

Differential Mass Media Use among Rice Farmers in Nigeria: Evidence from Benue State

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ABSTRACT The use of mass media for obtaining farm information on rice was analysed to determine the extent of variations in three agricultural zones. Data collected from 250 randomly selected farmers from zones A, B and C showed that 83.3% used radio in A, 80.7% in B and 79.5% in C. Television use indicated 21.4%, 33.0% and 39.7% in the zones respectively while mobile phone use showed 76.2%, 47.7% and 55.1% in the zones respectively. The ANOVA result indicated wider variation in the use of mobile phone ($SS = 3.708$ between zones and 56.488 within each zone) with an f -ratio of 8.108 at 1% level of probability and television ($SS = 1.398$ between and 52.266 within) with an f -ratio of 3.305 at 5%. The Sum of Squares (SS) between and within groups for radio were 0.063 and 38.101 respectively, indicating a wider variation in radio use within each zone than at zonal levels but the f -ratio (0.206) was found to be insignificant (0.814) at 5% level of probability. Since mobile phone, television and radio utilization patterns differed according to agricultural arrangements it was recommended that Governments of various zones should encourage farmer's use of these technologies.

INTRODUCTION

Benue State, often referred to as 'the Food Basket of the Nation', produces agricultural crops which can be classified into cereals, roots and tubers, oil crops, tree crops, legumes and vegetables while the livestock can be classified into poly-gastric (large ruminants - cow and small ruminants - goat, sheep etc.), mono-gastric (rabbit, pig) and poultry (chicken). Among the cereal crops produced (rice "*Oryza sativa*", maize "*Zea mays* Linn", millet "*Pennisetum sp.*", guinea corn "*Sorghum sp.*"), rice (*Oryza sativa*) is found to be a basic food for half of the world's population and it is the principal source of energy of all the cereal crops. According to Datta (1981), rice is the most important if one considers the area under cultivation and the number of people depending on the crop especially in Asian countries. Datta (1981) noted that at average world yields, a hectare of rice could sustain about six persons for a year and the total caloric output of all the world food is equal to 3119 kcal/person per day or 18% of the total. It is estimated that 40% of the world's population use rice as a major source of calories.

In fact the importance of rice as a daily food is expressed differently in different countries. For instance, in Sri Lanka, astrologers are often consulted and prayers offered before rice is planted, while in Southern China, and parts of India, people greet each other by saying "have you eaten rice?" (Datta 1981). In the 1970's in Nigeria, rice was usually reserved for festive periods

such as Easter, Christmas, New Year, Ed-el-Kabir etc. in most families and on Sundays in very few families, but now, it features regularly in most families' menu.

In Benue State, rice is produced in large quantities in the three geopolitical/agricultural zones. With 7,000 hectares of land under cultivation expected total yield is put at 28,000 MT which is about 0.9% of the 3.1million MT of milled rice produced in Nigeria. According to the Foreign Agricultural Services (2008), Nigeria imports 1.7 million MT and consumes 4.8 million MT of rice per annum. It is believed that if farmers do not make use of farm information channels like radio, television and mobile phones, they might be losing valuable information that can enhance rice production and income. For instance, they need to make calls to find out current market prices, listen to radio to get production information and watch television for the demonstration of production techniques.

Due to the importance attached to rice and the high demand for it, Nigeria imported a lot of rice from Thailand and India. Efforts were later made by the government to boost local production and discourage continued importation through the Presidential Initiative on Rice Production, Processing and Export. Improved high yielding varieties like NERICA and R-Box were introduced and a noticeable rise in national output from 3.3 million tonnes in 1999 to 4.2 tonnes in 2006 was recorded (Lawal 2007). However, current trends reveal that in spite of the available high-yielding varieties and large land mass, the quantities of

rice produced are grossly inadequate for local consumption due to shortfalls and the Federal Government of Nigeria is not willing to revert its decision on importation because of its depleting effect on the nation's foreign reserve (Daudu 2007). OLAM (2007) observed that the rice sector in Nigeria is dominated by weak and inefficient producer-market linkages, while the International Rice Research Institute (1990) and Abubakar (2007) noted a gap between potentials and actual farm yield. Since communication is crucial to rice production, this study, sought for rice farmer's utilization of commonly used mass media channels in order to determine the differences in their usage and it was hypothesized that that there is no significant difference in the use of TV, Radio and GSM for obtaining farm information on rice among the three geopolitical zones of Benue State.

METHODOLOGY

Benue State, with its headquarters in Makurdi, has a population of 4.22 million people (Federal Republic of Nigeria 2007) spread among three senatorial zones: Eastern (A), Northern (B) and Central (C). It has a land mass of 30,955 square kilometres distributed among 23 local government areas (14 in Tiv speaking areas, 7 in Idoma speaking areas and 2 in Iggede speaking areas) (Department of Planning and Statistics 2004). The State is watered by River Benue, the second largest river in Nigeria with its tributaries and is located in the middle belt region of Nigeria, with ample 'Fadama' land for rice production.

The population of the study is made up of the 6,650 rice farmers in Benue State (Ahamafule 2008). Six Local Government Areas were randomly selected (two each from the three agricultural zones and the sample size of 250 respondents was determined by using the Proportionate Stratified Random Sampling (PSRS) formula as proposed by a Nworgu (1991). Analysis of Variance (ANOVA) was used to test the null hypothesis.

RESULTS AND DISCUSSION

The result of the study of selected mass media usage in three agricultural zones of Benue State to share farm information on rice signified that out of the 250 respondents, 83.3% used radio in zone A, 80.7% in zone B and 79.5% in zone C

(Table 1). Television usage, also, suggested 21.4% in zone A, 33.0% in zone B and 39.7% in zone C while mobile phone usage, showed 76.2% in zone A, 47.7% in zone B and 55.1% in zone C. There was a wider variation in the use of radio, television and mobile phone within zones A, B and C of Benue State, than between the zones (Table 1, Fig. 1).

Table 1: Frequency of selected mass media usage for obtaining information on rice in the three agricultural zones (A, B & C) in Benue state

Zones(n)	Mass Media					
	Radio		Television		Mobile Phone	
	Use (%)	Non use (%)	Use (%)	Non use (%)	Use (%)	Non use (%)
A(n= 84)	70 (83.3)	14 (16.7)	18 (21.4)	66 (78.6)	64 (76.2)	20 (23.8)
B(n= 88)	71 (80.7)	17 (19.3)	29 (33.0)	59 (67.0)	42 (47.7)	46 (52.3)
C(n=78)	62 (79.5)	16 (20.5)	31 (39.7)	47 (60.3)	43 (55.1)	35 (44.9)
250	203	47	78	172	149	101

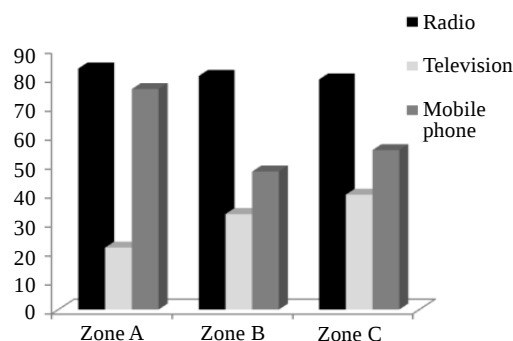


Fig. 1. Frequency (%) of Selected Mass Media Usage within each Geopolitical Zone (A, B and C) in Benue State

The study showed that the difference in the use of radio in relation to the respondents from each zone did not vary much as indicated in table 1. For television there seemed to be some variations while that of mobile phone showed greater variation.

The summary signified that zone A had the highest users of radio and mobile phone while zone C had the highest users of television. The result was contrary to expectation because zone B where the state capital is located was assumed to have more users of radio, television and mobile phone. However, it is possible that the result in zone B may have been negatively influenced by responses from the second Local Government

Area (Guma). It only goes to suggest that governments (local and state) and GSM service providers should articulate effective strategies to make usage in all parts of Benue state effective either in programming or provision of facilities.

Analysis of Variance (ANOVA), done at 0.05 level of significance, was used to test the hypothesis using the three (3) geopolitical/agricultural zones (A, B, C) in Benue State as the predictor variable and the three commonly used mass media technologies (Radio, Television and Mobile phone) as the response variables, one at a time (Table 2). In addition, the significance or otherwise of f-ratio was used as a guide in taking the final decision.

The result as shown in table 2 explained that the Sum of Squares (SS) between and within groups for the use of radio were 0.063 and 38.101 respectively, indicating that there was a wider variation in radio use within each zone than at zonal levels. The f-ratio (0.206) was found to be insignificant (0.814) thus, accepting the hypothesis that there is no significant difference in the use of radio for obtaining information on agriculture among the three geopolitical zones in Benue State.

The use of television for obtaining information on agriculture showed similar trend in use between and within groups. The SS specify 1.398 between the zones and 52.266 within each zone showing broader variation in television use within each zone than between the zones. This scenario could be explained by variations in location (urban and rural) and level of infrastructure within each zone. The f-ratio (3.305) was found to be significant (0.038) thus rejecting the hypothesis and concluding that there is significant difference in the use of television to obtain information on agriculture among the three zones in Benue State. It is expected that rural farmers may not have access to power supply and therefore, may not be able to watch television programmes as much as their professional mates in urban areas.

Mobile phone usage for agricultural information showed wider variation in use within each zone (SS = 56.488) than between the three zones (SS= 3.708). However, the f-ratio (8.108) in the use of mobile phone was found to be significant (0.000), thus rejecting the hypothesis and concluding that there is significant difference in the use of mobile phones to obtain information on agriculture among the three zones in Benue State.

The result of this study only goes to suggest that mass media utilization patterns differ according to geopolitical arrangements and this result corroborated Shen et al. (2009) whose ANOVA test indicated significant differences on media perception and media participation intention among four big cities (Beijing, Shanghai, Guangzhou and Xi'an) in China.

CONCLUSION

In the last two decades, rice graduated from a ceremonial to a staple food crop in many homes in Benue State and Nigeria as a whole. OLAM (2007) noted that about 5.4 million metric tons of rice are produced in Nigeria out of which only 2.3 million metric tons are locally produced suggesting that the remaining 3.1 metric tons are imported. Current trends reveal that the quantities of rice produced are grossly inadequate for local consumption due to shortfalls; prices are on the increase and the Federal Government of Nigeria is not willing to revert its decision on importation because of its depleting effect on the nation's foreign reserve.

It only goes to suggest that the issue of food security must be tackled from a holistic point and since farm information is critical in the production process studies on agricultural communication should be taken seriously. Farmers in the three agricultural zones are involved in rice production but their use of mass media in sharing information on rice varies and it is believed that this could have some negative impact in the production and even distribution of rice.

Table 2: ANOVA of the difference in mass media use for the three geopolitical zones in Benue state

<i>Mass media</i>	<i>Between samples</i>	<i>Sum of squares (SS)</i>	<i>df</i>	<i>f-ratio</i>	<i>Sig.</i>	<i>Decision</i>
Radio	Between Groups	0.063	2	0.206	0.814	Accept Ho
	Within Groups	38.101	247			
Television	Between Groups	1.398	2	3.305*	0.038	Reject Ho
	Within Groups	52.266	247			
MobilePhone	Between Groups	3.708	2	8.108*	0.000	Reject Ho
	Within Groups	56.488	247			

*Significant at 5%

RECOMMENDATIONS

It was recommended that Governments of various geopolitical areas should encourage farmer's use of these technologies to further enhance uniform farm knowledge that can contribute to increased output and farm income to farmers in all parts of the environment.

REFERENCES

- Abubakar YB 2007. Agricultural Research is Catalyst to Agriculture. *New Nigeria*. Wednesday July 11, P. 21.
- Ahamafule E 2008. Olam Double Rice Production in three years in Benue State. USAID MARKETS. <http://www.punchng.com/Articl.aspx?theartic=Art20081123351914>. (Retrieved June 10, 2010).
- Datta SK 1981. *Principles and Practices of Rice Production*. New York: John Wiley and Sons.
- Daudu O 2007. Rice Production Target in 800,000 tonnes shortfall. *The Nation*. Monday July 16, P. 30.
- Department of Planning and Statistics. 2004. *Market Calendar*. Makurdi, Benue State: Ministry of Finance and Economic Planning, pp. 1-7.
- Federal Republic of Nigeria. 2007. 2006 *National Population Census*. Official Gazette (Extraordinary), 94(4): 52.
- Foreign Agricultural Services 2008. *Grain: World Markets Trade*. United States Department of Agriculture. FG 88-08.
- International Rice Research Institute (IRRI) 1990. *IRRI Towards 2000 and Beyond*. Manila: IRRI.
- Lawal H 2007. Is Local Rice Gaining Acceptance? *New Nigeria*, July 8, P. 34
- Nwaorgu BG 1991. *Educational Research: Basic Issues and Methodology*. Ibadan: Oluseyi Press Ltd.
- OLAM. 2007. *Improved Package of Practices for Rice Production: Out Growers Training Manual for Rice Farmers in Benue State*. Abuja: USAID Markets.
- Shen F, Lu Y, Guo Z, Zhou B 2009. News Media Use, Perception, and Efficacy: A Multilevel Analysis of Media Participation in China. http://www.allacademic.com/meta/p_mla_apa_research_citation/2/3/0/5/7/pages230570/p230570-6.php. (Retrieved July 11, 2009)