ANALYSIS OF THE DRIVERS OF MASS MEDIA UTILIZATION BY RICE FARMERS IN GASSOL LOCAL GOVERNMENT AREA OF TARABA STATE, NIGERIA

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ABSTRACT

The study analyses the drivers of mass media utilization among rice farmers in Gassol local Government Area of Taraba State, Nigeria. Purposive random sampling methods were used to generate data from 160 respondents. Data collected were analyzed using descriptive statistic and binary regression analysis. The results indicated that mean age of the respondents was 21 years,and mean household size was 8 persons and mean farming experience 12 years while mean farm size was 4 hectares. Majority (81.2%) were married with over 84.8% of the respondents were literate and well experienced in farming. Further results shows that radio (mean=2.79), television (mean=2.28) and internet ((mean=2.28)) were the most preferred mass media used by the farmers in accessing agricultural information in the study area. The major mass media utilized by respondents were radio (1st), television (2nd). The results showed that the majority of the farmers considered the agricultural information related to pest and diseases (mean=2.31), fertilizer application (mean=2.25), improved seed (mean=2.24) and credit facilities(mean=2.10) as most appropriate. The result also disclosed that the intensity of mass media utilization in the study area was very high. The farmers identified high cost of mass media facilities and lack of electricity as the major constraints in the study area. The study however suggested that the Federal Government should create an enabling environment towards improved rural infrastructure and access to internet and other mass media facilities for rural people particularly rice farmers which would improve the overall choice and usage of mass media tools in accessing appropriate agricultural information.

Keywords: Mass media, drivers, utilization, rice, farmers, Gassol and Taraba State.

INTRODUCTION

Mass media are very efficient in delivering agricultural information to farmers. They facilitate the clienteles‟ critical role in decision-making towards improved agricultural production, processing and marketing of products. Therefore, Proper agricultural information dissemination through mass media to the farmers is absolutely imperative to the sustainability, productivity and marketability of agricultural produce. In addition, a well-informed society is more responsive to government policies, willing to adopt innovations, and eager to participate in the nation's rural development programmes. Odiaka, E. (2015).

More so, Ohaka *et al.* (2018) described mass media facilities as a collection of media technologies that are used for collecting, storing, editing and passing on information in various forms to the one who access it (farmers). In Burkina Faso, Alia *et al.* (2013) found that farmers who have listened to rice program on radio before 2008 are more probably to embrace enhanced varieties than

those who do not. Most importantly we found the indirect effect of listening to rice program on radio is significantly positive.

Still, in Nigerian farmers are reported not to feel the impact of agricultural innovation mainly because they have no access to such vital information or due to poor dissemination and the information usually provided is reported to be focused mainly on policy makers, researchers, students and those who manage policy decisions with little or no attention paid to the information needs of farmers who are the targeted beneficiaries of the policy decisions. If farmers are provided with the right inputs, feasible technology and relevant information which they actually need, small scale farmers are capable of transforming traditional agriculture. One of the major challenges to agricultural development in Nigeria and other African countries have been the low level of agricultural information exchange among the different stakeholders in the agricultural sector which is most often due to limited access to current and relevant information sources as well as poor documentation, storage and retrieval techniques. Generally, the importance of information is well established in the life of every human being as it serves as a source of knowledge and skills for individuals (Odiaka, 2015).

Taraba state is one of major rice producing state in Nigeria. The state is endowed with abundant human, land and water resources. In spite of all the huge effort, made by the federal government to ensure effective and efficient access and use of mass media through Growth Enhancement Support Scheme (GESS), which was designed as a component of Agricultural Transformation Agenda (ATA), available statistics has revealed that rice farmers in Taraba State are inadequately provided with such media facilities. Gassol Local Government Area provides the most suitable site for rice production in the state that is the reason why in an attempt to explore these resources, the state government engaged in private partnership with Dominion Farms Company to invest in rice production in the area. There is limited awareness of the information on improved agricultural technologies for farmers such as land clearing technique, planting technique, fertilizer application technique, harvesting technique among others, thus majority of farmers are still using farming model that is largely inefficient. The ban on importation of foreign rice by Federal Government has greatly encouraged local production and high return on investment by rice farmers. These have inspired many young people to venture in to rice farming. However, the major role of rice production to both farmers and the nation in general cannot be realised, if there is no effective dissemination of adequate information to the farmers as well as other stakeholders through various mass media channels. The use of mass media helps to reduce the work load of the extension personnel by bridging the distance between extension and farmer in addressing their problems and carrying their feedback to research centers.

Objectives of the Study

The general objective of the study is to assess the drivers of mass media utilization by rice farmers in the Gassol Local Government Area, Taraba State. The specific objectives are to:

1. identify the most preferred mass media use by the rice farmers in the study area.
3. determine mass media utilization intensity by the rice farmers in the study area.
3. identify the appropriate agricultural information perceived by the rice farmers in the study area.
4. identify the constraints to Mass Media utilization intensity among rice Farmers

METHODOLOGY

The Study Area

The study was conducted in Gassol Local Government Area of Taraba State. Gassol Local Government Area is located between latitude 7^{0}32N to 8^{0}40N and longitude 10^{0}25'E to 11^{0} 15'E. The Local Government Area has a landmass of 5982km^{2} and a population of 244,749 (125,293 males and 119,456 females) (NPC, 2006) but it has a projected population of 379,972 as at 2021 from the same National

Population Commission. The Local Government consists of two administrative districts, namely Gassol and Mutum-biyu. About three quarter of the population are crop farmers, while others are cattle rearers and fishermen. Besides that, most of the inhabitants do enjoy the presence of state owned media outlets such Taraba State Broadcasting Service (TSBS), Taraba Television (TTV) and other satellite stations perhaps, due to its proximity to the state capital. Important crops cultivated in the area include: rice (*Oriza sativaL*), groundnut *(Arachis hypogea*), maize (*Zea mays*), yam (*Dioscorea spp*), cassava (*Manihot esculenta*), millet (*Panicum spp*), guinea corn (*Sorghum bicolar*), cowpea (*Vigna unguiculata*) and tomatoes (*Lycopersicom esculentum*) among others etc. Most of the farmers cultivate small plots of land. Farming activities usually starts around March with clearing of lands. The soil in the area consists of rich sandy loam soil. The annual rainfall is between 1000mm to 2200mm, the climate is tropical in nature with temperature of between 15^0C to 25^0C throughout the year. The major tribes in the local government area are: Fulani, Jukun, Tiv, Hausa, Wurkum, Jenjo, Kuteb, and Mumuye among others.

Methods of Data Collection

Primary data were used for the study and were collected with the use of questionnaire to be administered to the respondents. Data collected include; respondent's socio-economic characteristics, available mass media, agricultural information accessible from mass media, information needs, factors influencing the use of mass media and constraints in use of mass media among the respondents in the study area.

Sampling Techniques

The population of the study comprises of 267 registered rice farmers in the local government area that were sourced from Taraba State Agricultural Development Programme (TADP) office in the state. Two districts make up the local government area; namely Gassol and Mutum biyu. Three wards from each of the districts were purposely selected due to their prominence in rice production. In Gassol district, Gassol , Sendirde and Wuriyo were selected. While in Mutum biyu district Mutum biyu A,Mutum biyu B and Tutare were also selected. In totality, six wards out of the twelve wards in the local government were used for the study.

A sample size of 160 rice farmers were drawn from the population using Yamane Taro formula as adopted by Kawu (2016) as presented below;

$$n = \frac{N}{1 + Ne^2}$$

Where;
n = sample size
N = population of the study (267)
e = Random sampling error

$$n = \frac{267}{1 + 267(0.05)^2}$$

$$= \frac{267}{1.6675}$$

$$= 160$$

Method of Data Analysis

The study used both descriptive and inferential statistics. The descriptive statistics such as mean, frequency, and percentage were used to analyze objectives. It is express as;

$$Y = \frac{FRX100}{N}$$

Where;
Y = The parameter (Variable) to be examined
FR = Frequency of response
N = sample size
The inferential statistics (Logistics Regression) was used to achieve objective (v), it is explicitly expressed as;

$$Y = a(b_1X_1, b_2X_2, b_3X_3, b_4X_4, b_5X_5, \ldots\ldots\ldots\ldots\ldots\ldots\ldots, b_9X_9 + u_i(i)$$

Where:
Y = Use of mass media measured as dummy variable: 1 = Use of mass media, otherwise 0.
a = Intercept, b_1-b_9 is the coefficient (parameter to be estimated)
X_1 = Age (Years)
X_2 = Sex (Male=1; Female=0)
X_3 = Marital Status (Married=1; Single=0)
X_4 = Household Size (Number of People)
X_5 = Education (Years Spent in School)
X_6 = Farm Size (Hectares)
X_7 = Farming Experience (Years)
X_8 = Membership of Association (Yes=1; No=0)
X_9 = Extension Visit (Number of visit per farming season)
U_i = Error term

RESULTS AND DISCUSSIONS

Socio-economic Characteristics of the Respondents

This study examined the socio-economic characteristics of respondents. The result in Table 1 shows that majority (98.7%) of the respondents were male and (86.7%) of the respondents with a mean age of 21 years. This implies that active people were involved in rice production in the study area. The findings also shows that most (81.2%) of the respondents were married in the study area. This high percentage of married respondents translate that the respondents are responsible and capable of sustaining their family life. This is similar with the results obtained by Adedapo (2020) who reported that Maize production was dominated by married men and women in the study area. On the other hand, Table 1 reveals that majority (77.9%) of the respondents had family members from 1-20 in the study area and a mean of 8. It could be said that most of the respondents have a large household size. The effect of a large household size is that a good proportion of the income of the household head will be diverted to meeting the basic needs of food, health care, education, shelter and clothing. On the other hand, the effect of large household size could influence family labour. Conversely, Adedapo (2020) found that majority of farmers in Ondo and Ekiti States, had family members above five. The result in Table 1 further reveals that (56.4%) of the respondents had formal education. This implies that majority of rice farmers in the study area can read and write. Farmer's education is very important and indispensable for agricultural development because it enhance the awareness of the farmers, thus increase the level of technology adoption. This result is closely related to that of Abdulhamid *et al*. (2018 and *Ango, et, al.* 2018) who found that most of their respondents in Gombe and Sokoto States were literate. The result also indicates that (81.13%) of the respondents had 5 and above years of farming experience and a mean of 12 years. The finding indicates that most of the rice farmers in the study area puts more than five years of farming experience. Farming experience is expected to influence level of productivity and subsequently enhance income of the farmers. Findings from this research reveals the mean of 4 hectares which accounted for (68.75%) of the respondents with less than 5ha of rice farm. This result indicates that majority of farmers in the study area had less hectares of land to produce rice. The findings do not agree with that of Nzeh *et al*. (2018; and Adedapo 2020) who observed that most farmers in Enugu, Ondo and Ekiti States cultivate farm land above 5 hectares.

Table 1: Distribution of respondents according to socio-economic Characteristics

A. Gender	**Frequency**	**Percentage**	**Mean**
Male	158	98.75	
Female	02	1.25	
Total	**160**	**100**	
B. Age (years)			
< 20	16	10	
21-30	22	13.75	
31-40	54	33.75	**21**
41-50	48	30	
51 and above	20	12.5	
Total	**160**	**100**	
C. Marital Status			
Married	130	81.25	
Single	25	15.62	
Divorced	5	3.12	
Total	**160**	**100**	
E. Household Size			
Less than10	71	44.94	
10-20	53	33.54	
21-30	24	15.18	**8**
31 and above	12	7.5	
Total	**160**	**100**	
F. Farming Experience			
Less than 5 years	16	10.06	
5-10 years	49	30.82	
11-20 years	44	27.67	**12**
21-30 years	**36**	22.64	
31 and above	15	9.37	
Total	**160**	**100**	
G. Educational Level			
Qur'anic school	69	43.67	
Adult literacy	29	18.35	
Primary school	11	6.87	
Junior secondary school	10	6.32	
Senior Secondary school	10	6.32	
Tertiary education	31	19.62	
Total	**160**	**100**	
H. Farm size (ha)			
Less than 5	110	68.75	
5-10	28	17.5	**4**
11 – and above	22	13.75	
Total	**160**	**100**	

Source: Field survey, 2019.

Most Preferred Mass Media to Farmers in the study area

The mass media prefer by the respondents in the study area were analyzed and presented in Table 2. The results indicated that radio (mean=2.79) ranked the first major media prefer by the respondents in the study area. This is followed by television and internets (mean=2.28) each, posters (mean=2.25), leaflets (mean=2.10), newspaper (mean=2.14) and bulletins (mean=2.0). However, tape recorder (mean=1.89), magazine (mean=1.67), and CD Rom (mean=1.32) were the least preffered mass media in the area. This shows that radio, television and internet were the most preffered mass media to the farmers in the study area in accessing agricultural information. This could be attributed to the fact that electronic media are spreading agricultural information to the farmers at a faster rate than the other print media, that is aside being portable, affordable as well as useful during emergencies and hence, the reason for their prefference in the study area. The finding is in line with that of Adeniyi and Yekini (2018) who reported that the affordability, and capacity of some devices to convey information visually and audibly make them more useful to people.

Table 2: Distribution of the Respondents Based on Mass Media Preferences in the study Area

Mass media available	Most preferred	Preferred	Less preferred	Mean	Rank
Newspaper	52(37.7)	53(38.4)	33 (23.9)	2.14	5th
Magazine	19(13.8)	55(39.9)	64(46.3)	1.67	9th
Internet	67(48.6)	43(31.2)	28(20.2)	2.28	2nd
Tape recorder	40(29.0)	43(31.2)	55(39.8)	1.89	8th
Radio	119(86.2)	10(7.3)	9(6.5)	2.79	1st
Television	67(48.6)	43(31.2)	28(20.2)	2.28	2nd
CD Rom	6(4.3)	33(23.9)	99(71.7)	1.32	10th
Posters	64(46.4)	45(32.6)	29(21.0)	2.25	4th
Leaflets	54(39.1)	47(34.1)	37(26.8)	2.10	6th
Bulletins	43(31.2)	52(37.7)	43(31.1)	2.00	7th

Source: Field Survey, 2019, Percentages in parenthesis

Mass Media Utilization by the Farmers in the Study area

On the mass media utilization by the respondents in the study area. The result in Table 3 shows that, radio (84.8%) ranked first and is being used by most of the farmers in the study area. This is followed by television (49.3%), internet (45.7%), and posters (44.9%). Others were newspaper (30.4%), leaflet (24.6%), bulletins (22.5%), tape recorder (21.7%), magazine (8%) and CD Rom (6.5%). This shows that radio, television and internets were the major media utilized by the majority of the respondents in the study area which could be attributed to the widest coverage these media offers to their audience in terms of dissemination of research and agricultural information to the farmers. Adedapo (2020) reported that mass media did not have the same important of use; as such the major ones used accord high integrity to farmers than other groups of individuals in the study area.

Table 3. Distribution of the Respondents Based on the Mass Media Utilization

Mass media Used	Used	Not used	Rank
Newspaper	42(30.4)	96(69.6)	5th
Magazine	11(8)	127(92)	9th
Internet	63(45.7)	75(54.3)	3rd
Tape recorder	30(21.7)	108(78.3)	8th
Radio	117(84.8)	21(15.2)	1st
Television	68(49.3)	70(50.7)	2nd
CD Rom	9(6.5)	129(93.5)	10th
Posters	62(44.9)	76(55.1)	4th
Leaflets	34(24.6)	104(77.5)	6th
Bulletins	31(22.5)	107(77.5)	7th

Source: Field Survey, 2019. Percentages in parenthesis

Appropriate agricultural information perceived t by the Farmers

The agricultural information appropriate to the respondents from were analyzed using a 3-point scale of most appropriate (3), appropriate (2) and less appropriate (1) where a mean score of ≥2.0 is significant. From Table 4, credit facilities (mean=2.10), pests and diseases (mean=2.31), fertilizer application (mean=2.25) and improved seed (2.24) were considered the most appropriate agricultural information by the the majority of the farmers in the study area. This could be explained by the fact that access and use of appropriate agricultural information is an overriding factor for the attainment of successful and sufficient farm production and rural development.. Furthermore, Improvement of agricultural productivity will be achieved when farmers are linked to the right information through an appropriate medium or tool as rightly posited by Garba, Mohammed & Suleiman (2016).

Table 4. Appropriateness of agricultural information precieved by the farmers

Information type	Most appropriate	Appropriate	Less appropriate	TS	Mean	Remark
Credit facilities	138	120	32	290	2.10	S
Weather forecast	51	60	91	202	1.46	NS
Market information	99	134	38	271	1.96	NS
Pests and diseases	177	126	16	319	2.31	S
Fertilizer application	186	98	27	311	2.25	S
Improved seeds	183	98	28	309	2.24	S
Storage	102	120	41	263	1.91	NS

Source: Field Survey, 2019; Note: S=singnificant, NS=Not Significant

Mass Media utilization intensity among rice Farmers

The intensity of utilization of mass media by the respondents, the index of mass media utilization was used to categorize respondents into low and high, using above and below the mean criterion. Results in Table 5 shows that 55.6% of the respondents' intensity of mass media utilization was high while the respondents with low mass media utilization intensity accounted for (44.4%). This implies that rice farmers in the study area intensively rely on mass media sources of information, this may be as a result that they can listen to radio programs even if they are working, putting hand set in their pocket during work and listen to programs. This finding is not in agreement with the findings of (Adeniyiand Yekinni 2018) that the level of access and utilization of ICTs facilities are generally low among farmers in their different studies.

Table 5 mass media utilization intensity among rice farmers in the study area

Intensity of use	Frequency	Percentage
High	89	55.6
Low	71	44.4
Total	160	

Source: Field Survey, 2019

Constraints to the Utilization of Mass Media by the Respondents

The constraints to the use of media to access agricultural information from Table 6 analyzed using a 3-piont scale of very severe (3), severe (2), and not severe (1); where a mean of 1-1.49 is rated not severe, 1.5-2.49 is rated severe, and 2.5-3.0 is rated very severe. The results indicated that lack of local content (mean=2.04), lack of time out of busy schedule (mean=2.31), low level of education (mean=2.11), lack of awareness on mass media use (mean=2.28), and don't know how to get information from the mass media (mean=2.13) were severely constraints to the use of mass media among the respondents. However, high cost of mass media (mean=2.77) and lack of electricity (2.78) were the two very severe constraints to the use of mass media in the study area. This could be attributed to the fact that some if not all the mass media requires some certain cost before they can be accessed as well as lack of electricity supply in the country that has crippled most economic activities in the country. This collaborates with the findings of Gueye (2009) who reported that high cost of information creation gadgets, high level of poverty among farmers, inadequate mass media stations and lack of alternative source of power to electricity are major problems affecting the usage of mass media channels for agricultural information in Nigeria.

Table 6. Constraints to the Utilization of Mass Media by the Respondents

Constraints	Very severe	Severe	Not severe	TS	Mean	Remark
Lack of local content	156	80	46	282	2.04	Severe
Lack of time out of busy schedule	156	154	9	319	2.31	Severe
Low level of education	165	86	40	291	2.11	Severe
High cost of mass media facilities	324	58	0	382	2.77	Very severe
Lack of electricity	360	16	8	384	2.78	Very severe
Lack of awareness on mass media use	186	104	24	314	2.28	Severe
Don't know how to get information from the mass media	150	112	`32	`294	2.13	Severe

Source: Field Survey, 2019

Conclusion and recommendation

The study analysed the drivers of mass media utilization among rice farmers in Gassol local Government Area of Taraba State, Nigeria. Based on the findings of this study, it could be concluded that effective utilization of mass media facilities have greate potentials of reaching large number of farmers with appropriate and up to date information in a timely manner, this is just as the finding of the study indicated that radio, television and internet were the most preffered mass media tools in the study area. The result also revealed that the intensity of mass media utilization in the study area was very high. Further analysis on appropriateness of information perceived by farmer showed that agricultural information regarding pest and diseases, fertilizer application, improved seed and credie facilities were viewed as the most important agricultural information by vast majority of the respondents.

The study therefore recommends that; There is the need to subsidized the cost of mass media facilities in the study area to enable the farmers which are mostly poor have access to agricultural information. This can be made possible through the subsidizing the cost of media access such as newspaper, and charges on tariff charge by network providers, as well as, data for accessing information from the internets. Mass media facilities such as television, radio, internets were highly preffered in the study area. To make them readily available to the farmers in order to get appropriate agricultural information, there is the need to increase the supply of constant electricity to the farmers in the study area. The study revealed that the intensity of mass media utilization in the study area was very high, there is the needs to increase the usage of other mass media outlets so that large numbers of rice farmers can be reached.

REFERENCES

Abdulhamid, A, Garba, A. and Muhammad, A. K. (2018). Analysis of Factors influencing Adoption of Improved Sorghum Seed Technology in Gombe State, Nigeria. A Paper Published with Proceeding of the 11th Biennial Congress of African Farm Management Association (AFMA) held in NAF Conference Centre Abuja, Nigeria from 4th-9th November, Pp 105-113

Adedapo, A. O. (2020) Determinants of improved maize varieties planting in Ondo and Ekiti states, Nigeria. *International Journal of Agriculture and Development Studies (IJADS)* Vol. 5 No. 1. PP18-20

Adeniyi, R. T. and Yekinni, O. T. (2018)Use of Information and Communication Technology for Agricultural Marketing Information by farmers in Oyo state, Nigeria. *International Journal of Agriculture and Development Studies (IJADS)* Vol.3 No2. PP 43-47

Alia, Y.; Didier, Tebila, N. and Alious, D. (2013). Rural media, agricultural technology adoption and productivity: Evidences from small rice farmers in Burkinafaso 4th international conference of the African association of agricultural economics, September, 22-25-2013, Hammet , Tunisia. PP 76-79

Ango, A. K., Yakubu, D. H. and Hamza, B. A. (2018) Analysis of the Factors Influencing Rice Processing and its Profitability in Sokoto State, Nigeria. *International Journal of Agriculture and Development Studies (IJADS)* Vol.3 No2. PP 33-35

Garba, A. Mohammed, Z. & Suleiman, H. (2016) Application of mobile phones in disseminating agricultural information to farmers by agricultural extension workers in Giwa Local Government Area, Kaduna State, Nigeria. *Shiv Rudraksha International Journal of Advanced Research in Enginee ring & Management* 1(4),47 55

Gueye, E. F. (2009). The role of networks in information dissemination to family poultry farmers. *World's Poultry Science Journal*, *65*(01):115-124. Available at: http://www.journals.cambridge.org/abstract_S0043933909000099. PP 334-335

National Population Commission (N.P.C) (2006). National Population Census Figure

Nzeh, E.C.,Nnamuchi, P. E. and Oyoboh, D. E. (2018). Climate Change Adaptation and Mitigation Measures in Rural Farming Communities in Agbani Agricultural Zone, Enugu State, Nigeria. Proceeding of the 11th Biennal Congress of African Farm Management Association (AFMA) held in NAF Conference Centre Abuja, Nigeria from 4th-9th November, Pp 271-281

Odiaka, E. (2015) Perception of the influence at home videos on youth farmers in Makurdi, Nigeria, *Journal of agricultural and food information,* 16(4):337-346.

Ohaka, N. C. and Akpomi, M. E. (2018). Information and communication technology(ICT): A potential tool for problem solving in business education programme. *International Journal of Innovative Information System and Technology Research.* 6(4):9-17.

Okwu, O. J and Daudu, S. (2011). Extension communication channels usage and preference by faarmers in Benue State, Nigeria, *Journal of Agricultural Extension and Rural Development.* 3(5):88-94