmer is to sell the fruit of his labour at a fair price and to be paid quickly enough to enable him pay his bills and buy inputs for the next season. But this remains a dream for many, especially for small-scale farmers, who after many years of being protected by the State marketing bodies, have found themselves left to face the vagaries of the free agricultural market, following the liberalization in the eighties. According to [7], farmers were not able to adjust quickly to the structural changes of the Nigerian economy brought about by the Structural Adjustment Program (SAP) and the abolition of the Commodity Marketing Boards in 1986. This led to their inability to find market for their produce and to acquire agricultural inputs in the subsequent years. The consequence was market glut and the attendant low producer price and in some cases, poor production for lack of adequate input. The government intervention by placing a ban on importation of commodities like grains created a local market for the selected commodities and increased the producer price, which varied from one season to another. The seasonality of the price variation encouraged the activities of speculative middle men who would buy at low prices from the farmers immediately after harvest, and resell to consumers (sometimes including the farmers) at very high prices during period of scarcity. These challenges coupled with poor access to credit caused by a weak and inadequate banking system, together with insufficient storage facilities and absence of tools that might cushion price volatility, have for a long time hampered the development of small-scale and medium-sized agricultural enterprise.

Recognizing this challenge the Federal Government of Nigeria has identified investments in agriculture and rural development as a major priority. Despite the articulation of these strategies and the commitment of Government and donors to the broader framework of pro-poor rural development, the income of farmers has continued to dwindle.

However, according to [8], a large number of marketing functions in Nigeria are poor, thus limiting the responsiveness of marketing processes. Given the role marketing and distribution play in the overall farm enterprise in terms of income generation and sustainability of enterprise, poor marketing activities pose a severe limitation to the growth of the agricultural sector and a huge constraint in the food and income chains of rural Nigerians. [9] and [10] identified the need for agricultural marketing information as a major tool for farmers to make economic decisions that would benefit them and thus enhance their market access. According to them, marketing has a connection to immediate income and is dependent on useful information and knowledge, which enables the farmer to make decisions on what to produce, where, when and the price to purchase inputs, as well as availability of transportation, and where and how to dispose of produce. It is in recognition of the importance of information for farmers agricultural business that governments of developing countries including Kenya and Tanzania [11], launched their Agricultural Marketing Information Systems often managed by agricultural organizations that create information to farmers so that farmers can make better decisions in order to take advantage of market opportunities and manage continuous changes in their production systems – market access [10].

According to [12], information has economic value if it helps estimate the value of something. Both individuals and society at large are interested in the extent to which information about an object value is contained in its market price. Apart from distributional issues, society's interest is that price guide resource allocation so as to maximize value-weighted production. Prices that would induce such efficient resources are themselves efficient.

Since the adoption of the Structural Adjustment Programme (SAP) in 1986, the Nigerian agricultural produce market has functioned under a deregulated system. The system has been subject of criticism for a long time. It has been described variously as inefficient and exploitative. Markets for agricultural products are imperfect with a few well organized traders dominating over large number of unorganized producers who dump their produce under seasonal pattern of production, while market imperfection and consequent loss in marketing efficiency are the common problems for agricultural products.

According to [13], agricultural commodity marketing in Benue State has not been as efficient and effective as it should be, mainly due to the ignorance of the farmers of the market environment and the ineffectiveness of past intervention strategies. Farm producers attempt to mitigate risk and uncertainty by utilizing accurate and reliable information [14]. Marketing efficiency is usually an underlying goal of most industries even when they are not faced with negative publicity [15]. Information can enhance efficiency if it is used to aid decision making and management of risk [16]. Farm producers often use information to minimize their risk exposure or increase their expected income [17]. When faced with a choice of

information sources, producers are expected to select those sources that yield the highest marginal benefits (Jones et al. 1990). It is commonly felt that the financial market achieve informational efficiency as traders with the best information and the most skilled make profits at the expense of those with inferior information or ability and come to dominate the market [18].

According to [19], adequate and accurate information about the supply and demand situation in the market place are necessary if the products are to be moved to consumers with minimum waste, confusion and cost. Long term market plans are also important. Information concerning future market potentials and its development are needed for wise production plans. Farmers, processors and other marketing agencies are continually in need of this information. The problem of product surplus or shortages can be attributed to lack of information, its lateness or incorrect evaluation of the available information.

Up to the early 1960s, Nigeria was self-sufficient in food production [20]. Nigeria experienced food and fibre shock after discovery of oil evidenced by appreciating exchange rate and rural-urban migration. Indeed, the demand for food far outstripped the domestic supply which led to an upsurge in food import. Benue State like other states in Nigeria has severe food crisis as a result of inadequate protein intake of nutritious food by the citizen.

Soya bean belong to the leguminous family and are widely grown and consumed all over the world and it contributes about 6.4 million tons of protein or 16.5 percent of the world's vegetable protein [21]. According to [22], adequate protein intake helps the body to fight and maintain good health against burden of disease like malaria parasite found in blood plasma of most African people. The low protein intake could be attributed to the increasing high cost of traditional source of animal protein like livestock. Hence the research for an alternative source of protein has led to increased soya bean utilization both at home and at the industrial level. Soya bean consumption is still very low in spite of the realization that soya bean is virtually nutritious. It is widely believed that the rural farmer have not been made to reap the benefits of soya bean production on economic scale. Their individual smallness of scale coupled with inadequate access to agricultural marketing information has been a limiting factor for a better marketing and utilization of the crop. The focus of this study therefore is to examine agricultural marketing information usage among soya bean farmers in Nigeria.

Producers' perception of the value of information was measured as a qualitative response to a question regarding the adequacy of information. Producers' responses are likely to reflect the quantity and quality of their marketing information. Producers applied their own performance standards in their evaluations. While producers probably used different measures of rigor in their evaluations, it is such individual evaluations that form the basis for decisions regarding information sources. Furthermore, an existing body of literature describes the relationship between the performance of management information systems and user attitudes and perceptions [23]-[28], in a study of an industrial sales force, concluded that user perceptions of system performance (system usefulness or adequacy) were highly correlated with actual information systems use.

The broad objective of the study is to examine agricultural marketing information usage among soya bean farmers in Nigeria. The specific objectives are to:

- (i) identify sources of agricultural marketing information usage among the soya bean farmers in Nigeria;
- (ii) evaluate the usefulness of agricultural marketing information sources among soya bean farmers in Nigeria;
- (iii) determine the factors that influence soya bean farmers' evaluation of their agricultural marketing information adequacy in Nigeria; and
- (iv) identify constraints to agricultural marketing information accessibility among the soya bean farmers in Nigeria.

The following null hypotheses were stated and tested:

- (i) There is no significant relationship between information sources and the usefulness of marketing information among soya bean farmers; and
- (ii) There is no significant relationship between information sources and marketing information adequacy among soya bean farmers.

## **2 METHODOLOGY**

### **2.1 THE STUDY AREA**

Benue State is one of the 36 states of Nigeria located in the North-Central part of Nigeria. The State has 23 Local Government Areas, and its Headquarters is Makurdi. Located between Longitudes 6° 35'E and 10°E and between Latitudes 6° 30'N and 8° 10'N. The State has abundant land estimated to be 5.09 million hectares. This represents 5.4 percent of the

national land mass. Arable land in the State is estimated to be 3.8 million hectares [29]. This State is predominantly rural with an estimated 75 percent of the population engaged in rain-fed subsistence agriculture. The state is made up of 413,159 farm families [30] and a population of 4,219,244 people [31]. These farm families are mainly rural. Farming is the major occupation of Benue State indigenes. Popularly known as the “Food Basket” of the Nation, the State has a lot of land resources. For example cereal crops like rice, sorghum and millet are produced in abundance. Roots and tubers produced include yams, cassava, cocoyam and sweet potato. Oil seed crops include pigeon pea, soybeans and groundnuts, while tree crops include citrus, mango, oil palm, guava, cashew, cocoa and *Avengia spp.*

**2.2 SAMPLING TECHNIQUE**

Benue State is divided into three agricultural zones. Local Government Areas with high concentration of soya bean production in Benue State were purposively selected for the study. Based on this, one local government area with high concentration of soya bean production in Benue State was purposively selected from each of the three agricultural zones in Benue State thereby bringing the total to three local government areas selected for the study. From each of the selected local government areas, 50 soya bean farmers were randomly selected giving a total of 150 respondents.

**2.3 DATA COLLECTION**

Primary data were mainly used for the study. The primary data were obtained through the use of a structured questionnaire, copies of which were administered to the 150 respondents selected for the study.

**2.4 METHOD OF DATA ANALYSIS**

Data collected were analysed using both descriptive and inferential statistics. Descriptive statistics such as frequency distribution and percentages were used for the analysis of specific objectives i, ii and iv while Binary Logistic Model was used for the analysis of specific objective iii. Hypotheses i was tested using Chi-Square test while hypothesis ii was tested using Binary Logistic regression.

**2.5 MODEL SPECIFICATION**

In order to determine the factors that influence soya bean farmers’ evaluation of their marketing information adequacy, the Binary Logistic Regression model that was used is expressed as follows:

$$\text{LOG } \frac{P}{1-P} = \alpha + \beta_1X_1 + \beta_2X_2 + \beta_3X_3 + \beta_4X_4 + \beta_5X_5 + \beta_6X_6 + \beta_7X_7 + \beta_8X_8 + \beta_9X_9 + \beta_{10}X_{10} + \mu$$

Where:

LOG  $\frac{P}{1-P}$  = Log of the probability (P) of postharvest information adequacy ranking relative to an  
 $\frac{1-P}{1-P}$  inadequacy ranking

Adequate = 1;            Inadequate = 0

X<sub>1</sub> = Age in years of the respondents

X<sub>2</sub> = Soya bean product sales in Naira

X<sub>3</sub> = 1 if print information sources are important; 0 otherwise

X<sub>4</sub> = 1 if extension sources of information are important; 0 otherwise

X<sub>5</sub> = 1 if has access to markets; 0 otherwise

X<sub>6</sub> = 1 if other soya bean producers are important; 0 otherwise

X<sub>7</sub> = 1 if has formal education; 0 otherwise

X<sub>8</sub> = 1 if employed outside soya bean enterprise; 0 otherwise

X<sub>9</sub> = 1 if member of cooperative society; 0 otherwise

$X_{10}$  = 1 if electronic information sources are important; 0 otherwise

$\mu$  = error term

### 3 RESULTS AND DISCUSSION

#### 3.1 SOURCES OF AGRICULTURAL MARKETING INFORMATION

The result in Table 1 shows that the most common sources of marketing information usage among the respondents included other soya bean producers (83.33%), family (70.00%), neighbours (67.33%), farmer’s cooperative organization (65.33%) and extension agents (62.67%). The implication of the foregoing results is that universities and research institutes have not put in enough efforts to carry out their function of information generation and delivery to farmers.

Extensions agents meet some members of the farmers’ groups who then pass on the information to the others in the groups who are absent during meeting. Extension agents meet the farmers in the groups for group meetings or workshop.

Giving farmers access to a variety of information sources which are accessible, affordable, relevant and reliable is the ultimate aim of providing agricultural information services (Gibbon and Warren, 1991). This is the reason only very few of the farmers indicated print and electronic media as sources of information. These sources are not readily affordable, reliable, or reliable in the rural communities.

**Table 1. Distribution of Respondents by Sources of Agricultural Marketing Information**

Sources of information	*Frequency	*Percentage
Family	105	70.00
Extension agents	94	62.67
Middlemen	77	51.33
Farmer Cooperative Society	98	65.33
Other soya bean producers	125	83.33
Neighbours	101	67.33
Print media	11	7.33
Electronic media	10	6.67
Universities	0	0.00
Research Institutes	0	0.00
<b>Total</b>	<b>150</b>	<b>100</b>

Source: Field Survey, 2012

\*Multiple Responses

#### 3.2 USEFULNESS OF AGRICULTURAL MARKETING INFORMATION SOURCES

The result in Table 2 shows that the following information sources were highly evaluated as USEFUL or VERY USEFUL by the respondents: other soya bean producers (83.33%), family (81.33%), Neighbours (80%), farmer cooperative society (80%), extension agents (66.67%).

From the foregoing result, it can be inferred that the farmers in most cases found more useful agricultural marketing information sources that cost them less to access. This probably explains why information sources such as print media (30%) and electronic media (23.33%) enjoyed very low patronage and low evaluation among the respondents. Furthermore, these sources are not readily available, affordable, relevant and reliable in the rural communities. The middlemen (53.33%) provided less useful information to the farmers probably to enable them carry on with their exploitative activities against the rural farmers.

Giving farming access to a variety of information sources that are accessible, affordable, relevant and reliable is the ultimate aim of providing agricultural information services [32]. To the extent that expenditures for information sources are a measure of information gathering and selection from among information products, soya bean producers' information acquisitions are consistent with the assertion of [33] that there is little demand for expensive information products. Also, the observed pattern of information acquisition seems consistent with the proposition that producers no longer subscribe to an information source whose net value (gross value less cost) has been assessed as inadequate [14]. Only 45.33 percent of the soya bean producers evaluated their marketing information as adequate.

**Table 2. Distribution of Respondents by Usefulness of Agricultural Marketing Information Sources**

Sources	Very useful		Useful		Not useful		Do not receive/use		Total	
	N	%	N	%	N	%	N	%	N	%
Family	57	38	65	43.33	13	8.67	15	10	150	100
Farmer Cooperative Society	65	43.33	55	36.67	10	6.67	20	13.33	150	100
Extension agents	45	30	55	36.67	25	16.67	25	16.67	150	100
Middlemen	35	23.33	45	30	35	23.33	35	23.33	150	100
Other soya bean producers	65	43.33	60	40	10	6.67	15	10	150	100
Neighbours	60	40	60	40	15	10	15	10	150	100
Print media	20	13.33	25	16.67	40	26.67	65	43.33	150	100
Electronic media	15	10	20	13.33	45	30	70	46.67	150	100

Source: Field Survey, 2012

### 3.3 DETERMINANTS OF SOYA BEAN FARMERS' EVALUATION OF THEIR AGRICULTURAL MARKETING INFORMATION ADEQUACY

The result in Table 3 shows that at 5% level of significance, the hypothesis that the specified (selected) explanatory variables have no significant influence on soya bean farmers' evaluation of their marketing information adequacy is rejected as a result of the significant change in -2 Log likelihood, suggesting that there is a significant cause and effect relationship between soya bean farmers' evaluation of their marketing information adequacy and the selected explanatory variables. The Cox and Snell R square (coefficient of determination) ( $R^2$ ) is 0.691. This indicates that 69.1% variation in soya bean farmers' evaluation of their marketing information adequacy is accounted for by variations in the selected explanatory variables, suggesting that the model has explanatory power on the changes in soya bean farmers' evaluation of their marketing information adequacy. The Nagelkerke R square (adjusted  $R^2$ ) also supported the claim with a value of 0.923 or 92.3%. This implies that the selected explanatory variables explain the behavior of soya bean farmers' evaluation of their marketing information adequacy at 92% level of confidence.

The result in Table 3 further shows that the probability of evaluating marketing information as adequate increases with age. Since producers generally become more risk-averse with age, this parameter estimate suggests that more and better information is probably acquired to diminish risk. This is because older producers are expected to have more time to develop a satisfactory marketing information system. Likewise they accumulate many years of experience which partly substitute for external market information. Older producers may also have lower demand for information for risk-management reasons. Further, older producers often have more diversified operations. Additionally, it seemed reasonable to conjure that older and more experienced producers have better marketing relationships with commodity buyers. More specifically, forward contracting is likely to be positively correlated with age and experience and, as a result, marketing price risk can be diminished for older producers.

**Table 3. Determinants of Soya Bean Farmers' Evaluation of their Agricultural Marketing Information Adequacy**

Variables	B	S.E.	Wald	Exp(B)
Age (years)	0.610	0.347	3.09*	0.941
Sales (Naira)	0.002	0.001	4.000*	0.804
Print media	0.532	0.994	0.286	0.703
Extension service	0.681	0.222	9.410*	0.605
Access to markets	0.746	0.358	4.342*	0.597
Other soya bean producers	0.615	0.214	8.259*	0.902
Education	0.556	0.39	2.032*	0.078
Off-farm employment	-0.824	0.411	4.019*	0.279
Cooperative society	-0.791	0.422	3.513*	0.734
Electronic media	0.679	0.852	0.6351	0.455
Constant	-0.424	0.514	0.6805	0.000
-2 Log likelihood				30.689
Cox & Snell R square				0.691
Nagelkerke R square				0.923

Source: Field Survey, 2012

\*Wald statistic is significant at 5% level.

\*Change in -2 Log likelihood is significant at 5% level.

Sales have a positive and statistically significant impact on the probability of producers evaluating their marketing information as adequate. This suggests that the risk associated with increased production is offset by experience in managing risk. That is, rising sales suggest more risk exposure (greater potential losses) and a possible need for more accurate and reliable information. This is because risk and uncertainty increase with farm size (sales). Such increases in production risk are likely to be somewhat offset by producers' ability to manage risk or their willingness to bear risk as size increases. That is, size is undoubtedly related to producers' past success in managing the operation.

Availability of extension services/agricultural information and access to markets positively influence the probability of evaluating marketing information as adequate. This implies that soya bean farmers with access to extension and access to markets have higher perceptions of their marketing information adequacy. This is because on the one hand they provide the incentive and means for farmers to access improved agricultural information and on the other hand they improve farmers' liquidity and the affordability of quality and useful marketing information. In other words, the availability of an extension worker in the community and the usefulness of the extension messages (as perceived by the respondents) lead to higher evaluations of their marketing information adequacy.

Other soya bean producers have a positive and statistically significant impact on the probability of producers evaluating their marketing information as adequate. The high significance of other soya bean producers could have been because this information source is likely to be most relevant to the decision at hand than many of the listed information sources. Additionally, other soya bean producers are likely to provide information that is timelier than that provided by the other information sources.

The probability of evaluating marketing information as adequate is shown to rise with education. This suggests that education raises producers' knowledge and awareness of the complexity of the marketing system and leads them to demand more accurate and reliable information. This is because education is a form of human capital that should serve to enhance producers' understanding of the complexities of the marketing system and lead them to demand improved marketing information.

Producers with off-farm employment are revealed to have lower perceptions of their marketing information adequacy. The parameter estimate is statistically significant and has negative sign and this suggest that off-farm employment raises producers' opportunity cost of time and their subsequent demand for more useful information. This is because part-time employment outside the soya bean enterprise is likely to constrain producers' available time for information assimilation and lead to lower evaluations of their marketing information adequacy. Alternatively, producers with off-farm employment may face lower enterprise risk from inefficient marketing decisions and therefore may be less concerned about the overall quality of their marketing information.

Cooperative society negatively influences the probability of evaluating marketing information as adequate. This is attributable to the high profitability that results from adequate organization of farmers into collective farmers' institutions that can provide opportunities for risk sharing and improved bargaining power. This is because collective farmers' institutions provide farmers with the opportunities for sharing risk from inefficient marketing decisions and also provide opportunities for improved bargaining power that are not available to individual farmers and therefore farmers may be less concerned about the overall quality of their marketing information.

### **3.4 CONSTRAINTS TO SOYA BEAN FARMERS' ACCESS TO AGRICULTURAL MARKETING INFORMATION**

The result in Table 4 shows that the greatest constraint to access to agricultural marketing information by soya bean farmers included inadequate access to extension services (22%), ineffective communication (20%), distance from other soya bean producers (16.67%), middlemen (16%), lack of capital (13.33%) and illiteracy (12%).

Communication, is ineffective because most of the time, farmers find it difficult to comprehend information they get through an intermediary. Noise is always there when such information is disseminated by an intermediary among the target groups. The use of contact farmers is characterized by message distortion [3]. Some farmers are disadvantaged by distance from others and find themselves in such a situation which makes it difficult for them to have easy access to information. Owing to illiteracy, some of the farmers cannot read and only understand the local language. Extension contact is poor because the ratio of extension agents to farmers is far from adequate. Middlemen hoard marketing information to enable them carry out their exploitative activities against the farmers.

**Table 4. Distribution of Respondents by Constraints to Accessing Agricultural Marketing Information**

<b>Problem</b>	<b>Frequency</b>	<b>Percentage</b>
Inadequate access to extension	33	22.00
Ineffective communication	30	20.00
Distance from other farmers (km)	25	16.67
Illiteracy	18	12.00
Lack of capital	20	13.33
Middlemen	24	16.00
<b>Total</b>	<b>150</b>	<b>100</b>

Source: Field Survey, 2012

**3.5 RELATIONSHIP BETWEEN INFORMATION SOURCES AND AGRICULTURAL MARKETING INFORMATION USEFULNESS AMONG SOYA BEAN FARMERS**

The result of the Chi-square test in Table 5 rejects the null hypothesis that there is no significant relationship between information sources and marketing information usefulness among the soya bean farmers. This suggests that information sources and marketing information usefulness are not independent of one another among the respondents.

The Chi-square test analysis of no significant relationship between information sources and marketing information usefulness among the soya bean farmers gave a Chi-square calculated value of 21.49. At 5% level of significance, Chi-square tabulated at 7 degrees of freedom is 14.07. From the p-value (0.0031), it is therefore inferred that at this level of significance information sources and marketing information usefulness among the soya bean farmers have significant relationship. This is based on the ground that the Chi-square calculated (21.49) is greater than the Chi-square tabulated (14.07).

**Table 5. Relationship between Information Sources and Agricultural Marketing Information Usefulness among Soya Bean Farmers**

<b>Sources of information</b>		<b>Adequate</b>	<b>Inadequate</b>	<b>Row Total</b>
Family	$(O-E)^2/E$	0.07	0.06	0.13
Extension agents	$(O-E)^2/E$	0.02	0.02	0.04
Middlemen	$(O-E)^2/E$	0.70	0.65	1.35
Farmer Cooperative Society	$(O-E)^2/E$	1.09	1.02	2.11
Other soya bean producers	$(O-E)^2/E$	1.45	1.36	2.81
Neighbours	$(O-E)^2/E$	0.02	0.02	0.04
Print media	$(O-E)^2/E$	3.70	3.47	7.17
Electronic media	$(O-E)^2/E$	4.06	3.79	7.85
<b>Column Total</b>	$(O-E)^2/E$	<b>11.10</b>	<b>10.39</b>	<b>21.49</b>

Source: Field Survey, 2012

Chi-Square ( $X^2$ ) tabulated at 0.05 level with 7 degree of freedom = 14.07

P-value = 0.0031

**3.6 RELATIONSHIP BETWEEN INFORMATION SOURCES AND MARKETING INFORMATION ADEQUACY AMONG SOYA BEAN FARMERS**

The result of the Chi-square test in Table 6 rejects the null hypothesis that there is no significant relationship between information sources and marketing information adequacy among the soya bean farmers. This suggests that information sources and marketing information adequacy are not independent of one another among the respondents.

The Chi-square test analysis of no significant relationship between information sources and marketing information adequacy among the soya bean farmers gave a Chi-square calculated value of 32.84. At 5% level of significance, Chi-square tabulated at 7 degrees of freedom is 14.07. From the p-value (0.0000284), it is therefore inferred that at this level of significance information sources and marketing information adequacy among the soya bean farmers have significant relationship. This is based on the ground that the Chi-square calculated (32.84) is greater than the Chi-square tabulated (14.07).

**Table 6. Relationship between Information Sources and Agricultural Marketing Information Adequacy among Soya Bean Farmers**

Sources of information		Adequate	Inadequate	Row Total
Family	$(O-E)^2/E$	0.07	0.06	0.13
Extension agents	$(O-E)^2/E$	0.03	0.03	0.06
Middlemen	$(O-E)^2/E$	0.10	0.99	2.10
Farmer Cooperative Society	$(O-E)^2/E$	1.73	1.55	3.28
Other soya bean producers	$(O-E)^2/E$	2.33	2.10	4.43
Neighbours	$(O-E)^2/E$	0.03	0.03	0.06
Print media	$(O-E)^2/E$	5.82	5.23	11.06
Electronic media	$(O-E)^2/E$	6.17	5.55	11.72
<b>Column Total</b>	<b><math>(O-E)^2/E</math></b>	<b>17.29</b>	<b>15.54</b>	<b>32.84</b>

Source: Field Survey, 2012.

Chi-Square ( $\chi^2$ ) tabulated at 0.05 level with 7 degree of freedom = 14.07

P-value = 0.0000284

#### 4 CONCLUSION AND RECOMMENDATIONS

The study showed that the soya bean farmers get marketing information mainly through other soya bean producers, family, neighbours, farmers’ cooperative organization and extension agents. Only very few of the farmers indicated print and electronic media as sources of information because sources are not readily affordable, reliable, or reliable in the rural communities. However, research institutes and universities have not put in enough efforts to carry out their function of information generation and delivery to farmers.

Other soya bean producers, family, neighbours, farmer cooperative society, extension agents were evaluated as USEFUL or VERY USEFUL by the farmers. Information sources with low evaluation included middlemen, print media and electronic media.

Farm sales, age, other sorghum producers, education, cooperative society, off-farm employment, Availability of extension services and agricultural information and access to markets all had significant influence on the probability of producers evaluating their marketing information as adequate.

The major constraint to access to marketing information by soya bean farmers in the study area included inadequate access to extension services, ineffective communication, distance from other farmers, middlemen, lack of capital and illiteracy.

The result of the study showed that information sources and marketing information adequacy are not independent of one another among the respondents. It is therefore inferred that information sources and marketing information adequacy among the soya bean farmers have significant relationship. Furthermore, the result of the study showed that information sources and marketing information usefulness are not independent of one another among the respondents. It is therefore inferred that information sources and marketing information usefulness among the soya bean farmers have significant relationship.

Extension agency should encourage all soya bean farmers to subscribe to the various soya bean farmers’ groups that abound in the state. This will make information easily accessible to them.

Extension agents should intensify their efforts so as to spend much time to teach farmers on the areas of needs. Other method such as mass media should be used regularly to disseminate marketing information to soya bean farmers in such a manner that the farmers will understand the message and information being communicated to them. Universities and Research institutes should double efforts to ensure that research results and relevant marketing information are passed on to the rural farmers in a much more accessible manner.

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