

Awareness and Usage of Social Media for Sourcing Agricultural Information by Youth Farmers in Ogori Mangogo Local Government Area of Kogi State, Nigeria

***Adejo P.E., and Opeyemi G.**

Department of Agricultural Economics and Extension, Faculty of Agriculture, Kogi State University Anyigba,
P.M.B. 1008, Anyigba, Kogi State, Nigeria.

* Corresponding Author's Contact Details: Email address : adejo.pe@ksu.edu.ng, Phone No : +234-0834760675

Accepted October 25, 2019

The study was undertaken to assess the awareness and usage of social media for sourcing agricultural information by youth farmers in Ogori Mangogo Local Government Area of Kogi state, Nigeria. Primary data was used for the study collected with the aid of structured questionnaires. The study employed a multi-staged random sampling technique to collect a total of One hundred and twenty respondents for the study. The Data obtained was analyzed using descriptive statistics, ordered probit regression and mean score. The findings showed that greater percentage of youth farmers were male (68.3%) and were in their productive age with a mean age of 36 years. The level of awareness of social media among youth farmers in the study area revealed that majority (70.0%) of the farmers were aware of social media, while only 21.7% use social media to source agricultural information. The result further revealed that facebook (71.7%) and whatsapp (53.3%) were the major types of social media use by the farmers in the study area. Estimates of the regression showed that age ($p \leq 0.001$), household size ($p \leq 0.001$), educational level ($p \leq 0.001$) farming experience ($p \leq 0.001$) and annual farm income ($p \leq 0.001$) were significant variables that influenced the level of usage of social media in the study area. The result indicated that high level of illiteracy, lack of technical know-how, financial difficulties/charges, among others were the major constraints facing the use of social media by the respondents as a means of sourcing agricultural information in the study area. The study recommended that government should provide infrastructures and social amenities in rural areas to encourage participation in agricultural activities in the rural areas.

Keywords: Awareness, Social Media, Information, Youth Farmers, Nigeria.

INTRODUCTION

Increasing smallholder productivity is one the greatest challenge of the century. This is worrisome due to the growing populations, growing demand for food, rising poverty, economic stagnation, worsening environmental degradation, and climate change (Thomas and Laseinde, 2015). The agricultural

sector in most developing countries is becoming increasingly knowledge intensive. As researchers at the global, regional, and national levels continue to generate new information, agricultural systems is becoming more complex with farmers' access to reliable, timely and relevant information sources

becoming more critical to their competitiveness. According to Diekmann, Loibl and Batte, (2009), information must be relevant and meaningful to farmers, it must be packaged and delivered in a way preferred by them to enhance their agricultural productivity and help combat the problem of food insecurity.

Information is considered critical in agricultural development because it is a tool for communication between stakeholders and serves as a channel for assessing trends and shaping decisions (Kalusopa, 2005). Farming requires information and technical expertise hence the need for extension services (Wangu, 2014). Although, agricultural extension agents have been disseminating information through the use of communication methods such as farm and home visits, the use of contact farmers, mass media and so on (Olaniyi, 2013). This is because medium of connection was limited in nature as it could not cover large audiences and may not have tackled the challenges of disseminating on-going individual or institutional research work. Furthermore, these channels did not allow for the individual's prompt contribution, positive criticism or a platform for global discussion. These methods are now limited and therefore calls for the use of new emerging information and communication technologies by agricultural information providers for the benefit of farmers (Olaniyi, 2013).

The evolution of social media (SM) provided a visible solution to this challenge. Social media refers to the internet-based digital tools for sharing and discussing information among people. It refers to the user generated information, opinion, video, audio, and multimedia that is shared and discussed over digital networks (Andres and Woodard, 2013). Social media enables blogging, tagging, discussion, networking, and so on. The various platforms include; Facebook, Twitter, YouTube, Instagram, Google, WhatsApp, Blog, LinkedIn etc. Social networks are seen as an important mechanism for the spread of information and technology (Baerenklau, 2005 and Young, 2009). Also, it has also been considered to be an effective tool in disseminating agricultural information among farmers and they constitute the most powerful social media for disseminating information quickly enabling farming community to make informed decisions regarding their farming activities, especially in the rural areas of developing countries (Kakade, 2013 and Lwoga, 2010). In Nigeria, the use of social media is growing in importance among agricultural researchers, peers,

colleague, professionals and the youth. The availability and easy accessibility of direct connection through mobile phones make social media friendlier to use in sourcing or generating information or hosting research reports (Thomas and Laseinde, 2015).

According to Sokoya et al., (2012), Successive governments have continued to invest in the agricultural sector in order to boost agricultural production. Furthermore, various governmental and academic agencies are also involved in agricultural research (Flaherty et al., 2010). In spite of this, the sector is yet to live up to expectations. One of the factors said to be responsible for this is poor communication of agricultural research results. Even with the wealth of agricultural research churned out from research institutions in Nigeria, there is the challenge of prompt availability, awareness and full use of professional research reports, prompt connection and networking with a wider medium to capture a larger audience among agricultural researchers (Sokoya et al., 2012). Generally, the extent of awareness and use of social media as a veritable source of agricultural information is still in thought, more importantly among youth farmers. It is against this background that this study seeks to assess the awareness and usage of social media for sourcing agricultural information by youth farmers in Ogori Mangog local government area of Kogi State, Nigeria. The findings and recommendations from this study will provide information to policy makers and other relevant stakeholders for formulation of agricultural policies targeted at encouraging youth participation in agricultural activities at young farmers.

The broad objective of the study is to assess the awareness and usage of social media for sourcing agricultural information by youth farmers in Ogori Mangog local government area of Kogi state, Nigeria. The specific objectives of the study are to:

- i. describe the socio-economic characteristics of youths in the study area;
- ii. ascertain the level of awareness of social media usage for agricultural information among the youth farmers;
- iii. analyze the access of youth farmers to agricultural information on social media;
- iv. identify the types of social media used by farmers in the study area;
- v. determine the effect of youth's socio-economic characteristics on their level of usage of social media.

- vi. Identify the major challenges experienced in accessing agricultural information from social media in the study area;

METHODOLOGY

The Study Area

The study was carried out in Ogori Mangogo Local Government Area of Kogi State, Nigeria. Kogi State is located in the North-Central geo-political zone of Nigeria. It extends from latitudes 6.33° N to 8.44° N and from longitudes 5.40° E to 7.49° E. The State covers a land area of about 75,000 square kilometers. Out of which, about 20% is occupied by people (15,000 square kilometers). Rivers and streams occupy 3,750 square kilometers (5%), while hills and mountains occupy 7% or 3,250 square kilometers. The remaining 68% are available for cultivation (Ibitoye, 2012). The State shared common boundaries with Anambra and Edo States to the South; Niger, Nassarawa and Federal Capital Territory to the North. Benue and Enugu States to the East, while in the West, it borders Ondo, Ekiti, and Kwara States. The current population of Kogi State is 3,278,487 comprising 1,691,736 males and 1,586,750 females (NPC, 2006), of which about 70% live in rural areas (Kogi ADP, 2003 and Ibitoye, 2012). Farming is the predominant occupation of the people of Kogi State with mixed cropping as the predominant type of farming. The land use pattern is fallow-cropping system operated with crude implements. The farm holdings are usually fragmented. The cultivation of food crops such as cassava, maize, sorghum, rice, yam, cowpea, groundnut and melons predominate the agricultural practice.

Population and Sampling Procedure

The population for this study comprised youth farmers in Ogori Mangogo Local Government Area of Kogi State. A multi-staged sampling technique was used to select the respondents. In stage one, six (6) wards were randomly selected from the (10) ten wards in Ogori Magogo Local Government Area. In stage two, one community was randomly selected from each of the wards. This gives total of six communities. Stage three involved the random selection of 20 youth farmers from each of the selected communities. This brought it to a total of 120

respondents used for the study.

Method of Data Collection

Primary data was used for the study. The primary data was collected using a structured questionnaire which was administered to the farmers. Information obtained from the respondents was based on the study research objectives.

Method of Data Analysis

The collected data was analyzed using descriptive statistics, mean score and ordered probit regression.

Model Specification ordered probit regression

The Ordered probit model was based on latent regression just like a probit model, as shown below;

$$Y^* = \beta X_i + \varepsilon$$

Where Y^* is unobserved. What is observed is $Y^* = 0$ for no level of usage; $Y^* = 1$ for moderate level of usage; $Y^* = 2$ for high level of usage. It will be assumed that the error term has a logistic cumulative distribution function across observations. The general model is presented as shown below.

$$Y^* = \alpha_1 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 + \beta_6 X_6 + \beta_7 X_7 + \varepsilon$$

Where;

X_1 = Gender (dummy; 1=male, 0= otherwise);

X_2 =Age (years);

X_3 = level of education (no formal education/Quranic =0, Primary=1, secondary=2, Tertiary=3); X_4 = years of farming experience (years);

X_5 = marital status (Single=1, married=2);

X_6 = household size (actual number);

X_7 = annual farm income (Naira)

Y^* = level of usage decision,

α = constant,

β =Coefficient of influence,

ε = error term

RESULTS AND DISCUSSION

Socioeconomic Characteristics of the Respondents

Result in [Table 1](#) showed that majority (68.3%) of the sampled respondents were males while (31.7%) were females. This implies that men dominate farming activities in the study area. This result of the

Table 1. Distribution of the Respondents According to Socioeconomic Characteristics (n=120).

Socioeconomic variables	Frequency	Percentage	
Sex			
Male	82	68.3	
Female	38	31.7	
Total	120	100	
Age			
21-30	22	18.3	
31-40	68	56.7	
41-50	30	25.0	
Total	120	100	
Marital status			
Single	45	37.5	
Married	75	62.5	
Total	120	100	
Farm experience			
1-10	67	55.8	
11-20	39	32.5	
>20	14	11.7	
Total	120	100	
Household size			
1-5	44	36.7	
6-10	64	53.3	
11-15	12	10.0	
Total	120	100	
Level of education			
Non formal education	20	16.7	
Primary education	38	31.6	
Secondary education	47	39.2	
Tertiary education	15	12.5	
Total	120	100	
Farm size			
<1.0	76	63.3	
1.0-2.0	38	31.7	
>2.0	6	5.0	
Total	120	100	

study agrees with the findings of Aphunu (2011) that majority of the farmers in their different studies were males. The result also showed that many (56.7%) of the respondents were between the age group of 31-40 years, (18.3%) of the respondents were between the age range of 21-30 years, while (25%) of the respondents were between the age range of 41-50

years. The mean age was 36 years. This implies that the farmers are still economically active. Result in **Table 1** further shows that majority (62.5%) of the farmers were married while 37.5% were single. This implies that greater proportion of farmers in the area were married individuals. This shows that married people dominate agricultural production in the study

Table 1. Continue.

Access to extension service			
Yes	54	45.0	
No	66	55.0	
Total	120	100	
Annual farm income (₦)			
>100000	62	51.7	
100001-200000	30	25.0	
200001-300000	16	13.3	
>300000	12	10.0	
Total	120	100	
Membership of cooperative society			
Yes	82	68.3	
No	38	31.7	
Total	120	100	

Source: Field Survey, 2018

area. The result on the farming experience of the farmers showed the mean year of experience in farming was 9 years. It implies that most of the respondents had practical knowledge in agricultural production.

From the result above, 53.3% of respondents had household size ranged from 6-10 members, 36.7% had household size ranged from 1-5 and 10% had household size ranged from 11-15. The average household size was 7 members which are fairly large. The finding was in agreement with Muhammed-Lawal et al., (2009) assertions that a range of 4 – 6 members constitute the modal household size among the rural farmers in Nigeria. Result revealed that 36.7% of the respondents had secondary education as their highest educational level, 23.3% had primary education, 12.5% had tertiary education while 9.2% had no formal education. Education enhances the level of adoption of modern farm technologies by young farmers and hence it is able to create a well-informed younger farming population. Chikezie (2012) posits that education is an important socio-economic factor that influences a farmer's decision because of its influence on the farmer's awareness, reception and the adoption of innovation that can increase production.

The majority of youth farmers (63.3%) had farm size less than 1.00 hectares. About 31.7% had farm

size between 1.00 and 2.00 hectares while 5% had farm size more than 2.00 hectares. The mean size of farm land use for farming was 0.84 hectares. This implies that the farmers in the study area are mainly smallholder farmers operating on less than one hectare of farmland. Table 1 also shows that only 45.0% of the farmers affirmed to have had contact with extension agent while greater percentage (55.0%) of the respondents have not had contact with extension agents. This implies that extension service is not adequate in the study area. Orisakwe and Agomuo (2011) noted that regular contact with extension agents motivates and exposes the farmers to innovations and gives them information on how to use the technologies. 51.7% of the respondents earned more than ₦ 100,000 annually from their farm, 25.0% of the respondents earned between ₦ 100,001-200,000, 13.3% earned between ₦ 200,001-300,000 while 10.0% earned above ₦ 300,000. The average income was ₦ 111, 666.86k. This implies that the youth farmers in the study area earn little from their farm output, this might be as a result that majority of the farmers operate on small land scale and in turn the output is low. The majority (68.3%) of youth farmers belonged to cooperative society while 31.7% do not belong to cooperative society. The possible reasons why majority joined cooperative society could be as a result of satisfying

Table 2. Level of Awareness of Social Media (n=120).

Statement	Frequency	Percentage
Heard about social media		
Yes	84	70.0
No	36	30.0
Total	120	100
Currently using social media to source agricultural information		
Yes	26	21.7
No	94	78.3
Total	120	100
Prefer obtain agricultural information from social media over other channels		
Yes	31	25.8
No	89	74.2
Total	120	100
How often social media accounts are used to source agricultural information		
Sometimes	29	24.2
Frequently	16	13.3
Rarely	58	48.3
Never	17	14.2
Total	120	100
The Extent youth farmers information needs are addressed		
Very great extent	11	9.2
Great extent	19	15.8
Moderate extent	27	22.5
Small extent	45	37.5
No extent	18	15.0
Total	120	100

Source: Field Survey, 2018.

their basic need which sometimes could be achieved collectively as opined by Ekong (2010).

Awareness of Social Media among the Youth Farmers

Result in **Table 2** shows that majority (70%), affirmed that they have heard about social media, while only 30% have not heard about social media. Out of the majority that have heard about social media, only 21.7% agreed that they are currently using social media to source agricultural information while most (78.3%) of the respondents were not using social media to source agricultural information. 25.8% of the respondents prefer obtaining agricultural information from social media over other channels while 74.2% do not prefer obtaining agricultural information from social media over other channels. The result also shows that many (48.3%) of the respondents do

rarely use social media accounts to source agricultural information, 24.2% sometimes use social media accounts to source agricultural information, 13.3% frequently use social media accounts to source agricultural information while 14.2% never use social media accounts to source agricultural information. The result further shows that 37.5% of the respondents agreed that social media address their information needs in small extent, 22.5% in medium extent, 15.8% in great extent, 15.0% in no extent and 9.2% in very great extent. This result implies that majority still are not aware of the use of social media as a good source of agricultural information and hence, do not use it to source necessary information that will improve farming in the study area. Farmers need up-to-date information regarding new techniques of farming, new methods of cultivation, new crops, seeds, pesticides, water management, marketing techniques, government

Table 3. Youth Farmers`Uses of Social Media (n=120)

Variables	Frequency (*)	Percentage
Post queries on social media platforms	96	80.0
Share agricultural information on social media with others	21	17.5
Social media fulfil my information needs	13	10.8
Makes me contribute to discussions on social media	53	44.7
Source: Field Survey, 2018	* = Multiple response	

Source: Field Survey, 2018

Table 4. Types of Social Media used by Farmers (n=120).

S/N	Social Media used	Frequency	Percentage
1	Facebook	86	71.7%
2	Twitter	29	24.2%
3	Whatsapp	64	53.3%
4	You tube	31	25.8%
5	Google plus	17	14.2%
6	LinkedIn	14	11.7%

Source: Field Survey, 2018

policies regarding agriculture etc. Akbar (2004) asserted that awareness of social media can greatly facilitate it use as a means of sharing information and knowledge.

Activities of Youth Farmers on Social Media platforms

The distribution of respondents according to their use of social media is presented in Table 4. The result shows that 80.0% of the respondents post queries on social media platforms. Farmers are not a homogenous group they have different needs. Result further revealed that 17.5% share agricultural information on social media. Agricultural information is not readily available to all farmers due to various factors. Only 10.8% affirmed that social media fulfill their information needs. Agricultural information is not readily available to all farmers due to various factors. To access, assess, and apply the content, users must have economic resources, including money, skills, and technology, and social resources, such as motivation, trust, confidence and knowledge (Heeks, 2005).

Types of Social Media used by Farmers

The distribution of respondents according to the types of social media used by youth farmers to access agricultural information is presented in Table 4.

Respondents were asked to indicate the social media tools they mostly used to obtain agricultural information. This would give an indication of the particular avenues of social media platforms farmers use in looking for agricultural information. It was established that majority of respondents, 71.7% use Facebook as their main social media platform when looking for agricultural information, followed by 53.3% citing Whatsapp, 24.2% citing Twitter then 25.8% citing Youtube. Google plus and LinkedIn are the least used as indicated by only 14.2% and 11.7% of respondents respectively. The findings clearly illustrate the major platforms in use by farmers to source for agricultural information. This is in agreement with the study of Bite and Anand (2017) reported that the most popular social media in agricultural marketing is Facebook, YouTube, WhatsApp, Twitter and LinkedIn.

Table 5. Result of the estimated ordered probit regression model for effects of youth's socio-economic characteristics on their level of usage of social media for agricultural information.

Variables	Coefficient	Standard error	Z	P> z
Age	-1.3946	0.3479368	-4.01	0.000***
Sex	-0.523621	0.312312	-1.67	0.094
Marital status	0.1225586	0.3886465	0.32	0.075
Household size	0.4545533	0.1099012	4.14	0.000***
Educational level	0.0024859	0.0217999	0.11	0.002***
Farming experience	-2.664168	0.4770793	-5.58	0.000***
Annual farm income	0.450091	0.213890	2.10	0.001***

Source: Field Survey, 2018.

Number of observations = 120

Log likelihood = -138.58551

LR Chi-square = 64.57

Pro > Chi-square = 0.0000

Pseudo R² = 0.1675

Note: *** implies statistically significant at 1% level

Effects of Youth's Socio-economic Characteristics on their level of Usage of Social Media for Agricultural Information

Result from **Table 5** indicates that age (-1.3946) has a negative effect on the level of usage of social media but was significant at 1% level of probability. The implication of the result is that as the age of the respondents' increases, the probability of having high level of social media usage reduces. Young people are believed to be inquisitive and therefore are willing to acquire more information. Sarker (2005) in his study concluded that age of the farmers had negative and insignificant effect on the use of communication media. Also from the result, it can be seen that the coefficient of household size (0.4545533) was positive and significant at 1% level of probability. This implies that an increase in household size increases the probability of social media usage. The coefficient of educational level (0.0024859) revealed a positive relationship with the level of usage of social media and statistically significant at 1% level. Education increases exposure to useful information and this will likely enhance the level of knowledge and adoption of improved agricultural production techniques that makes production easier. Sarker (2005) in his study conducted that education of the farmers had positive and significant relationship with their use of communication media. The result further revealed that farming experience (-2.664168) negatively affect the level of usage of social media by the respondents

but was significant at 1%. This result disagree with the finding of Rahman (2003) who reported that farming experience of the farmers had no significant relationship between farming experience of the farmers and their adoption of selected technologies by using TV. The coefficient of annual farm income (0.450091) positively affect the level of usage of social media and was significant at 1%. This implies that an increase in the income will place the respondent in the category of high level of social media usage. Rahman (2003) in his study conducted the annual income of the farmers had significant and positive relationship with the use of television.

Constraints Experienced in Accessing Agricultural Information from Social Media

The mean score on constraints experienced in accessing agricultural information from social media in the study area is presented in **Table 6**.

Result in **Table 6** revealed that youth farmers in the study area reported that high level of illiteracy, lack of technical know-how, financial difficulties/charges, lack of electric power supply/power failure, lack of awareness of agricultural information on social media, poor network service for internet services and no available social media facilities are major constraints experienced in accessing agricultural information in the study area with a mean score of 2.29, 2.23, 2.22, 2.21, 2.09, 2.08 and 2.07

Table 6. Constraints Experienced in Accessing Agricultural Information from Social Media (n=120).

S/N	CONSTRAINTS	VS	S	NS	Mean Score	Significant
1.	High level of illiteracy among respondents	48	59	13	2.29	Serious
2.	Lack of technical know-how	48	51	21	2.23	Serious
3.	Poor network service for internet services	36	58	26	2.08	Serious
4.	No available social media facilities	35	58	27	2.07	Serious
5.	Lack of awareness of agricultural information on social media	36	59	25	2.09	Serious
6.	Lack of electric power supply/power failure	43	59	18	2.21	Serious
7.	Financial difficulties/charges	44	58	18	2.22	Serious
8.	Lack of interest	16	55	49	1.73	Not Serious

Source: Field Survey, 2018

Legend: VS= Very serious, S = Serious, NS = Not Serious; Note: Any mean score of 2 and above is said to be serious

respectively. Smallholder farmers usually experience challenges in obtaining agricultural information due to numerous constraints. This is in line with Greenberg (2005) who claimed high cost of gadgets and lack of skills are the major barriers to the use of internet based communication. It also agrees with Sokoya et al., (2012) who claimed that poor quality of available ICTs and erratic electricity power supply are constraints limiting the use of social media as a source of information.

CONCLUSION

The study concluded that social media is becoming an important source of agricultural information as well as vital tool for human communication. Social media also help to create the kind of researchers' environment that pulls knowledge and expertise together, thereby contributing knowledge and experiences to establish network. Based on the findings of this study, the study reported that age, household size, educational level, farming experience and annual farm income were significant variables that influenced the level of usage of social media in the study area. Based on the findings of this

study, the study recommended that there is need to create more awareness about the importance of social media as a good source of agricultural information among youth farmers and for policy makers to take into consideration the socio economic characteristics influencing the use of social media as a source of agricultural information.

REFERENCES

- Andres D and Woodard J (2013). Social Media Handbook for Agricultural Development Practitioners. USAID and FHI 360.
- Aphunu A (2011). Rural Youths' Involvement in agricultural Production in Delta Central Agricultural Zone: Challenges to agricultural extension development in Delta State. J. Agric. Extension. 14(2): 46-55.
- Baerenklau KA (2005). Toward an understanding of technology adoption: Risk, learning, and neighborhood effects. Land Economics. 81(1): 1-19.
- Bite BB and Anand AD (2017). A Study on Role of Social Media in Agriculture Marketing and its Scope, Global Journal of Management and

- Business Research: E Marketing. Version 1.0 Year 2017. 17(1): 33-36.
- Chikezie NP, Omokore DF, Akpoko JG and Chikaire J (2012). Factors Influencing Rural Youth Adoption of Cassava Recommended Production Practices in Onu-Imo Local Government Area of Imo State, Nigeria.
<https://businessdocbox.com/70015190-Agriculture/Factors-influencing-rural-youth-adoption-of-cassava-recommended-production-practices-in-onu-imo-local-government-area-of-imo-state-nigeria.html>
- Diekmann F, Loibl C and Batte MT (2009). The Economics of Agricultural Information: Factors Affecting Commercial Farmers' Information Strategies in Ohio. *Review of Agricultural Economics*. 31 (4): 853-872.
- Ekong EE (2010). *Rural sociology* (3rd edition). Uyo: Dove Educational Publishers.
- Flaherty K, Ayoola G, Ogbodo J. and Beintema N (2010). Nigeria: Recent Developments in Agricultural Research. *Agricultural Science and Technology Indicators* Retrieved from www.asti.cgiar.org/pdf/Nigeria-Note.pdf. on March 10, 2012.
- Heeks R (2005). *Foundations of ICTs in Development: The Information Chain*. Development Briefing 3.
- Ibitoye SJ (2012). Survey of the Performance of Agricultural Cooperative Societies in Kogi State, Nigeria. *European Scientific Journal* 8(28).
- Kakade O (2013). Credibility of Radio Programmes in the Dissemination of Agricultural Information: A Case Study of Air Dharwad, Karnataka. *IOSR Journal of Humanities and Social Science (IOSRJHSS)*, 12 (3). Available at <http://www.iosrjournals.org/iosr-jhss/papers/Vol12issue3/C01231822.pdf> retrieved on 24 September 2014
- Kalusopa T (2005). The Challenges of Utilizing Information and Communication Technologies (ICT's) for the small scale farmer in Zambia. *IN: Library Tech.*, 123(3): 2006.
- Kogi ADP (2003). Village Listing Survey. An Occasional Report of Planning, Monitoring and Evaluation Unit, Lokoja; pg3.
- Lwoga ET (2010). Bridging the agricultural knowledge and information divide: The case of selected telecenter and rural radio in Tanzania. *EJISDC*, (43): 1-14
- Muhammad-Lawal A, Omotosho OA and Falola A (2009). Technical efficiency of youth participation in agriculture: A case study of youth – in – Agriculture Programme in Ondo State, South Western Nigeria. *Nigeria Journal of Agriculture, food and Environment*. 5(1): 20- 26.
- National Population Commission (2006). Report of the National population Census conducted in 2006, in Nigeria.
- Olaniyi OA (2013). Assessment on Utilization of Information and Communication Technologies (ICTs) Among Poultry Farmers in Nigeria: An Emerging Challenge. *Transitional Journal of Science and Technology* June 2013 edition, 3 (6):29-43.
- Orisakwe L and Agomuo FO (2011). Adoption of Improved Agroforestry Technologies among contact farmers in Imo State Nigeria 2 (1): 1-9.
- Rahman MM (2003). Use of Television by the farmers in Adopting Selected Technologies. M.Sc. (Ag. Ext. Ed.). Thesis, Department of Agricultural Extension Education, Bangladesh Agricultural University, Mymensingh.
- Sarker S (2005). Communication Media Used by the Small Farmers in Receiving Agricultural Information. M.Sc. (Ag. Ext. Ed.) Thesis, Department of Agricultural Extension Education, Bangladesh Agricultural University, Mymensingh.
- Sokoya AA, Onifade FN, and Alabi AO (2012). Establishing Connections and Networking: The Role of Social Media in Agricultural Research in Agricultural Research, 205 — Social networking for agricultural research, education, and extension service: an international perspective — *Agricultural Libraries Special Interest Group*, <http://conference.ifla.org/ifla78>
- Thomas KA and Laseinde AA (2015). Training Needs Assessment on the Use of Social Media among Extension Agents in Oyo State, Nigeria. *Journal of Agricultural Informatics*, 6 (1)100-111.
- Wangu KC (2014). Use of Social Media as A Source of Agricultural Information By Small Holder Farmers; A Case Study of Lower Kabete, Kiambu County, A Thesis Submitted in Partial Fulfillment of The Requirements for the Award of The Degree of Master of Arts in Communication Studies, School of Journalism and Mass Communication, University Of Nairobi.
- Young HP (2009). Innovation diffusion in heterogeneous populations: Contagion, social influence, and social learning. *American Economic Review*. 99(5): 1899–1924.