

# Assessment of Information Needs and Information Seeking Behaviour of Rice Farmers in Enugu North Agricultural Zone of Enugu State, Nigeria

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**Abstract:** The study was carried out to assess the information needs and information seeking behaviour of rice farmers in Enugu North Agricultural Zone of Enugu State, Nigeria. A total of one hundred and twenty (120) respondents were selected using mult-stage sampling technique. Percentage responses, 3-likert scale rating technique and probit model analysis were used to capture the objectives of the study. The result shows that majority (63.3%) of the respondents had a low information seeking behaviour, followed by 20%; did not seek for information on rice production, while 15% 5% of the respondents had medium and high information seeking behavior respectively. Additionally, the majority (78%, 64%, 67%, 83.7% and 76%) of the respondents sourced for information on marketing were from agricultural marketing and new seed(improved varieties), productive resources such as land and harvest management respectively. Also, those who sourced information from Agricultural Development Programme (ADP) were on fertilization (78%), pesticides application (81%), weed control, (67%) and disease control (68%0). Furthermore, the respondents indicated that they sourced for information on new seed from radio. Moreover, coefficient of education, poor access to power supply and poor access to communication infrastructure affected farmers' seeking behaviour. As well, the information need of the farmer were affected by their following socioeconomic characteristics; educational level, farm size, farming status and access to credit. In addition, the constraints to the respondents' information seeking behaviour were poor access to information services, poor access to extension services, information not easily accessible and high cost of labour. The recommendations were need to increase farmers. access to credit, educational programmes and encourage farmers to join or form cooperative society

**Keywords:** Assessment, Information needs, Information Seeking Behaviour, Rice Farmers

## I. INTRODUCTION

The importance of information as a catalyst in development activity, especially when available and accessible is well documented. For instance, Opeke, (2004) reported that information is "the fifth need of man ranking after air, water, food and shelter." People need information to develop their potential through education and training, he maintained.

In the same vein, Ellyand silage (2013) remarked that 'Everyone needs information about everything even in his day-to-day life.' The access to information as opined by Moore (2007) could facilitate to success in business, enriches cultural experience, and to take control of daily lives.

In enhancing Agricultural development information access becomes imperative as that is capable of enhancing farm production and productivity. This could be through among others providing information on weather trends, best practice in farming and new technologies developed by scientists.(Orde and Mary, 2008). In addition, access to market information according to Wakelin and Simelane (1995) in the appropriate time could aid the farmers in making rational decisions as relates to what to produce, source of market and source of inputs procurement. Farmers' access to information, rice production inclusive is dependent on their information seeking behaviour.

Information seeking behaviour as asserted by Gundu, (2009) is the pattern individuals express their information needs, seek, evaluate, select and use information. In many developing countries, information centres are scarce and when existed, they are poorly equipped with best materials and personnel who can professionally handle the farmers' problems. Consequently, most farmers resorted to use informal source such as from neighbours, friends, relatives and children mainly through informal discussion, experience sharing and inviting other farmers to visit their own farms (Solomon, 2002), which is often less reliable (Apapa and Ogunrewo 2010). This is against use of formal source, included workshops and seminars, training sessions, Ministry of Agriculture, magazines of agriculture, extension officers, local Government officers, non-Government organization, libraries of agriculture and posters, which are more dependable (Savoleainen; 2005).Studies (Agypa, 1997; Savoleainen; 2005; Apapa and Samuel 2010) show that a good information source has the characteristics of being timelessness, accuracy, relevance, cost effectiveness, trustworthiness, usability, exhaustiveness and aggregation level It is imperative to affirm that the choice of an information source by the farmers in particular depends on a

number of factors, chiefly, the level of income, farm size, age, geographical location and level of education (Apapa and Samuel 2010).

Literatures show that information that often sort by rice farmers in most countries in sub-Saharan Africa, Nigeria inclusive, included pest and disease management, pesticide and fertilizer application, best time to plant, planting method, storage and seed treatment. (Orde and Mary, 2008). However, these information needs as avowed by Solomon, (2002) changes from time to time depending on the innovation in inquest, the environmental issues in query and the prevailing government policies. Opara, (2008) reported farmers are confronted with problems of outdated information, language barrier, lack of awareness on existence of different information sources, poor access to funds to acquire information and poor format of information carrier in attempt in sourcing out their information needs. In many rural farming areas in Sub – Saharan Africa according to Moradei, *et al*; (2013), poor/unreliable information, infrastructure, high illiteracy levels, low income, lack of electricity and high cost of ICTs have been impediments to information services accessibility. Information seeking behavior is an essential component in the designing and development of a need based information sharing technique in order to meet the information needs of users. The lack of access to needed information by farmers, rice farmers all-encompassing could tantamount to diminishing their information seeking behavior, which could affect their welfare through decreasing their productions and productivities.

Despite the important of this subject matter, very few studies have been carried out in the study area, particularly with respect to rice farmers. However, in abroad, information need and information seeking behaviour are abound and such studies were influenced by the farmers' information need, channel characteristics and demographic characteristics (such as age, education, farming experience and training), operational factors such as land extent, land ownership and types of farming system and personal and role-related factors such as perception (Dauda, *et al*, 2009; Fermerd, *et al*; 2013). In order to bridge this existing knowledge gap in the study area, this study was construed, aimed understanding farmers' information needs which will helps in designing appropriate policies, programs, and organizational innovations. Furthermore, this study will help to stimulate similar studies in the developing countries, as students teaching aids and as bench mark for researchers interested in the subject matter. Based on the foregoing, the study addressed the following research questions; what are the socio-economic characteristics of the rice farmers? What are the framers' information need in rice production and the source? And what are the perceived barriers the rice farmers face in meeting their information needs?.

The specific objectives are to:

- (i) describe the socio-economic characteristics of the rice farmers
- (ii) Identify the information needs of rice farmers and the sources.
- (iii) identify the rice farmers' information seeking behaviour
- (iv) ascertain the determinant factors to rice farmers' information seeking behaviour
- (v) determine the relationship between the rice farmers' socioeconomic characteristics and the information need and
- (vi) identify the constraints to rice farmers' information seeking behaviour in the study area

## II. METHODOLOGY

*Study Area* The study area is Enugu North Agricultural Zone of Enugu State, Nigeria. The zone is located in longitude 12°35' 10'67" and Latitude 6°46' 4'56" Enugu North Agricultural zone comprises of six local Government Areas; Igbo-Etiti, Igbo-Eze North, Igbo-Eze South, Nsukka, Udenu, and Uzo-Uwani. Enugu North Agricultural Zone is bounded in the North and South by Benue and Kogi States respectively. In the East and West by Enugu West Agricultural zone and Anambra State respectively. It has a total population of 1,228,586 (National Population Commission, (NPC), 2006) and land area of 2363.461 square kilometers. It has rainy season from April to October and the dry season from November to March. The crops grown other are yams, oil palm products, cocoyam, maize, rice, and cassava

### *Sampling Size and Sampling Procedure*

A purposive sampling and multi-stage sampling procedure were employed to select Local Government Areas, community, villages and respondents. First, five Local Government Areas (LGAs) were purposively selected. The selection was based on intensity of rice production. The selected LGAs were Nsukka, Igbo North, Uzouwani, Igboeze South and Udenu. Second, four communities were random selected from each of the five selected Local Government Areas. This brought to a total of twenty communities. Third, one village was selected from each community. Finally, from the lists provided by the extension agents covering the areas, ten rice farmers were randomly selected from each of the communities. This brought to a total of one hundred and twenty respondents selected for detailed study.

### *Method of Data Collection*

The method of primary data collection was based on personal interview of respondents and use of structured questionnaire. The Secondary data were obtained from different literature sources related to this study such as recent published and unpublished survey articles, journals, textbooks, the internet, proceedings and other periodicals.

### III. METHODS OF DATA ANALYSIS

The objectives I and v were analyzed using percentage responses. The objective ii, iii and iv were captured using 3 point likert scale, probit model analysis and multiple regression analysis respectively.

*Model Specification;* Probit model analysis was employed because it accommodates two categories in the dependent variable. It has ability to resolve the problem of heteroscedasticity and it satisfies the assumption of cumulative normal probability distribution. Probit model would be expressed as:

$$Y^* = x\beta + e \dots\dots\dots(1)$$

Where  $\beta$  is a vector of unknown coefficient,  $x$  is a vector of independent variables,  $e$  is an error term that is assumed to be independently distributed with mean zero and a variance of  $S^2$ .  $Y^*$  is a latent variable that is unobservable. If the data for the dependent variable is above limiting factor, zero is this case;  $Y$  is observable as continuous variable. If  $Y$  is the limiting factor, it is held at zero. This rushing is presented mathematically in the following two equations.

$$Y = Y^* \text{ if } Y^* > Y_0,$$

$$Y = 0 \text{ if } Y^* < Y_0 \dots\dots\dots(27)$$

Where:  $Y_0$  is the limiting factor. There two equations represent a censored distribution of the data. The tobit model can be used to estimate the expected value of  $Y$  as a function of a set of explanatory variables ( $x$ ) weighed by the probability that  $Y_i \geq 0$  (Oladele, 2005).

The access to information can be represented as:  $y = f(X_1, X_2, X_3, X_4, X_5, X_6, X_7, X_8, X_9, X_{10} \dots X_n + e) \dots\dots\dots(2)$

Where:  $y$  = Access to information (1 for yes, 0, otherwise)

Where

- $X_1$  = Age in years
- $X_2$  = Gender (Dummy
- $X_3$  = Educational Level in years
- $X_4$  = Farming Experience in years
- $X_5$  = Access to communicaton infrastructure, (Access; 1 ; otherwise; zero)
- $X_6$  = access to power supply(Access; 1 ; otherwise; zero).
- $X_7$  = poor access to extension Services (Access; 1 ; otherwise; zero).
- $X_8$  = Credit (Access; 1 ; otherwise; zero).
- $e$  = error term

#### Multiple regression

Four functional forms (linear, double log, semi double log and exponential functions) of production function were tried and explicitly represented as

*Linear function:*

$$Y = b_0 + b_1 x_1 + b_2 x_2 + b_3 x_3 + b_4 x_4 + b_5 x_5 + e_i \dots\dots\dots(1)$$

*Double log function (Cobb Douglas):*

$$\ln(y) = \ln b_0 + b_1 \ln x_1 + b_2 \ln x_2 + b_3 \ln x_3 + b_4 \ln x_4 + b_5 \ln x_5 + e_i \dots\dots\dots(2)$$

*Semi double log function:*

$$Y = \ln b_0 + b_1 \ln x_1 + b_2 \ln x_2 + b_3 \ln x_3 + b_4 \ln x_4 + b_5 \ln x_5 + e_i \dots\dots\dots(3)$$

*Exponential function:*

$$\ln Y = b_0 + b_1 x_1 + b_2 x_2 + b_3 x_3 + b_4 x_4 + b_5 x_5 + e_i \dots\dots\dots(4)$$

The choice of the best functional form was based on the magnitude of the  $R^2$  value, the high number of significance, size and signs of the regression coefficients as they conform to *a priori expectation*.

Where

- $X_1$  = Age in years
- $X_2$  = Gender (Dummy
- $X_3$  = Educational Level in years
- $X_4$  = Farming Experience in years
- $X_5$  = Credit(Access; 1 ; otherwise; zero).
- $X_6$  = access to power supply (Access; 1 ; otherwise; zero).
- $X_7$  = poor access to extension Services (Access; 1 ; otherwise; zero).
- $X_8$  = Farming Status(Full time; 1 ; otherwise; zero).
- $e$  = error term

### IV. RESULTS AND DISCUSSION

#### Socio-Economic Characteristics of the Respondents

Table 1 Description of Variables used in probit regression Model

Variable	Measurement	<i>A priori</i> expectation
Age	Age of the household head in years.	-
Educational Level	Years of schooling in years.	+
Extensión Services	No . of times of extensión agent visits	+
Access to credit	Access to money to be used in the farm gotten from formal or informal sector.	+
Access to power	Use of national power supply	-
Membership of Organización	Membership of organ.; 1; otherwise, 0	+
Communication infrastructure	Access 1; otherwise,0	+
Farm Size	No of hectares of land cultivated by the farmer	+
Gender Marital Status	Male; 1and Female;0 Married; 1Single; 2; widowed; 3; widower; 4	

The socioeconomic characteristics of the farmers are discussed in Table 2.

Table 2 Distribution of Respondents according to Socioeconomic Characteristics

Variable	Frequency	Percentage
Gender		
Male	62	51.67
Female	58	48.33
Age		
20 – 29	50	41.67
30 – 39	29	24.17
40 – 49	20	16.67
50 – 59	16	13.3
60	5	4.17
Marital Status		
Single	73	60.83
Married	43	35.84
Widowed	4	3.33
Educational Level		
No formal Education	5	4.17
Primary	45	37.5
Secondary	30	25
Tertiary	40	33.33
Membership of Organization		
Yes	35	29.17
No	85	70.83
Years of Farming Experience		
1 -5	69	57.5
6 – 10	8	6.67
11 – 15	7	5.83
Above 15	36	30
Years of Schooling		
1 – 6	68	56.67
7 – 12	49	40.83
Above 12	3	2.5
Household Size		
3 – 6	77	64.17
7 – 10	37	30.83
Above 10	6	5
Farm Size		
1 -5	77	64.17
6 – 10	41	34.17
Above 10	2	1.67

Source, Field Survey, 2019

The result shows that majority of the rice farmers were males (51.67%), while 48.33% were females. Rice production is both capital and labour intensives and information tending

towards curtailing such burden could be achieved by males individuals who have limited restrictions interims of cultural and social constraints to information compare to the female folks (Ghiasi and Paryab, 2013). The finding of Ellay and Silayo, (2013) concurred to this assertion, They opined that male farmers have enough freedom to participate in different organizations, thus exposing them to their information needs through interaction with fellow members. Furthermore, the result shows that 65.84% of the rice farmers were below 40 years of age, while 34.16% were above 40 years. This implies that majority of the rice producers in the study area were youthful and thus has higher propensity to have access to information because of their broad horizons of interactions compare to aged ones. Femard, *et al* ; (2011) did not agree to the statement, They opined that aged people has more farming experience that could assist in making rational decision through weighing among alternative information available. As well, 60.83% of the sampled rice farmers were married, 35.83% were single and 3.33%; widowed .The high proportion of married individuals in the study could result in slowing down the decision-making process in accessing and utilizing information as members of the family may have to be consulted before adopting and utilizing Information. This finding does not concur with the results of Aja, (2015) and Apata *et.al* (2010) who stated that youth can enhance rice production through being members of different social organization, hence could gain access to information to enhance their outputs through interaction with other members. Moreover, 4.17% of the respondents had no formal education, while 95.83% had access to formal education. Farmers' literacy level will aid in boosting their capacity to utilize information, which will help to improve their production and productivity

Several studies ((Dauda, *et al* 2009; Apata and Samuel, 2010, Helazi and Shiarref, 2011) were in harmony with the assertion. They posited that educated farmers can easily decode or evaluate their information and for rational decision to be made for higher output to ensue.

Furthermore, majority of the sampled rice farmers (68.67%) were members of organization such as cooperative society, young farmers' club and among others, while 31.67% were not The important of cooperative in capacity building of her members through training by professionals in the subject area. Also, 26.67% of the sampled population had access to credit, while 73.3% had no access. Access to credit enables the farmers to have access to agricultural information through purchasing the necessary gadgets to ensure access to such information. The finding of Pettigrew, (1996) was not synonymous with the statement. He reported that most farmers divert such loan to non profitable ventures.

Besides, 64.17% of the sampled population had household size of 3-6 , 30.83%; 7 -10 and 5%; above 11 persons Household heads with adults members that are educated could help the family to have access to information that could better their welfare through enhancing their production and

productivity (Amanza and Samuel, 1997). In related development, Ume and Nwaobiala, (2015) reported that a large household size working on the farm reduces the expenditure on hired labour. Hence, it is assumed that household with such household members composition tend to have positive influence on the decision to adopt improved technologies, they asserted. Additionally, the result shows that

64.17% of the sampled rice farmers had 1-5 hectares of land , 34.17%; 5-10 hectares, while 1.67%; above 10 hectares. Studies show that farmers with large hectares of land could easily give some portions of their lands for SPAT(Small plot adoption technique) establishment by the extension agent in order to chiefly acquire information on improved innovation or technologies to boost their farm output(Ume, et al; 2017)

#### *Farmers' Information Needs and Sources*

Table 3. Distribution of Respondents According to Agricultural Information and the Sources

Variable	Radio	TV	Friends	Farmers	Research	ADP	Coop	Intl.organ	Family
Marketing information	-	2	10	9	-	-	-	0.2	78.8
Agricultural credit information	10.5		4	10	-	6.5	5	-	64
Fertilizer application	6.5	-	-	6	3.5	78	-	2	4
Pesticide application						81			
Weed control	3	10		-	5	67	5	4.5	6.5
Disease control	4.5	17.5		6.5	-	68		8	4
Storage information	-	-	87.2	-	2	-	8		10
New seeds	67	-	3	-	9.5	10		10.5	
Irrigation	3.5		5.5		10		64	7	10
Harvest management	10	5	-	2	-	2	78	1	1
Productive Resource	4	6	4	-	6	-	-	4	76

Source; Field Survey; 2019

N/B; Tv= Television, Coop; Cooperative. ADP; Agricultural Development Programme. Intl.organ; International Organization

Table 3 revealed that the 78% of the respondents sourced for information on marketing, 64% for agricultural credit, 76% for productive resources and 78% for harvest management. On issue of productive resources such as land was mainly acquired for rice cultivated through inheritance and family land. The finding of Gerber, (2011) concurred to the above assertion. He reported that this method of land acquisition could be a hindrance to rice cultivation as paddy lands are scanty in many developing countries, the study area inclusive. Also, 64% of the respondents had information on irrigation from cooperative societies. Cooperative helps in the training of her members farmers by professionals in the subject matter (Agpa, 1997). This finding was in line with study of Williams, (2000), who opined that such information can be imparted to the farmers through workshop and seminars.

Also, those who sourced information from Agricultural Development Programme (ADP) on fertilization were 78% of the total respondents, pesticides application (81%), weed control(67%) and disease control (68%0 ). The ADP extension services is the extension arm of Ministry of Agriculture with function of disseminating innovations to the farmers popularly known as contact farmers in order to boost their yield. Several studies (Iwe, 2003, Dauda, *et al* 2009; Apata and Samuel, 2010, Helazi and Shiarref, 2011) affirmed to this assertion. They opined on the important of extension services on agricultural transformation from traditional to

commercial one in order to boost the nation's food sufficiency. Furthermore, the respondents indicated that they sourced for information on new seed from radio, may be weekly agricultural broadcasting by Agricultural Developing Programme (ADP) aimed at enlightening farmers on new farm innovations and with farmers being addressed as well (Moradei, 2009). Besides, a greater proportion (87.3%) of the respondents sourced for information on storage problem. This implies that the respondents mostly seek information from friends probably because they have easier access to them than other sources (Malek and Mohammed, 2011).

#### *Rice Farmers Information Seeking Behaviour*

The respondents were categorization based on their information seeking behavior on non, low medium and high.

Table 4. Rice Farmers' information Seeking Behaviour

Variable	Frequency	Percentages
None	76	63.3
Low	24	20
Medium	15	12.5
High	5	4.2

Source; Field Survey, 2019.

Table 3 indicates that the majority (63.3%) of the respondents had a low information seeking behaviour, while 20% of them did not seek for information on rice production. Also, 15% and 5% of the respondents had a medium and high information seeking behavior respectively. The low information seeking behaviour of the rice farmers particularly the female ones may be attributed to some socio-economic and cultural constraints such low level of education, inadequate access to farmland and inadequate access to agricultural information from a variety of sources. These The determinant factor to farmers' information seeking behaviour is shown in Table 5.

factors could affect their willingness to seek for agricultural information as relates to rice production in order to boost their output frontier. Studies (Iwe, 2003, Dauda, *et al* 2009; Helazi and Shiarref, 2011) show that the information seeking behaviour of the rice farmers facilitates them to be more productive in their farms with aim of propelling their production and productivity.

#### *Determinant Factors to Farmers' Information Seeking Behaviour*

Table 5; Probit Model; Determining the Relationship between Access to Information by the Farmers and their Socioeconomic Characteristics

Variable	Coefficient	Std. Err.	z	P> z
Constant	903778.4***	113625.7	7.56	0.000
Age	122956.5*	62792.86	1.96	0.053
Gender	-741758.9***	137148.4	-5.41	0.000
Marital Status	273571.2*	148108.4	1.85	0.068
Experience	295270.9***	62788.2	4.70	0.000
Education Level	488148.6***	76815.83	6.35	0.000
Power Supply	531143.8*	415178.3	1.80	0.427
Communication	903778.4***	113625.7	7.56	0.000
Credit	429224.1***	124410.3	3.56	0.485
Farm Size	90664.37	124410.3	3.56	0.485
Organisation	122956.5*	62792.86	1.96	0.053
LR – Chi <sup>2</sup> (12)	102.39			
Prob> Chi <sup>2</sup>	0.0000			
Pseudo R <sup>2</sup>	0.0304			
Log Likelihood	-1633.6644			

NB: \*\*\*, \*\* and \* are significant at 1%, 5% and 10% respectively

Source; Field Survey, (2019)

The chi –square value of 102.39 was statistically significant at 1%, indicating goodness of fit. The statistical test of the coefficient of age was negative and significant at 10% probability level. This finding is in line with Ume, et al; (2018), who reported that innovativeness, motivational and adaptability of individuals to use of improved information decreases with advancing in age. However, the findings of Iwe, (2003) did not agree to the above assertion. They posited that the sign identity of the coefficient is thought to stem from accumulated knowledge and experiences on rice farming system obtained from years of observation and experimentation with various technologies. These could aid the aged farmers in selecting, evaluation and effective use of information. The coefficient for education level had the expected positive sign and is statistically significant at 1.0% probability level to farmers' information seeking behaviour. This result supports the hypothesis that human capital plays a positive role in the acquisition and evaluation of new ideas or information (Iwe, 2003, Dauda, *et al* 2009; Helazi and Shiarref, 2011 Furthermore, education and training as

reported by Solomon, (2002) assists in imparting knowledge and developing skills of farmers in technical production and natural resource in order to effectively evaluate and select information among alternatives in order to attain their production objectives.

As expected the coefficient of the member of organization had a direct relationship with the dependent variable at 95% confidence interval. Several studies concurred with the assertion, They opined that membership to farm organization precisely could imply greater access and proper use of information acquired through interaction or cross fertilization of ideas with other member farmers (Popoola, 2000). The coefficient of extension services had direct relationship with the dependent variable and significant at 90% confidence level. Extension helps to disseminate information to the farmers on the mode of application or usage of the technologies as well as the availability of the technological inputs. Therefore, frequent extension contact could likely to minimize doubts among farmers, hence encouraging for sustained usage of the improved information or skill (Case,

2004). Nevertheless, Ume, et al; (2018) contradicted the finding. They cited incompetent transfer of information to farmers as well as bottlenecks that militated against effective dissemination of information by the change agent could affect negatively the farmers' information seeking behaviour of such innovation.

As expected, the coefficient of access to communication infrastructure was positively signed in conformity to apriori expectation and statistical significant at 1.0% probability level. Okwu and Dauda, (2011) finding did not concur to the affirmation. They opined that most farmers in the rural areas of most countries in sub - Saharan Africa have low information seeking behavior from this communication infrastructure ( electronic networks and the Internet ) as they have poor access to it. This situation is contrary to what is obtained in the developed countries where agriculture has transformed over the last two decades through digitization of the sector and government information and services (Kurmar, 2014). Additionally, the coefficient for access to power supply by the farmers was negative as expected and statistically significant at the 10% alpha level. The sign identity of the coefficient could be linked to the unstable electricity supply prevalent in most rural areas in Nigeria, hence making it difficult for those who have these communication gadgets to access information on rice production precisely. Opeke, (2004) result was consistent to this finding.

As well, access to credit coefficient had a negative association with information seeking behavior of the farmers and significant at 1% probability level. The poor access to credit by many farmers in this region has limited their propensity to gain access to information gadgets such as television and radio in order to improve on their efficient selection and effective use of information (Mohammed, 2002). The poor access to credit could be linked to inability of the farmers to present collateral as demanded by the lending agencies, high interest rate and short grace period (Okwu and Dauda, 2011, Kumar, 2014)

#### *Relationship Between the Rice Farmers' Socioeconomic Characteristics and the Information Need*

Effect of farmers' socioeconomic characteristics on their information need is shown in Table 6

Table 6 Multiple Regression Result

Variables	Cobb-Douglas+	Exponential	Linear	Semi Log
Constant	21.565 (4.006)***	4.760 (5.552)***	7.255 (4.799)***	6.089 (3.227)***
Age	-2.181 (-2.777)***	-0.561 (-2.524)**	-0.268 (-1.005)*	-54.513 (-1.875)*
Gender	-14.143 (1.887)*	-4.714 (-1.128)	-0.021 (-0.156)	-0.569 (-0.022)
Experience	6.593 (0.346)	0.049 (3.268)***	0.008 (3.304)***	25.082 (0.082)
Education	4.417 (3.291)***	0.133 (0.145)	-0.121 (-0.821)	-0.157 (-3.007)***

Credit	0.001 (4.002)***	8.239 (-0.095)	0.146 (0.951)	20.211 (0.698)
Farm size	0.043 (1.106)*	-0.094 (-1.128)	0.377 (2.731)**	67.428 (0.588)
Farming Status	-9.019 (5.030)***	-0.005 (-0.225)	0.051 (-2.637)***	13.801 (4.286)***
R <sup>2</sup>	0.887	0.798	0.773	0.675
F-value	10.346***	7.642***	7.128***	8.081***

Source: Field Survey, (2019)

\*, \*\* and \*\*\* implies significance at 10%, 5% and 1% respectively

Based on the statistical and econometric criteria, Cobb Douglas production function was chosen as lead equation. The coefficient of determination ( $R^2$ ) was 0.887, implying that 88.9% of the variation in information need of rice farmers were accounted by various factors included in the model, while the remaining 11.1% were due to error term. The coefficient of age of the household head was negative in consistency to apriori expectation and statistical significant at 5% risk level. The finding Benard, Dulle and Ngalepa, (2014) was not in conformity to the above assertion. They opined that youths are exploratory and motivational in nature and as such needed information that will propel them in accomplishment of these aspirations. This is in contrary to aged people who are usually conservative to any information need that could will predispose their businesses to risks and uncertainties, no matter how rewarding the profit could be, they added. Additionally, the coefficient of marital status was positively signed in conformity to apriori expectation and statistical significant at 10% probability level. Married people are expected to have more information need compare to an individual in order to be able to cater for effectively their household members responsibilities(Opara, 2008).

Also, Table 6 indicates that the coefficient of education was positively signed. Education attainment as observed by Afolabi, (20003) aids to unlock the natural talents and inherent enterprising qualities of the farmer, thus enhancing he/her probability of adopting or using information that are needed in propel ahead their production frontier. Olabode, (2008) harmonized to that thought. Also, the coefficient of access to credit had a positive connection with information need and significant at 1% probability level. Farmers that had access to credit from lending agencies as posited by Daudu, Chada and Igbashal, (2009) are usually in need of information that could aid in boosting their farm outputs in order to avert the consequences of loan default. As anticipated, the coefficient of farm size was positive and statistical significant at 10.0% probability level. The finding of Elly and Silayo, (2013) was in compliance with the above assertion. They posited that household heads with small farm sizes needed information on efficiency in resource use in order to maximize their production objectives. As well, the statistical test of the coefficient of farming status of the household head had direct relationship to the dependent variable at 95% confidence level. Literatures show that full time farmers have more likelihood for need of information that could advance

their production frontier not minding the associated risks compare to the part time farmers that have other sources of livelihood (Olabode, 2008).

#### *Constraints to Rice Farmers' Information Seeking Behaviour*

The constraints to the rice farmers' information seeking behavior is shown in Table 7

Table 7; Constraints to the Rice Farmers' Information Seeking Behaviour

Constraints	Mean score	Decision
1. Poor access to information services	2.58	Mostly severe
2. Low farm income	2.55	Mostly severe
3. Lack of awareness of information sources	1.51	Not severe
4. Poor access to extension services	2.46	Mostly severe
5. Current information outdated	1.61	Not severe
6. Information not easily accessible	2.51	Mostly severe
7. Poor knowledge-sharing culture	2.43	Severe
8. Time constraint	2.26	Severe
9. Language barrier	2.40	Mostly severe
10. Long distance to information center	1.48	Not severe
11. High cost of labour	2.54	Mostly severe

Source; Field Survey; 2019

The following factors with mean score above 2.0 affected information seeking behavior of the rice farmers; poor access to information services, poor access to extension services, time constraint problem, Labour input, low farm income, language barrier and poor knowledge-sharing culture. On poor access to information services (television, radio etc) could be attributed to high cost of these gadgets, as result of high Dollar – Naira exchange rate, and consequently many farmers could not be able to procure them (Opara, 2008). Furthermore, on poor access to extension services, Ume, *et al* ; (2018) linked this to negative attitude of extension agents to their duties by not visiting the farmers in line with their field visits schedule, poorly equipped change agents as regard to innovation dissemination pattern, poorly motivated agents in term of logistics such as mobility and nonpayment of their out of pocket expenses incurred in discharge of their duties. Moreover, time constraint problem, literatures show that most farmers are into farming on part time basis, hence could spare little or no time in pursuit of the quest to increase their knowledge in the vocation but rather on the off - farm income generating activities (Okwu and Dauda, 2011).

Labour input also was considered as problem and this was consistent to Kumar(2014) finding, who reported that farmers regret the lack of additional, trusted labour input to their businesses and felt that it reduced their capacity to research and develop new ideas. Additionally, on issue of low farm

income, Hill, (2009) likened this problem to inability of the farmers especially the poor resource ones to purchase printed materials and payment of other logistics from information providers. Besides, on language barrier, studies infer that effective communication with farmers could be better achieved when farmers are addressed with the language that they could comprehend easily. The end result may perhaps be proper assimilation of information by the farmers. However, this is contrary to what is obtainable nowadays where trainers use languages that are not often native to farmers in driving their points home during seminars and workshops with farmers, consequently succeeded in not achieving their desired objectives (Olabode, 2009). More so, poor knowledge-sharing culture was consider a severe constraint to farmers' information seeking behaviour, since the information they receive from fellow farmers through inter farm and home visits and among others, may be too meagre to fully guide he/she to successful farming year (Ozowa, 1995).

#### V. CONCLUSION AND RECOMMENDATION

Based on the findings of the study, the following Conclusions were obtained.

Majority of the respondents had a low information seeking behaviour, while the least did not seek for information on rice production. In addition, majority of the respondents sourced for information on marketing ,agricultural marketing and new seed(improved varieties), productive resources such as land and harvest management respectively. Also, other sourced information from Agricultural Development Programme (ADP) on fertilization, pesticides application, weeds control and disease control. Furthermore, the respondents indicated that they sourced for information on new seed from radio, Moreover, coefficient of education, poor access to power supply, poor access to communication infrastructure and educational level of the farmers affected farmers' information seeking behaviour. As well, the information need of the farmer were affected by the following socioeconomic characteristics; educational level, farm size, farming status and access to credit. The constraints to the farmers' information seeking behaviour were poor access to information services, poor access to information services, poor access to extension services, and Information not easily accessible, high cost of labour. The problems that were severe were language barrier and poor knowledge-sharing culture.

Based on the result obtained from the study the following recommendations were made.

- 1) The farmers should be encouraged to form or join cooperatives in order to attract government recognitions and extension services
- 2) It is thus important for government to improve farmers' access to extension services by employing more extension staff.
- 3) The Departments of Agriculture should employ the use of multiple information sources and other



strategies to deliver relevant agricultural information to farmers in rural communities.

- 4) The e-extension programme introduced must incorporate all aspects of production and be scaled up to rural communities since most of the farmers living in rural communities own cell phones.
- 5) Enhancing the use of information among farmers for relevant production activities such as use of certified improved seed, fertilizer application, pesticide application, and disease and weed control will require investments in extension services, increasing farmers' access to education, farmers with larger farm sizes, and with higher yields.
- 6) The management of the television and broadcasting houses in collaboration with Ministry of Agriculture should be broadcasting agricultural programmes using farmers' local languages on agreed dates and times with the farmers.
- 7) The microfinance banks should provide soft loan/ credit facilities to the rural farmers in order to improve on the farmers' information seeking behaviour.
- 8) The Ministry of Agriculture should interpret agricultural programmes in local languages to the farmers in order to ensure proper understanding by latter.

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