



ASSESSMENT OF FARMERS' PERCEIVED EFFECTIVENESS OF RADIO AGRICULTURAL PROGRAMMES IN JIBIA LOCAL GOVERNMENT AREA, KATSINA STATE

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ABSTRACT

This study assessed the farmers' perception on effectiveness of radio and television agricultural programmes in Jibia Local Government Area of Katsina State. The data was collected from a sample of one hundred and fifteen respondents selected through a simple random sampling technique through the use of structured questionnaire. The data were analysed using descriptive statistics while Chi square analysis was used to establish association between the use of radio and television and their perceived effectiveness on agricultural information dissemination. The findings of the study revealed that majority (92%) of the farmers were males and within the age range of 35–54 years, with 42.3% having a family size of 5-9 individuals. Only 42% of them had formal education with mean farming experience of 25 years. Also, the study shows majority of the respondents acknowledged gaining some new agricultural knowledge through the programmes on radio and television. Base on the findings of the study, it is concluded that radio and television are effective media for disseminating agricultural information to farmers. The study recommended that the public and non-governmental organizations (NGOs) should endeavour to sponsor some agricultural programs especially those that have strong bearing with the needs and interest of the farmers.

Keywords: Farmers perception; effectiveness; radio; television

INTRODUCTION

Radio and television are two greatest inventions of science which revolutionized communication among all sectors of human lives including agriculture. Radio was invented

by Italian inventor Guglielmo Marconi in the 1890, (Eistern, 1998). Television was invented by Scottish inventor John Logie Baird in 1925 (National Academy of Sciences, 2018). Mass communication is targeted for the general people for creating awareness and technology dissemination. These technologies may relate to crops, livestock, fisheries, forestry and meteorological information that impact on agricultural development (National Academy of Sciences, 2018).

The role of radio was dominant in the past but presently the role of television in agricultural development is increasing day by day as television sets are accessible easily with reasonable cost (National Academy of Sciences, 2018). Rural communities require information on the supply of inputs, new technologies, early warning system (drought, pest and disease), credit facilities, market, price and their competition. Such information, knowledge, technology and services will contribute to expanding and energizing agriculture (Munyua, 2004). Absence of a functional agricultural information delivery system is a major constraint to agricultural development in Nigeria (Okwuet *et al.*, 2007).

Radio is one broadcast medium which almost all experts identify to be the most appropriate for rural emancipation programme. It beats distances, and thus has immediate effect. It has been identified as the only medium of mass communication rural population is very familiar with (Kuponiyi, 2000). According to Kuponiyi (2000) radio and television have the following advantages: they take the message with increased efficiency right to where you want it without depending on such factors as good/network of roads, fuel supplies or serviceable transport; they do not demand high levels of literacy in the target system in order to reach them in remote areas with timely information and they can reach the whole population at the same time hence giving the whole population an equal opportunity or access to the information.

Dissemination of agricultural knowledge in developing countries needs the consideration of channel and associated factors which may influence the delivery of the message. For example, rural areas in most of the developing countries have poor and impassable roads mainly during the rainy season when agricultural activities are at their climax. This limits the dissemination of agricultural knowledge packaged in print media (Baig and Aldosari, 2013). Likewise, most rural areas in developing countries do not have access to ICT networks and computers. This limits the use of web-based media in disseminating agricultural knowledge. Moreover, disseminating agricultural knowledge through face to face communication channel in rural areas of Nigeria is limited by inadequate extension agents as the extension agents-farmer ratio of 1 to 3500 is reported in Oyo State as against the targeted ration of 1 to 1000 for the developing countries (Oyegbami and Fabusoro, 2013). Radio and television stations have a great potential of being able to reach more people at a given time because broadcasting is made possible through satellites and antennas (Oyegbami and Fabusoro, 2013).

Farmers need to be informed and educated about improved agricultural practices to enable them increase their productivity and income. Several channels such as extension agents, individuals, farm to farm contact, print media (newspapers, magazines, newsletters, leaflets, pamphlets, and posters) and electronic media (radio, television, film, slides and filmstrips) have been widely used to disseminate information to farmers (Kakade, 2013). The effectiveness of radio and television and their responses by the farmers are very important area of concern in an agricultural extension programmes (Mttega, 2018). Even though various media systems are used in information dissemination in agricultural extension programmes,

the use of radio and television remains the most widely available means of disseminating agricultural information in the study area.

It is based on aforementioned problems that this study was conducted to assess the farmers' perceived effectiveness of radio and television agricultural programmes in Jibia Local Government Area, Katsina State. It specifically described the socio-economic characteristics of the farmers, assessed the frequency of listening to radio and television programmes and determined the relationship between use of radio and television and their perceived effectiveness on agricultural information dissemination.

MATERIALS AND METHODS

Study Area

The study was conducted in Jibia Local Government Area (LGA) of Katsina State. It lies between latitudes 11°08'N and 13°22'N, and longitudes 6°52'E and 9°20'E. Jibia LGA is bordered by Kaita LGA to the east, Katsina and Batagarawa LGAs to the south, Batsari LGA to the south east, Zamfara state to the west and Niger Republic to the north. The area has a total land mass of 1,037 km² (Kasim, 2013). Jibia LGA has a projected population of 208,441 (NPC, 2014). Hausa and Fulani are the two major tribes in the area.

Agriculture is the major occupation in the study area, though still on the subsistence level, mostly characterized by low productivity, use of crude implements (hoe, cutlass and rake) and depends on family labour (Kasim, 2013). Shifting cultivation is relatively practiced. Livestock production is in a considerable amount in the study area, animals reared include cattle, Sheep, goats, poultry. Arable farming is well practiced and the crops grown include millet, guinea corn and cowpea, others are sesame, groundnut and cassava. Local craft such as Blacksmithing, weaving, dying and leather works also play an important role in the economic life of the inhabitants of the study area. Rainfall in the study area is usually erratic and is associated with periodic drought. The duration of the rainfall is between May and October with the mean annual rainfall ranging between 500mm-1,000mm, the minimum and maximum temperatures are 15°C and 39°C respectively. The Harmatan, which is dry, cold and laden winds is experienced between December and February. The area is within the Sudan Savannah zone (Kasim, 2013).

Sampling Procedure and Sample Size

A multistage random sampling technique was used to collect data for this study. Jibia LGA was targeted and all the two districts in the LGA were considered namely Jibia and Daddara. In the first stage, ten out of 108 villages (9.0 %) were selected. The villages were Magama, Kukar Babangida, Mazanya, Farfaru, Danchafa, Riko, Daga, Ginzo, Bugaje and Kusa. In the second stage, 115 farmers were selected out of 14,400 (0.8%) to give the sample size for the study.

Data Collection and Analysis

Data for this study were obtained from both primary and secondary sources. The primary data were collected from the respondents directly with the aid of structured questionnaire and interview schedules. The secondary information was restricted to the information obtained from the official records and related literature such as projects,

seminars, journals, textbooks and other relevant published materials. Descriptive statistics (frequencies and percentages) and Chi-square were used to achieve the objectives of the study. The statistical tool is expressed as:

$$X^2 = \sum \frac{(O-E)^2}{E}$$

Where:

X^2 =Chi-square, Σ =Summation of, O= Observed variable; and E= Expected value of variable

RESULTS AND DISCUSSION

Socio-economic Characteristics of the Respondents

Sex: The result in Table 1 indicated that majority (92.2%) of the farmers were males. Only 7.8% of them were females. This may be attributed to either the stress with farming, division of labour based on gender or low access of women to lands due to their cultural background as well as prevailing norms and values. This finding is in line with Salihu (2006) who reported that men dominated the agricultural workforce in North-western region of Nigeria.

Age: Findings in Table 1 revealed that majority (65.3%) of the farmers fell within the age group of 35-44 year, 1.8% of the respondents fell within 55 years and above and the mean age was 38.6 years. It implies that most of the farmers were within their economically active ages. This finding is in accordance with that of Irfan *et al.* (2009) which reported that more than half (50.4%) of the respondents were within the economically active age group of 35-44 years.

Marital status: The result showed that majority (78.3%) of the farmers were married, 14.8% of them were single and 7.0% were widowed (Table 1). The high percentage of married farmers in the study area may be attributed to the socio-cultural and religious belief that considers a married person as a full, respective and more responsible human being.

Educational attainment: Table 1 further revealed that more than half (54.8%) of the farmers had Islamic education as their highest educational attainment, 22.6% of them had secondary education, 11.3% of the respondents had tertiary education, 7.8% and 3.5% of them had primary and adult education respectively. An educated individual is expected to learn how to operate radio, television and even more sophisticated satellite. An individual's level of education was found to affect his or her access, comprehension and adoption of modern agricultural practices (Okwu, 2007).

Farm size: The study findings also showed that majority (67.6%) of the farmers had only 0.5-2 hectares of farm land, 24.4% of them had 2.5-4 hectares and 8.7% had more than 4 hectares of farm land. The average farm size was 2.1 hectares (Table 1). This finding indicated that majority of the farmers were engaged in subsistence or small scale farming which is not favourable for mechanization. This finding corroborates that of Okwu *et al.* (2007) which reported average farm size of 2.7 hectares.

Household: It was also depicted that 42.3% of the farmers had a household size of 5-9 persons, 32.2% had 1-4 persons, 19.9% and 5.2% had 10-14 and 15 and above persons, respectively (Table 1). This implies that majority of the farmers had at least 5 household

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members in their families. The mean household size was 6.8. This finding is in line with that of Mtega (2018) which showed average household size of 6.1 persons. Large household size is found to be more advantageous for labour on farm. Furthermore, having larger household size will make an individual to be considered more honoured, respective and with high social status.

Farming experience: Table 1 showed that 14.7% of the farmers had farming experience of >5 years, 33.2% had farming experience of 5-19 years, 33.1% had farming experience of 20-34 years and 19.0% had farming experience of 35 above years. The mean farming experience was 19 years. A farmer who spent many years in farming should acquire more experience on farming practices and should be more knowledgeable and skilful in prevention and control of certain pests and diseases of plants and animals. Balarabe (2012) has observed that farming experience might help farmers boost crop production through knowledge acquired over the years in rice farming.

Table 1: Distribution of farmers according to socio-economic characteristics (n=115)

Variables	Frequency	Percentage	Mean
Sex			
Male	106	92.2	
Female	9	7.8	
Age (years)			
35-44	71	65.3	38.6
45-54	42	34.8	
55 and above	2	1.8	
Marital status			
Married	90	78.3	
Single	17	14.8	
Widowed	8	7.0	
Educational status			
Non-formal education	67	58.3	
Primary education	9	7.8	
Secondary education	26	22.6	
Tertiary education	13	11.3	
Farm size (hectares)			
0.5-2	77	67.6	2.1
2.5-4	28	24.4	
>4	10	8.7	
Household size			
1-4	37	32.2	6.8
5-9	49	42.3	
10-14	23	19.9	
15 and above	6	5.2	
Farming experience (years)			
<5	17	14.7	19
5-19	38	33.8	
20-34	38	33.8	
35 and above	22	19.0	

Source: field survey, 2014*Multiple responses

Frequency of Listening to Radio Programmes

Frequency of radio listening: Result in Table 2 indicated that majority (95.7%) of the farmers listened to radio programmes every day, while only 4.3% of them listened to radio programmes weekly. This result is in line with Mtega (2018) who reported that majority of farmers used radio either regularly or occasionally as a source of agricultural knowledge. This may be attributed to the fact that radio is more portable, cheaper to purchase and easier to operate.

Table 2: Distribution of farmers based on frequency of listening to radio programmes

Listening to radio programmes	Frequency	Percentage
Daily	110	95.7
Weekly	5	4.3
Total	115	100.0

Source: field survey, 2014

Frequency of Watching Television Programmes

The study findings revealed that 49.6% of the farmers watched television on monthly basis, 27.8% of them watched television on weekly basis, while only 21.7% of them watched television on daily basis (Table 3). This result implies that majority of the farmers do not watch television on daily basis like the radio. It also indicates that television cannot be a liable channel of disseminating agricultural information to the farmers. This is in line with Mtega (2018) who reported that 40.4% of farmers watched television either regularly or occasionally as a source of agricultural knowledge. This may be attributed to the less affordability and portability of television set by the respondents and also due to the problem of power supply.

Table 3: Distribution of the farmers based on frequency of watching television programmes

Watching television	Frequency	Percentage
Monthly	57	49.6
Weekly	32	27.8
Daily	25	21.7
Total	115	100.0

Source: field survey, 2014

Farmers' Perceived Effectiveness of Radio and Television Agriculture Related Programmes

This study finding indicated that the entire respondents considered *Noma tushen arziki* (farming, a foundation of wealth), *Aikin gona* (another terminology for farming) and *Girke-girke* (a program on cookerries) as very effective. Also, 99.1% of the respondents considered *Da-ruwan ciki* and *Na duke* (also terminologies referring to farming) as very effective programmes. *Da ruwan-ciki*in particular is a radio and television program dealing with awareness on activities of Community and Social Development Project (C.S.D.P). These

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activities include projects such as construction of boreholes, drainage, culvert and drinking facilities for livestock. This finding is in line with Chhachhar *et al.* (2012) who found that majority of farmers' perceived radio and television as the most effective media to transfer agricultural information in Sindh, Pakistan.

Table 4: Distribution of farmers according to perceived effectiveness of radio and television agriculture related programmes

Variables	Frequency	Percentage
<i>Na duke</i>		
Very effective	114	99.1
Effective	1	0.9
Ineffective	0	0.0
<i>Noma tushen arziki</i>		
Very effective	115	100.0
Effective	0	0.0
Ineffective	0	0.0
<i>Aikin gona</i>		
Very effective	115	100.0
Effective	0	0.0
Ineffective	0	0.0
<i>Da ruwan ciki</i>		
Very effective	114	99.1
Effective	1	0.9
Ineffective	0	0.0
<i>Girke-girke</i>		
Very effective	115	100.0
Effective	0	0.0
Ineffective	0	0.0

Source: field survey, 2014

Relationship between Use of Radio and Television and their Perceived Effectiveness on Agricultural Information Dissemination

The chi-square analysis in Table 6 depicts a significant relationship between use of both radio and television and their perceived effectiveness in disseminating agricultural information with p-values of ($p < 0.01$) and ($p < 0.05$) respectively. This implies that radio and television are effective media for disseminating agricultural information among the farmers.

Table 5: Relationship between use of radio and television and their perceived effectiveness on agricultural information dissemination

Variables	X ² values	Df	P-values	Decision
Radio	15.4	4	0.000**	Ho-rejected
Television	9.7	10	0.024*	Ho-rejected

*Significant at 0.05%; **Significant at 0.01%; X²= Chi-square calculated value; Df= Degree of freedom

CONCLUSION

Base on the findings of this study, it can be concluded that radio and television are effective media of communication and effective tools for disseminating agricultural information to the farmers in the study area. Findings of this study will be of great importance in providing an insight on the effectiveness of radio agricultural extension programme. Finally, the findings of this research will of much importance for the media stations (especially, Radio and Television Stations) in improving their services by using the suggestions made.

Therefore, the study offers the following recommendations: there is need for more effort in providing more agricultural information programs to farmers through radio and television; the public and non-governmental organizations (NGOs) should endeavour to sponsor some agricultural programs especially those that have strong bearing with the needs and interest of the farmers and the present situation of power supply should be improved to the extent of reaching all the rural populace; others include radio and television stations agricultural programs presenters should be well trained, especially on modern ways of presenting agricultural information to the rural populace; furthermore, signal from the radio and television stations should also be improved.

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