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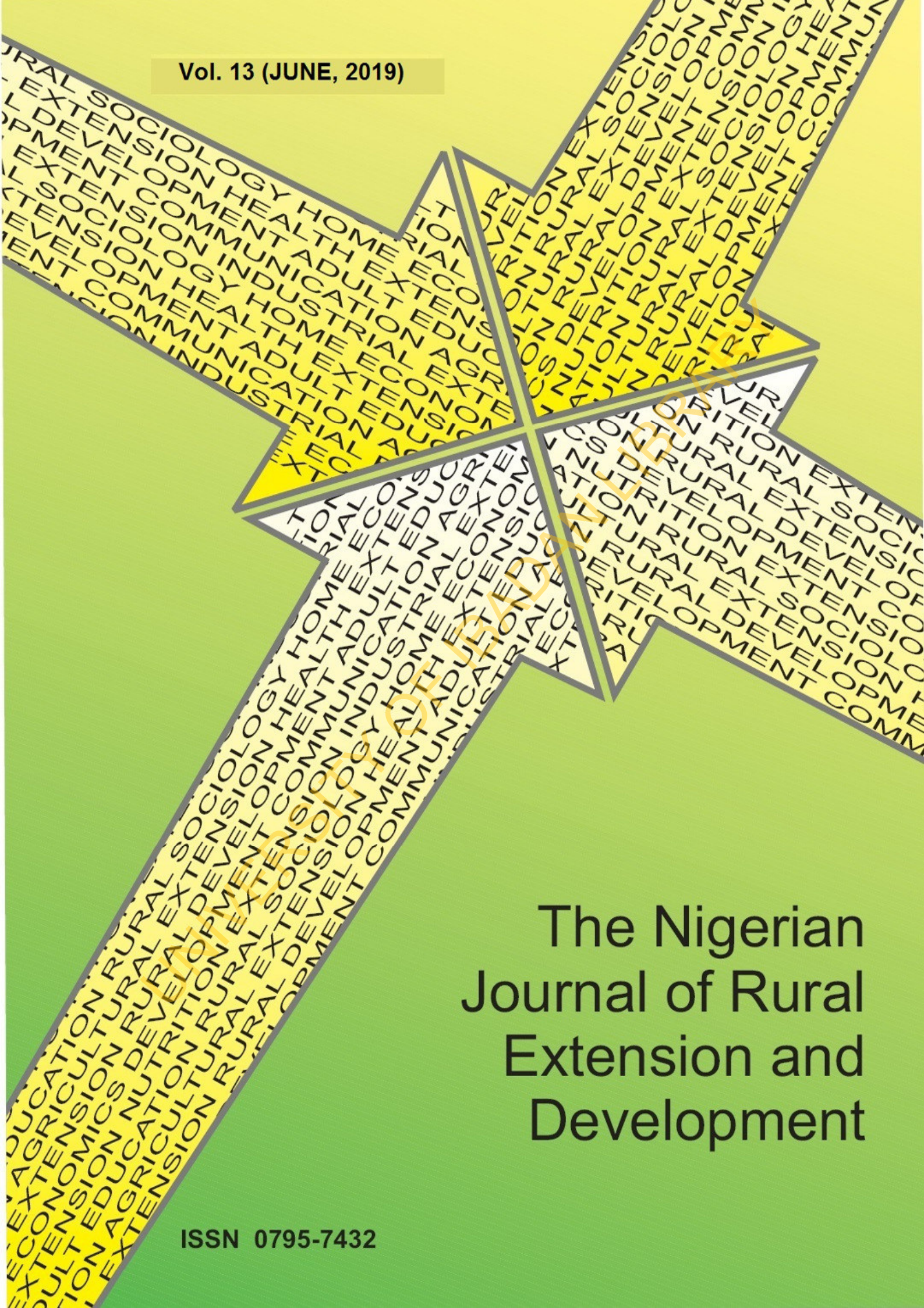

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Farmers' preference for agricultural radio programmes in Niono area of Segou, Mali

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ABSTRACT

This study examined farmers' preference for agricultural radio programmes in Niono area of Segou, Mali. Dataon farmers' radio set ownership, listening time and listenership of agricultural radio programmes were obtained from 205 randomly selected respondents. Data were analysed using descriptive (percentages) and inferential statistics (Chi-square and Pearson's Product Moment Correlation) at $\alpha=_{0.05}$. Most farmers had high radio set ownership (79%), preferred listening to radio in the evening (61.50%) but had low listenership status (60.5%). The respondents preferred listening to *Cikelaw ka Kene* from *Kaira* radio station ($\bar{X}$=1.2683). Farmers' radio set ownership (X^2 = 39.623), listening preferred time (r = 0.22) and their listenership status (r = 0.696) were significantly related to farmers' radio agricultural programme preference. Broadcast of *Cikelaw ka Kene* from *Kaira* radio station should be sustained, while relevant agricultural information should be targeted at the evening period to enhance listenership among farmers in the study area.

INTRODUCTION

Agriculture plays an important role in Mali's economic growth by giving employment to about 80% of the active population and contributes 30% to Malian Gross National Products (GNP) (National Directorate of Agriculture of Mali 2016). Livelihoods of many Malians are dependent on agricultural development, which could lead to food security. In this regard, Habtemariam (2004) states that a thriving agricultural economy is critical for reducing poverty, ensuring food security and managing natural resources. To this effect, agricultural extension is expected to play an acceleratory role.

Though, many actions or efforts have been made by several governments, donors or NGOs to make the Malian agricultural sector better and fit to the real needs of the rural dwellers. In spite of these efforts, Mali farmers are generally still grappling with many challenges that pose as a barrier to contribute effectively and sustainably to country's development. Some of the challenges faced include insufficient agricultural inputs, poor credits facilities and low technologies access due to inadequate or poor means of agricultural information system. This is in line with Oladele (2011) submission that lack of agricultural information is a key factor that has greatly limited agricultural advancement in developing countries.

Therefore, in order to make agriculture more profitable and attractive, the deployment of relevant communication system is necessary to bring agricultural stakeholders together to exchange views and experiences on agricultural improvement technologies. To do so, involvement of Information Communication Technologies (ICTs) transfer tools (especially radio) is required. It is common knowledge that radio is a powerful medium of disseminating accurate and timely agricultural information among farmers in third world countries. It is a vital and viable channel which could bridge the gap between farmers and researchers as well as improve access to agricultural technologies and their subsequent utilisation among farmers. According to Torimiro and Alfred (2008), communication is the process whereby messages are passed from the source to the end users with the aim of changing the attitude of the receiver in a desired direction.

In Mali, especially in Niono area, the radio is a powerful tool through which the inhabitants receive various agricultural information through six agricultural programmes. The programmes are: *Cike Kunafoni* ORTM(Office of Radio and Television of Mali), *Cikelaw ka Kene Sahel, Cikelaw ka Kene Cesiri, Cikelaw ka Kene Office, Cikelaw ka Kene Kaira and Cike Kunafoni Kolon*. Thus, the programmes are used by researchers and extension agents to overcome the communication chasm occasioned by limited number of extension agents.

Although the programmes are good means of broadcasting agricultural information to large audiences in a timely manner, regardless of the distance, sex and race etc., it is important that the diffused programmes take into account the felt needs of the end users. To have an understanding of the programmes performance in this regard, an assessment of farmers' agricultural radio programmes preference is required to get empirical data which could contribute to enhance the quality

of diffused programmes, hence the need for this study.

Objectives of the study

Mainly, this study assessed farmers' preference for agricultural programmes in the study area, while it specifically tried to:

1. describe the socio-economic characteristics of farmers in the study area;
2. determine farmers' radio set ownership in the study area;
3. ascertain the time of listening to agricultural programmes on radio in the study area;
4. examine farmers' listenership status of agricultural programmes on radio in the study area;
5. assess the relationship between farmers' radio set ownership and programme preference;
6. investigate the relationship between time of listening to agricultural information programmes and programme preference; and
7. examine the relationship between farmers' listenership status and programme preference in the study area.

METHODOLOGY

The study was carried out in Niono area of Segou. Niono is located in Segou, Mali, on latitude: 14° 51' 59.9" (14.8666°) north, longitude 6° 1' 36.5" (6.0268°) west, and an average elevation of 274 meters (899 feet) above sea level. Niono is a town and commune among seven others in Segou region of Mali. It has an approximate area of 23,063 square kilometres and lies on the northwest edge of the Inner Niger Delta, near the main channel of the Niger River. Niono has 12 subdivisions and 227 surrounding villages. According to General Census of the Population and the habitat in Mali (2009), it had a population of 365,443 inhabitants. The main livelihood activities of the people are animal production, crop farming, agroforestry, and fishing.

All farmers who were able to access to agricultural information programmes on radio in Niono constituted the target population of this study. A multi-stage sampling procedure was used to select respondents for the study. At the first stage, 30 percent of the subdivisions of Niono were randomly selected to give us four rural areas out of 12 i.e. Niono, Siribala, Kala-Siguida and Sirifila Boundy. In the second stage, 10 percent of the villages were also randomly selected which amounted to eight villages (two villages each from the four subdivisions). At the third stage, 13 percent of farmers in the selected villages were randomly selected which gave 205 respondents.

Interview schedule was used to collect data from the respondents in the study area. The schedule consisted of open-ended andclosed-ended questions. Moreover, facevalidity was conducted on the instrument by experts in the Department of Agricultural Extension and Rural Development, University of Ibadan, Nigeria.

Measurement of variables

Farmers' listenership status was derived from a combination of scores on listening frequency as well as extent of listening to the agricultural programmes after standardising the scores. Listening frequency was measured by asking respondents to indicate on a three-point scale of never, occasionally and always which were score 0, 1 and 2 respectively. However, respondents listening extent was measured on a four-point scale of not at all, just a little, large part and whole programme. These were scored 0, 1, 2 and 3 respectively. The scores were then categorised into high and low listenership status based on the mean score of1.3951. The minimum score was 1.00, while the maximum score was2.00.

In addition, farmers radio set ownership and their time of listening to agricultural programmes were respectively measured at ordinal level as yes (1) or no (0) and morning (1), afternoon (2), evening (3) or both morning and evening time (4) respectively.

Farmers 'agricultural programmes preference was measured by asking them to indicate their preferences on a three-point scale of not preferred (0), less preferred (1) and preferred (2). The mean scores were used to rank them to indicate famers' programme preference.

Results and discussion

Socioeconomic characteristics - Table 1 shows that most (39.5%) of the respondents fell between the ages of 48- 61 years with the mean age being 47.3±12.6. This implies that the respondents were mostly middle aged persons. This category of people constitutes the main active farm workers due to their strength and energy. In addition, they were mostly males (83.9%). This suggests that males were mostly engaged in farming activities in the study areas. This could be due to the fact that male farmers have better access to farmland, inputs, and support activities linked to farm business in the area. The majority was married (93.7%), a situation which could spur them into searching for useful agricultural information

needed to break even and take better care of their dependents.

Most of them had no formal education (82%) and this suggests that local languages or strategies should be used to disseminate any agricultural radio programme in the study area, so that the programmes can be better comprehended by the farmers. Badiru (2013) observed that a significant gap between the broadcasters' knowledge and their listeners should not be neglected throughout the information disseminating process so that meaningful and mutual understanding can be ensured among participants in the agricultural information system. In the same vein, Okwu, Kuku, and Aba (2007) opined that an individual's level of education affects his or her access, comprehension, and adoption of modern agricultural practices. The respondents were predominantly Muslims (97.1%). This implies that the mosques could be a veritable outlet for agricultural information dissemination in the area.

Most of the respondents were engaged in crop farming activities (98.5%) and animal husbandry (51.2%). This implies that farmers in the study area are not restricted to only one agricultural enterprise, a situation that is quite important to their livelihood improvement. Interestingly, the mean household size of the respondents was 14.5± 10.5 persons. This may be explained by the fact that most of the rural households in Mali are polygamous which contributes to increasing the family size with the intention to use them as active workers in farming activities.

The result also shows that, farmers in the study area had long years of farming experience with a mean of 29.1± 13.7 years. This suggests that farmers in the study area are experienced enough to choose the relevant agriculture radio programmes which could help them improve their work and therefore enhance their livelihood status. Agwu (2004) had earlier opined that farmers with many years of farming experience have a higher technology adoption rate, which could increase their level of acceptance of new ideas as a means of overcoming production constraints and hence facilitate increased productivity. Moreover, majority (76%) of the respondents earned between 500 to 101,834 FCFA monthly from agricultural activities. This implies that farmers in the study area are poor and cannot satisfy their household needs from their farming activities income. Indeed, livelihood diversification activities should be promoted among farmers in study area which could strengthen their resilience to poverty and food insecurity.

Table 1: Distribution of the respondents based on their socio-economic characteristics

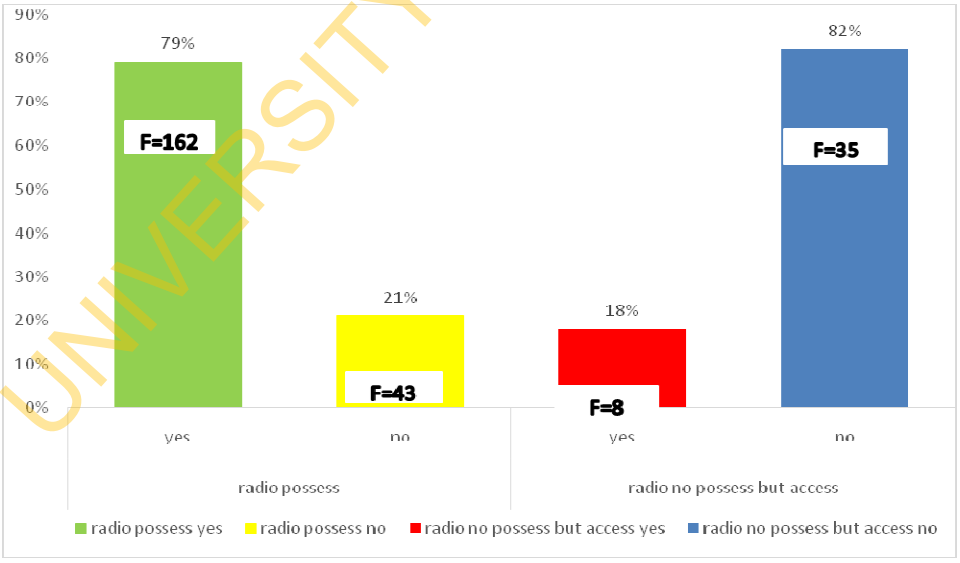
Variable	Frequency	Percentage	Mean	Standard Deviation
Age				
20-33	34	16.6	47.3	±12.6
34-47	59	28.8		
48-61	81	39.5		
62-75	30	14.6		
76-89	1	0.5		
Sex				
Male	172	83.9		
Female	33	16.1		
Marital status				
Single	8	3.9		
Married	192	93.7		
Widowed	5	2.4		
Education attainment				
No formal education	168	82		
Primary education	30	14.6		
Secondary education	7	3.4		
Religion status				
Muslim	199	97.1		
Christian	4	2		
Traditional	2	1		
Agricultural enterprise engagement				
Crop farming	202	98.5	0.9854	
Animal husbandry	105	51.2	0.5122	

Variable	Frequency	Percentage	Mean	Standard Deviation
Fishery	5	2.4	0.244	
Storage	27	13.2	0.1317	
Marketing	61	29.8	0.2976	
Processing	7	3.4	0.341	
Poultry	18	8.8	0.0878	
Family size				
2-13	116	56.6	14.5	±10.5
14-25	61	29.8		
26-37	19	9.3		
38-49	7	3.4		
50-61	1	0.5		
62-73	1	0.5		
Farming experience				
1-15	42	20.5	29.1	±13.7
16-30	84	41		
30-44	52	25.4		
45-59	23	11.2		
60-74	4	2		
Monthly income				
500-101834	162	79		
101835-203169	23	11.2		
203170-304504	12	5.9		
304505-405839	4	2		
405840-507174	4	2		

Source: Field survey (2017)

Farmers' radio set ownership and time of listening to agricultural programmes on radio

Farmers' radio set ownership - As indicated in Figure 1, most (79%) of the respondents owned radio sets. This implies that the populace of the study area were potentially able to get more information about agriculture which could be a positive means to increase their production and productivity**.** This is in line with Badiru (2013)'s findings in a similar survey in southwestern Nigeria which showed that ownership of radio set was high among rural dwellers.



Source: Field survey (2017)

Figure 1: Distribution of respondents based on radio set ownership

Farmers' agricultural program listening time - As indicated in Figure 2, the result shows that, the respondents listened to radio throughout the day from morning till evening. In fact, many (59.50%) of the respondents listened to radio in the morning. This is likely due to the fact that most of the agricultural information are broadcasted in the morning time which is pushing the farmers to conform due to programme availability. Meanwhile, further analyses in the same figures, show that 61.50% of the respondents preferred to listen to radio in the evening time. This is in line with the finding of Badiru (2013) that the most preferred listening periods to radio among rural dwellers in southwestern Nigeria were in the morning and evening time.

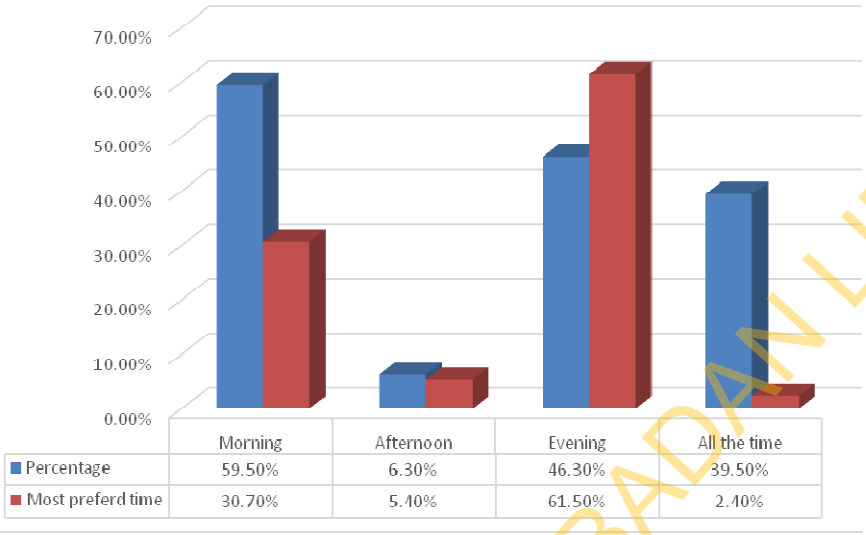


Figure 2: Distribution of the respondents based on their time of listening to agricultural programmes

*Multiple response option

Source: Field survey (2017)

Farmers' listenership status of agricultural programmes on radio

Farmers 'listenership frequency - Table 2 shows that, *Cikelaw ka Kene* from *Kaira* radio station and *Cike Kunafoni* available on ORTM were the most frequently listened to by farmers in the study area as they were ranked 1st ($\bar{x}$= 1.2000) and 2nd ($\bar{x}$= 0.8633) respectively. This high listenership frequency could considerably affect the users' activities positively.

Table 2: Distribution of respondents based on their listenership frequency to agricultural information programme on radio

Programmes	Never %	Occasionally %	Always %	Mean	Rank
Cike Kunafoni ORTM	41.50	30.20	28.30	0.8683	2nd
Cikelaw ka Kene Sahel	53.20	21.50	25.40	0.7220	3th
Cikelaw ka Kene Cesiri	73.70	16.10	10.20	0.3659	5th
Cikelaw ka Kene office	52.20	25.40	22.40	0.7024	4th
Cikelaw ka Kene Kaira	29.30	21.50	49.30	1.2000	1st
Cike Kunafoni Kolon	81	14.10	4.90	0.2390	6th

Source: Field survey (2017)

Farmers 'listenership extent to the agricultural programs on radio - Table 3, results show that most of the farmers in Niono area listened to the whole agricultural information programme of *Cikelaw ka Kene* from *Kaira* and *Cike Kunafoni* from ORTM which were respectively ranked 1st ($\bar{x}$= 1.8488) and 2nd ($\bar{x}$= 1.3707). This result is quite plausible because it implies that the more the

programmes are preferred the higher the audiences will be fostered to listen to the whole of the programmes.

Table 3: Distribution of the respondents based on their listenership extent to agricultural information programme

Programmes	Not at all	Just a little	Large part	Whole	Mean	Rank
Cike Kunafoni ORTM	41.50	14.10	10.20	34.1	1.3707	2nd
Cikelaw ka Kene Sahel	53.70	10.70	6.80	28.8	1.1073	3th
Cikelaw ka Kene Cesiri	72.70	8.80	3.90	14.6	0.6049	5th
Cikelaw ka Kene office	52.70	9.80	13.70	23.9	1.0878	4th
Cikelaw ka Kene Kaira	29.30	6.80	13.70	50.2	1.8488	1st
Cike Kunafoni Kolon	82	5.40	7.30	5.9	0.3756	6th

Source: Field survey (2017)

Listenership status of the respondents

Categorisation of the listenership status scores shows that most of the respondents (60.5%) had low listenership status to farm broadcasts as indicated in Table 4. This implies that many of them did not have sufficient listenership to many of the agricultural programmes present in the study area. This result is in line with Badiru (2013) which reported that most of the rural listeners in the Southwestern region had low listenership status of rural development broadcasts.

Table 4. Categorisation of listeners based on listenership status (frequency and extent) of agricultural radio programmes

Listenership status	Frequency	Percentage
Low	124	60.5
High	81	39.5
Total	205	100.0

Mean = 1.3951, minimum = 1.00, maximum = 2.00, SD= 0.49007

Farmers' preference for agricultural radio programmes

As indicated in Table 5, the mean scores show that most of the respondents preferred listening to *Cikelaw ka Kene* from *Kaira* radio station which was ranked as 1st due to having the highest mean ($\bar{x}$=1.2683). Also, *Cike Kunafoni*' available on ORTM occupies the 2nd position ($\bar{x}$=1.2683). This fact is likely to be related to the credibility and relevance of the programmes among farmers.

Table 5: Distribution of the respondents based on preference for agricultural information programmes

Programmes	Not preferred	Less preferred	Preferred	Mean	Rank
Cike Kunafoni ORTM	41.5	18.5	40.0	0.9854	2nd
Cikelaw ka Kene Sahel	52.7	16.6	30.7	0.7805	3rd
Cikelaw ka Kene Cesiri	73.7	12.7	13.7	0.4	5th
Cikelaw ka Kene office	52.7	21.5	25.9	0.7317	4th
Cikelaw ka Kene Kaira	29.8	13.7	56.6	1.2683	1st
Cike Kunafoni Kolon	81	10.7	8.3	0.2732	6th

Source: Field survey (2017)

Test of relationship between farmers' radio set ownership, preferred listening time and agricultural radio programmes preference

Results in Table 6 show that farmers' radio set ownership (X^2= 39.623, p = 0.023) and their preferred listening time (r=-0.22**, p=0.04) were significantly related to preference for agricultural

radio programmes. This implies that ownership of radio sets could influence preference for a particular programme, while airing a programme within the preferred listening time could also enhance listeners' preference for such a programme. Therefore, all stakeholders in agricultural programming need to pay closer attention the preferred listening time of their audiences to enhance programme preference and listenership.

Table 6. Chi-square and Pearson's Product Moment Correlation (PPMC) analyses of the relationship between radio set ownership, listening preferred time and agricultural radio programmes preference

Variable	χ^2 values	r-values	df	p-value	Decision
Ownership	39.623		24	0.023	S
Programme listening time preference		0.22*		0.04	S

Level of Significant=0.05

Test of relationship between farmers' listenership status and their preference of agricultural radio programs.

Table 7 reveals that there was a significant relationship between respondents' listenership status and their preference of agricultural radio programmes (r = 0.696*, p=0.000). This implies that the respondent's listenership status has a relevant influence on their preference of agricultural radio programmes. Thus, a programme that enjoys high listenership status is likely to be preferred by the audience.

Table 7. PPMC analyses of the relationship between listenership status of farmers and their preference for agricultural radio programmes

Variable	r-values	p-value	Decision
Listenership status versus agricultural programmes preference	0.696*	0.000	S

CONCLUSION AND RECOMMENDATIONS

The study concluded that most of the respondents had radio sets and preferred listening to agricultural programmes in the evening time. In the same vein, respondents preferred listening to *Cikelaw ka Kene* from *Kaira* and *Cike Kunafoni* from ORTM radio stations. However, agricultural radio programmes generally had low listenership status among the respondents. Agricultural broadcasters should target their broadcasts at the evening time in order to enhance programme preference and listenership status among the end users. Meanwhile, *Cikelaw ka Kene* from *Kaira* and *Cike Kunafoni* from ORTM radio stations could be used as the flagships by the agricultural decision makers to broadcast useful agricultural information in the evening time among farmers in Niono.

REFERENCES

Agwu, A. E. (2004). Factors infringing adoption of improved cowpea production technologies in Nigeria. *Journal of International Agricultural Extension Education*, 1(1), 81–88.

Badiru, I. O. (2013). Sponsorship and listenership of rural development broadcasts on radio in Southwest Nigeria. Thesis, Department of Agricultural Extension and Rural Development, University of Ibadan, Nigeria. 185 pages

Habtemariam, A. (2004). The comparative influence of intervening variables in the adoption behavior of maize and dairy farmers in Shashemene and Debre Zeit, Ethiopia. Thesis, University of Pretoria, Pretoria. 294 pages

National Directorate of Agriculture of Mali (2016). Plan for agricultural campaign in Mali. National Directorate of Agriculture, Mali. 43 pages

Okwu, O. J., Kuku, A. A. and Aba J. I. (2007). An assessment of use of radio in agricultural information dissemination: a case study of radio Benue in Nigeria.*African Journal of Agricultural Research*. Vol. 2 (1), pp. 014-018, January, 2007.http://www.academicjournals.org/AJAR

Oladele, O. I. (2011). Effect of information communication technology on agricultural information access among research, extension agents and farmers in South Western Nigeria. *Journal of Agriculture and Food Information. 12: 167-176.*

Oyesola, O. B. and Oladeji, J. O. (2006). Spatial interactions of rural dwellers and participation in community development activities in Oyo State. A proceedings of the eleventh annual national conference of the Agricultural Extension Society of Nigeria 3rd-6th April, 2006. Pp.63-91.

Torimiro, D. O., and Alfred, Y. (2008). Communication in agricultural extension. In O. A. Akinyemiju & D. O. Torimiro & (Eds.), *Agricultural extension: A comprehensive treatise*, (pp. 133–141). Lagos, Nigeria: ABC Agricultural Systems Ltd