Analysis of Mass Media Use and Preferences in Information Sourcing among Farming Households in Edo State, Nigeria

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Abstract: *This study analyzed mass media use and preference in information sourcing among farming households in Edo state, Nigeria. It examined the socio-economic characteristics of farmers in the study area, identified mass media they use and preferred as well as constraints limiting their use of mass media. Datacollected from a random sample of 387 respondents, were analyzed using descriptive and inferential statistics. The result showed that majority of the farmers were males (63.6%), young (average age = 42years), literate, married (62.5%) with an average family size of seven.The study found significant differences among mass media preferred by the farmers with radio (mean = 6.42), television (mean = 6.08) and newspaper (mean = 5.41) being significantly more preferred to other media. The major constraints limiting the farmers access to mass media use were poor power supply (mean = 3.58), low income of farmers (mean = 3.42), poor technical skill (mean = 3.15), and poor timing of programme (mean = 3.11). The study concluded that radio, television and newspapers were the widely used and preferred mass media in the study area. The study recommended the need for improve power supply if mass media is to perform its roles effectively, and organizing the farmers into cooperative group to enhance access to credit and acquisition of mass media.*

I.   Background to the study

Nigeria is a vast country with mixed farming systems involving a variety of crops; cereals, legumes, fibre, root and tubers. The agricultural sector plays a key role in the economic development of Nigeria in terms of food, foreign exchange from exports, raw materials for industries and employment. However, information is required if the sector is to be sufficiently developed to impart the national economy. Mass media is seen as an important means of achieving such a transformation when used as a broad tool for providing local farming communities with scientific knowledge (Dare, 1990). Against this background, it is clear that farmers need new improved technologies to transform the traditional agriculture and increase production above the level of traditional technique. Majority of Nigerian farmers are small scale farmers using traditional methods to grow complex mixture of crops. The farmers are poor not because they are small but because they do not have access to and ways to convey valuable information to them in other to improve their productivity (Adamu, 2005).

Information technology can be of assistance by enabling extension workers to gather, store, retrieve and disseminate a broad range of information needed by farmers thus, transforming from extension workers into knowledge workers (Ani, 2004). Extension workers who are charged with the task of disseminating improved farm practices to farmers have the responsibility of understanding social setting i.e. the local culture in which such information and changes are to be introduced. Failure in this respect can weaken their success in persuading farmers to adopt recommended practices (Onemolease, 2013).Agricultural extension systems in most developing countries are underfunded and have had mixed effects, much of the extension information has been found to be out of date, irrelevant and not applicable to small farmers' needs, leaving such farmer with very little information or resources to improve their productivity. Agricultural extension in the current scenario of a rapidly changing world has been recognized as an essential mechanism for delivering knowledge and advice as an input for modern farming (James, 2006). However, if the nation is to escape from the narrow mind-set of transferring technology package to transferring knowledge or information packages, there will be need to employ many potential applications in agricultural extension (Zijp, 2011). Access to such new information source is a crucial requirement for sustainable development of farmers systems.

Over the years, our rural farmers depend on indigenous or local knowledge for improved farming system/animal husbandry. Such knowledge refers to skill and experience gained through rural communication or oral tradition and practice over many generations (Obidike, 1999). Acquisition of such primitive skill by rural farmers has not helped to improve agricultural yield. All that is witnessed in rural agricultural system range from poor farm yield, emergence of new crop and animal diseases. Resistant plant weeds and pests that attack

farm crops, old farm implements, poor quality fertilizers etc. Agricultural information are always meant to get to rural farmers via extension workers, community libraries, radio, television, film shows, agriculturalpamphlets, state and local government agricultural agencies etc. Rural farmers in their effort to access these agricultural knowledge and information from available sources, for better farming system and improved agricultural yield, are confronted with certain constraints.

Some questions concerning the utilization and farmers' preference for communication channels in agricultural extension services delivery are therefore pertinent and need to be addressed empirically. Which communication channels are available and which being used to disseminate farm innovation message to the farmers? Which is the relative usage of the channels by farmers? Which of the channels do the farmers prefer but constrained in use? Attempts were made by Ilevbaoje (2011), Jeffery (2001) and Obinne and Okowu (2009) to address some of these questions. However, none of these studies was comprehensive enough to address all the questions raised. Moreover, there is need for generalizations about communication and the consequences for human activities to be continuously re-examined and re-tested against the realities of a changing social word. Thus,Wilson(2006), have suggested that periodic studies be carried out to identify trends among audience segments as knowledge of clients use of information channels and sources can have an impact on reaching them.

Objectives of the Study
The study assessed mass media use and preferences of farming households in relation to accessing agricultural information in Edo State, Nigeria.The specific objectives of the study are to:
a. examine the socio-economic characteristic of farmers in the study area;
b. identify the different mass media channel through which farmers access agricultural information;
c. examined the mass media preferred by the farmers; and
d. examine the constraints to the farmers use of mass media for agricultural information sourcing.

Hypotheses of the Study
Ho_1: There is no significant difference among mass media preferred by farmers as information delivery channels.
Ho_2: There is no significant difference among the constraints to mass media used by farmers.

II. Methodology

This study was carried out in Edo State, Nigeria. The State was created out of the defunct Bendel State in August, 1991 and lies between latitude 05^0 44' and 07^0, 34' North of the equator and longitude 06^0 04' and 06^0 43' East of the Meridian. The population figure for the State based on the 2006 national census was 3,233366 (NBS, 2007); the projected figure for 2018, using an estimated growth rate of 3.2% is 4,718579The administrative structure of Edo State consists of three geopolitical zones namely,Edo South, Edo Central and Edo North and a combined Local Government Areas (LGA) of 18.

Agriculture remains the dominant economic activity in the State. The major food and cash crops include cassava, groundnut, rice, plantain, yam, maize, sugar cane, cashew, cocoyam, oil palm, citrus, coconut, mango, rubber, pear, and also cherry. A large proportion of the population is engaged in livestock farming, aquaculture, and trading.

Sampling procedure:
Primary data was used for this study, and this were directly sourced from farmers. The researcher assumed lack of a comprehensive data on farming households in the study area. For an unknown population, the minimum recommended sample is 384 (Zemke and Kramlinger, 1986).Multistage sampling procedure was adopted in the selection of respondents. The first stage was the purposive selection of two of the three senatorial zones in the State based on the large number of farmers in these zones (i.e. Edo Central and Edo North zones).The second stage involved random selection of three LGAs from each of the selected zones (Esan West, Igueben and Esan Central in Edo Central, and Etsako West, Etsako Central and Etsako East in Edo North), given a total of six. The third stage was the purposive selection of three communities from each LGAs based on the large number of farmers in these communities to give a total of 18. Communities selected included Ekpoma, Urohi, Idoa (Esan West LGA); Igueben, Ebele and Okalo (Igueben LGA), Irrua, Opoji andUgbegun (Esan Central LGA), Afashio, Afowa and Iyamo (Etsako West LGA), Iraokhor, Ogbona and Fugar (Etsako Central), and Iviukwe, Ighoide andIvioghie (Etsako East LGA). The last and the final stage was the simple random selection of twenty two farmers from each of the eighteen communities to give a sample size of 396 farmers. However, only 387 instruments were eventually retrieved. This represents 90.7% response rate.

Data collection method and analysis:

Collection of data was facilitated by mean of validated questionnaire/interview schedule. Data collected wereanalysed using descriptive and inferential (multiple regression and the Friedman test) statistics.

Measurement of Variables

Mass media use and preference: Farmers' access to agricultural information was measured by asking them which of the mass media through which they access agricultural information. Their response was captured on a 4 point Likert scale as follows: very frequently used (coded 4), frequently used (coded 3), and sometimes used(coded 2), not used (coded 1). To determine the mass media respondents frequentlyused, the mean of 2.50 was used, determined as follows: $4+3+2+1 = 10/4 = 2.50$. Thus, any mass media with a mean of ≥ 2.50 means the farmers frequently used this media or otherwise if< 2.50. Similar approach was used to measure the preferred mass media channels by the respondents.

Constraints tofarmers' use of mass media: The constraints were measured on a 4 point Likert scale as follows: very serious (coded 4), serous (coded 3), little serious (coded 2) and not serious (coded 1). To determine which constraints were serious, the mean of 2.50 was used as benchmark. Thus, any constraints with a mean of ≥ 2.50 was considered serious, or not if < 2.50.

III. Results and Discussion

Socio-economic characteristics of the respondents

The results for sex shows that 63.6% of the farmers were male, while 36.4% were female. The fact that most respondents were male, suggest that they are more likely to be mass media users than female farmers, because male farmers are relatively free from domestic work, and therefore have more opportunities to listen to radio, watch television or read newspapers. This position is supported by Boz and Ozeatalbas (2010), who stated that male farmers have more unrestricted access to mass media than female farmers.The age distribution shows that the majority of the respondents (41.9%) fell between 26-35 years, with an average age of 42 years. This indicates that they are young, and fall within the economically active age group. Such group is most likely active in farming and tends to develop more interest in sourcing for agricultural technology through the mass media. This result is in agreement with Erie (2009), who reported a mean age of 42 for farmers in Edo State.

The marital status of the respondents show that the majority (62.5%) were married. Since majority of the respondents were married, it is expected that they will source for agricultural technologies through the mass media to increase their productivity and enhance their income. In term of educational level, the majority (70.5%) had secondary education. More educated farmers are typically assumed to be better able to process information and search for appropriate technologies to enhance their productivity. This position perfectly agreed with that of Akinbile and Otitolaye (2008), who found that mass media are used mostly by farmers who have some level of education. However, Agbamu (2005) and Zaria and Omenesa (2014), disagrees, noting that illiteracy of farmers posed no important limitation to their use of mass media sources/channel of agricultural information.

As shown in Table 1, majority (66.9%) had a farming experience of between 11-20 years, with an average of about 18 years. This indicate that the respondents had operated for a reasonable number of years, which is sufficient for them to be abreast with the use of mass media as sources of agricultural information. Ani (2006) noted that the farming experience of farmers to a large extent affect their management know-how as well as the use of various extension methods including mass media.

Table 1: Socio-economic characteristics of respondents.

Characteristics	Categories	Freq (n=387)	%
Sex	Female	141	36.4
	Male	246	63.6
Age (years)	25 & below	121	31.3
	26-35	162	41.9
	36-45	32	8.3
	46-55	54	14
	> 55	18	4.7
Marital Status	Single	104	26.9
	Married	242	62.5
	Divorced	22	5.7
	Widower	19	4.9
Education	No formal education	32	8.3
	Primary education	65	16.8
	Secondary education	273	70.5
	Post-secondary education	17	4.4
Farming experience	<=10	56	14.5

	11-20	259	66.9
	> 20	72	18.6
Family size	4 and below	141	36.4
	5-7	213	85.1
	> 7	33	8.5
Membership of cooperatives	No	128	33.1
	Yes	259	66.9

Source: Field survey data, 2015.

The distribution of household size among the farmers show that most (85%) had 5-7, with the average household size being 7. Buba (2003) reported that household size have influence on both patterns of information access, and method of delivery. This findings aligns with Ani*etal.* (1997) who reported an average family size of 7 for Fadama farmers in Edo State.The result show that the highest proportion of respondents (66.9%)belonged to cooperative societies. Being members of cooperatives can enhance the farmers' access to mass media. This position aligns with Qamar (2006), who observed that members of the cooperative society have greater access to mass media than non-members.

Enterprise activities of Respondents

Table 2 shows the agricultural tasks or enterprise of the respondents. The result show that 89.4% were into arable crop farming, 66.1% where into poultry production, 63.6% cultivated cash crops, while 35.4% where involved in fish farming. The general result suggest that arable crop was the dominant agricultural enterprise in the study area, while fish farming was the least. Theresult suggests that the farmers are into diversified farming or agricultural business. Farmers are said to diversify their income sources to mitigate the risk associated with farming (Orojobi, 2011)

Table 2 Enterprise activities of farmers

Enterprise		Freq	%
Arable cropping		346	89.4
Poultry production		25.6	66.1
Cash cropping		246	63.6
Fish farming		137	35.4

*Source: Field data 2015.

Mass media used and preferred by respondents

The result (Table 3) shows that the mass media frequently used by the respondents were radio (mean = 3.72), T.V (mean = 3.62) and newspaper (mean = 3.14). The mean values for these media are greater than 2.50. The general results suggest that the respondents regularly made use of only three of the eight listed mass media, which represents 37.5%. This finding agrees with that of Obiakku and Hursh (2009), that radio, television and newspaper are the most potentially useful mass media to farmers. UNESCO (2002) found in a regional survey of West Africa, that radio, television and newspaper were the most widely and most frequently used mass media. This is equally confirmed by the study of Okwu (2006).

The respondents indicated preference for all the listed mass media, except circular letters whose mean was less than 2.50. However, the major media preferred by them were radio (mean = 3.79), T.V (mean = 3.67), newspapers (mean = 3.34) and magazines (mean = 2.65). Ariyo *et al.* (2013) reported radio and newspapers as the most preferred tool of mass communication in Nigeria. They observed that radio programmes are usually timely and capable of extending messages to the audience no matter where they may be as long as they have a receiver with adequate supply of power. The absence of such facilities as road, light and water are no hindrance to radio. Obinne and Okowu (2009) reported that, among the several mass media, print media such as newspaper and farm magazine are still commonly used, as they are cheap, affordable and can easily be read at the convenient of the reader.

Table 3:Mass media used and preferred by Respondents'

	Used		Preferred	
Variables	Mean*	SD	Mean*	SD
Radio	3.72	0.68	3.79	0.56
Television	3.62	0.70	3.67	0.66
Booklets	2.12	0.91	2.53	0.94
Leaflets	2.16	0.93	2.56	0.92
Newspaper	3.14	0.95	3.34	0.85
Magazine	2.44	0.97	2.65	0.98
Posters	2.26	1.12	2.59	1.01
Circular letters	2.10	1.21	2.46	1.18

Frequentlyused /preferred(mean ≥ 2.50).

Constraints faced in use of mass media by respondents

Table 4 shows the constraints the farmers faced in accessing information through mass media. The results show that all the listed problems were considered serious by the farmers, since the mean scores are greater than 2.50. The major limitations or constraints were poor power supply (mean = 3.58), low income level of farmers (mean = 3.42), poor technical skill (mean = 3.15) and poor timing of programme (mean = 3.11). Others were language barrier (mean = 3.06), illiteracy (mean = 3.01), lack of credit facility and lack of resource availability with means of 2.91 and 2.99 respectively. The above results align with Shelly and Costa (2006), who noted that lack of credit facility and lack of resource availability were major constraints faced by rural farming households. Raju *etal.*(2001) noted that low level of income constitute a serious obstacle to poor farmers acquisition of television sets. The limitation of language barrier reported in this study agrees with Adeyanju (2011), who noted that language barrier is a major constraint to farmers.Poor timing constitutes a barrier especially when farmers are not at home to listen to radio announcement. Many of the farmers had limited formal education, and this might affect their ability to grasp the information disseminated via the mass media.

Table 4: Constraints faced in use of mass media

Mass Media	Mean*	SD	
Poor power supply	3.58	0.90	
Low income level	3.42	0.98	
Poor technical skill	3.15	1.02	
Lack of agric programmes	3.15	1.13	
Time of program	3.11	0.88	
Language barrier	3.06	1.08	
Inability to read	3.01	0.97	
Non-availability of mass media	2.91	1.07	
Lack of credit facility	2.99	1.07	

*Serious (mean ≥ 2.50)

Test of difference among mass media preferred by respondents

Friedman test was used to determine if significant differences existed among mass media preferred by the farmers (Table 5). The Friedman test (χ^2 = 941.641; p < 0.05) was significant, which means that significant differences exist. In other words, some mass media were significantly more preferred than others. Post-hoc test (as seen in the superscripts), using multiple Duncan range, reveals that radio (mean = 6.42), television (mean = 6.08) and newspapers (mean = 5.41) were the significantly most preferred by the respondents relative to other media. The least significantly preferred were magazine (mean = 3.81), posters (mean = 3.70), booklets (mean = 3.59), leaflets (mean = 3.59) and circular letters (mean rank = 3.40).

Table 5: Test of difference among mass media preferred by respondents

Mass media	Mean Rank
Radio	6.42[a]
Television	6.08[a]
Newspapers	5.41[a]
Magazine	3.81[c]
Posters	3.70[c]
Booklets	3.59[c]
Leaflets	3.59[c]
Circular letters	3.40[c]

χ^2 *= 941.641, d/f =7, P < 0.010*

Test of difference among constraints limiting farmers' use of mass media

Friedman test was used to determine if significant differences exist among the constraints limiting the farmers'use of mass media (Table 6). The result (χ^2 = 224.23; p<0.05) is significant, meaning that a significant difference exist. This suggests that some constraints are significantly more serious than others. The post-hoc test (captured as superscripts) reveals that the most significantly serious constraints was erratic or lack of power supply (mean rank = 6.16). However, this constraint was not significantly different from that of low income level of the farmers (mean = 5.70). No significant difference was noted among the following constraints: technical skill (mean = 5.14), lack of agricultural programmes on mass media (mean = 5.08), language barrier (mean = 4.87), time of programme presentation (mean = 4.75), inability to read (mean = 4.55) and lack of credit facility (mean = 4.51). The least significant constraint was non-availability of mass media (mean = 4.25), thus implying that mass media tools were available in the study area.

Table 6: Test of difference among constraints limiting farmers' use of mass media (Friedman test)

Constraints	Mean Rank*
Poor power supply	6.16[a]
Low income level	5.70 [ab]
Technical skill	5.14 [b]
Lack of agric program on mass media	5.08 [b]
Language barrier	4.87 [b]
Time of program presentation	4.75 [b]
Inability to read	4.55 [b]
Lack of credit facility	4.51 [cb]
Non availability of mass media	4.25 [cd]

*Chi-square = 224.23, df = 8, P < 0.010

Conclusion and recommendations

Mass media were available in the study area; however, radio, television, newspaper and magazine were mostly used and preferred by farmers. But farmers' use of such media was constrained by several factors especially poor power supply, low income level of farmers, poor technical skill, language barrier, time of programme presentation, illiteracy of farmers and lack of credit facilities etc.Based on the findings of the study and to improve farmers'use of mass media to assess agricultural information, the following recommendations are made.

- The erratic power supply from Benin Electricity Distribution Company (BEDC) should be improved significantly if mass media is to perform its roles effectively.
- Respondents should be encouraged to form or join cooperatives in which they can access credit and this will enhance their capacity to acquire these media e.g. radio and television.
- Training should be organized for farmers by the relevant agency such as the extension agency. This will help them to improve their technical skill for better utilization of the mass media.
- Airing time of agricultural programme should be suitable. Such programmes should be presented towards the evening period, especially when farmers are already at home, so that they now have opportunity to listen and watch such programme.
- To minimize the language barrier, agricultural programme should be presented in both English and Local Languages

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