

Assessment of the Effects of Radio Listening Programme of Farmers on Agricultural Development in Enugu State, Nigeria

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Abstract: The study assessed the radio listening programme of farmers in Enugu state. A stratified random sampling method was used in selecting a total of 115 respondents from the three zones in Enugu State. Frequency counts, percentages, means, standard deviation and chi-square were used in analyzing the generated data. Findings revealed that 65.2% of the respondents were male, 72.2% were married and 68.7% were between 41 and 60 years. Furthermore, findings revealed that 96.5% of the respondents own a radio set, 93.0% listens to radio and 73.9% listens to radio at least twice a day. Both radio stations (coal city and cosmo fm) were preferred by the respondents (46.1%). Results of the inferential statistics (chi-square reveals that there was no significant relationship between; sex and farmers radio listening habits ($x=0.142$ $p>0.05$), marital status and radio listening habits ($x=0.058$ $p>0.05$) educational status and radio listening habits ($x=0.466$ $p>0.05$) but membership of association, contact with extension agent, frequency of contact and sources of credit had a significant relationship with radio listening habit of respondents. It was therefore recommended that research messages should be translated into simplest language possible and translated to the prevalent languages.

Key words: Agricultural development • Radio Listening pattern • Farmers • Enugu State and Nigeria

INTRODUCTION

The yield level achievable in most farm both small and large have continued to be far below that which is obtained in most agricultural research stations in Enugu State.

This however has been attributed to poor exposure of farmers to appropriate agriculture information and have been of great concern to agricultural administrators, policy makers and agricultural development practitioners [1] development will continue to elude Nigeria unless appropriate and different kinds of information on agricultural innovations are effectively transmitted to the farming population [2]. It is therefore necessary to bridge the gap between available knowledge on improved technologies actual practice, effective information delivery service which is the missing link between the research extension interface and practical application of the results by the peasant farmers [3]. Through

various communication media are been used to transmit agricultural information to farmers in Nigeria in line with the national policy on agriculture, notable among the media are farm magazine, leaflets newsletter, newspapers, pamphlets, radio and television among other [4].

Radio has been considered as the most important and most preferred tool of mass communication in Nigeria [5].

Radio broadcasting is essentially an extension teaching method which is categorized under the mass media method which consists of techniques that can reach a large audience simultaneously, thus making it have the potential of influencing the behaviours of people that are farmers thereby bringing about an alternation in their ways of life leading to disequilibrium in their socio-economic system.

Radio broadcasting can also be used to support the effort of the extension workers by reminding farmers about the content of an extension package.

Most of the farmers in Enugu State reside in the rural areas which are characterized with the scarcity of newspapers and television. High rate of illiteracy, bad roads, lack of electricity, hence radio is the only mass medium capable of raising awareness by informing and mobilizing the rural population of the district through national language broadcasts [6].

The growth of radio is stunted in terms of the poor knowledge that radio broadcasters have audience needs and preference, composition of their audiences in terms of demographic information, the socio-economic situation of listeners and the impact of their programme on the development process [6].

They are constrained by lack of resources and techniques needed for audience research and impact measurement which in turn makes it difficult to develop programming policy geared towards the needs and listening habits of the various groups [6].

In fact the only source of feedback for some radio station in Enugu state that is Cosmo fm, Coal city fm, etc. is from listeners letters and information gathered by mobile units.

Despite these obstacles, radio broadcasting is still potentially the most effective method of information dissemination, being the most widely used means of mass communication in the country.

Statistics have shown that radio receivers are at least ten times more common than TV set in developing countries and is the only means of information for two third of people living in rural Nigeria.

In addition, radio is listened to by 80% of people living in developing countries every week, reaching people isolated by language geography, conflict, illiteracy and poverty [7].

This study was therefore designed to determine the effect of radio broadcast on farmers.

Objectives of the Study:

- The general objective of the study is to assess radio listening habits of farmers in Enugu State. The specific objectives are to:
- Examine the socio-economic characteristics of the farmers in Enugu State.
- Ascertain farmers acquaintance with the two radio stations in Enugu state.
- Identify agricultural messages disseminated through the two selected radio stations.
- Evaluate farmers' appreciation for the messages that are broadcasted in the two selected radio stations in Enugu State.

- Determine farmers information needs through the two selected radio stations.
- Identify constraints to farm activities broadcast to farmers in the study area.
- Determine radio contributions to the solutions of agricultural development problems in the study area.

MATERIALS AND METHODS

Area of the Study: This research will be covering the whole of the Enugu State of Nigeria. Enugu State is situated in the south-eastern part of the country; it lies between latitude 6°S and 8.30°N and longitude 7.26°E and 7.39°W of the equator and has a total land area of 12,580km. Enugu is situated on much of high lands at Udi, Awgu, Nsukka hills and rolling lowlands of Ebonyi river basin to the west. It is bounded to the North by Benue and Kogi State to the South of Ebonyi, to the West of Anambra and to the East of Abia. Enugu State was created on 27th August 1991 from old Anambra state.

It has rich and vast agricultural lands and minerals resources. The state has an estimated population of 3,257,298 people in the domination of 1,624,202 and 1,633,096 of males and females respectively [8].

Enugu is divided into three (3) senatorial zones which includes; Enugu North, Enugu East and Enugu West, with a total of 17 local government areas. The state falls within tropical climate of the equatorial region having a vegetation zone of guinea savannah which is characterized by wood land and tall grasses. The rain is almost entirely seasonal, most of it falls between May – October with the range of 152cm – 203cm annually.

The state has rich agricultural land and almost all the tropical crop thrive in it. About 82% of the population is farmers growing crops such as rice, cassava, maize, yams and a variety of fruits and vegetable cash crop like cashew and oil palm are produced in large quantity in the state. Livestock farmers are not found much in the state.

Sampling Techniques: In this study a stratified random sampling method was used in the selection of three (3) local government areas (L G A) from each of the three (3) senatorial zones of Enugu state which made it total of nine (9) local government in all the two communities each where selected from the nine selected local government area which made it eighteen selected communities. Stratified sampling method was used to determine the numbers of questionnaires out of the sample size of 126 to be administered in the three zones of Enugu state, but only 115 was retrieved.

Data Collection: The data used were obtained from both the primary and the secondary source of data.

The primary data was a well structured questionnaire, the basic components of the designed questionnaire are:

- Respondents demographic characteristics, like sex, marital status etc.
- Respondents' acquaintance with radio stations.
- Agricultural programme on radio, audience appreciation and information needs.
- Radio contribution to agricultural development and constraints to farm activities.

The secondary data were sourced from National Population commission (N P C 2006), Nigerian institute for Oil palm research (N I F O R) and other published material relevant to the study.

Data Analysis: Data was being analyzed using frequency counts, percentages, means, standard deviation (descriptive statistics).

And also by using chi-square (inferential statistics). Chi-square is mathematically expressed as

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

X^2 = Chi-square

O = Observed response

E = Expected distribution of response

RESULTS AND DISCUSSION

The essence of this part was to present and analyze the data collected from the study. The presentation and analysis were based on the data collected from the respondents through the questionnaires administered to them.

This is essential to say that the response of the respondents was presented and analyzed using frequency counts, percentages, means, standard deviation.

Socio-Economic Characteristics of Respondents: Table 1 shows that 65.2% (majority) of the respondent are male, while 34.8% are female.

Table 2 shows that 72.2% were married while 1.7% (minority) were separated.

Table 3 shows that 68.7% of the respondents are between age of 41-60 years 20.9% between age of 21-40.

Table 1: Respondents Socio-Economic Characteristics

Sex	Frequency	Percentage (%)
Male	75	65.2
Female	40	34.8
Total	115	100

Source: Field Survey, 2009

Table 2: Distribution of Respondents According to Marital Status

Marital Status	Frequency	Percentage (%)
Single	11	9.6
Married	83	72.2
Divorced	4	3.5
Widow	10	8.7
Widower	5	4.3
Separated	2	1.7
Total	115	100

Source: Field Survey, 2009

Table 3: Distribution of Respondents According to Ages

Age (years)	Frequency	Percentage (%)
20 and below	2	1.7
21-40	24	20.9
41-60	79	68.7
61-80	9	7.8
Above 80	1	0.9
Total	115	100

Source: Field Survey, 2009

Table 4: Distribution of Respondents According to Educational Status

Educational Status	Frequency	Percentage (%)
No formal education	5	4.3
Primary school completed	29	25.2
Modern school	10	8.7
Secondary school uncompleted	9	7.8
Secondary school completed	39	33.9
Technical school	15	13.0
University degree	7	6.1
Others (NCE/OND)	1	0.9
Total	115	100

Source: Field Survey, 2009

This is synonymous with finding of [10], who stated that most farmers are below 50 years. This implies that most of the farmers are in their active age.

Table 4 shows that 33.9% of the respondents with formal education were educated up to secondary school level, while 6.1% of them are with university degree.

This is in line with [11] who postulated that many poor countries notable in sub-Saharan Africa had low level of education and that improving their education would probably increases agricultural productivity and reduce poverty.

Table 5 showed that 52.2% of the respondents were members of cooperative societies while 9.6% belong to none.

Table 5: Distribution of respondents according to associations

Membership of Associations	Frequency	Percentage (%)
Cooperatives	60	52.2
Social club	44	38.3
None	11	9.6
Total	115	100

Source: Field Survey, 2009

Table 6: Distribution of respondents according to contact with extension agent

Contacts	Frequency	Percentage (%)
Yes	94	81.7
No	21	18.3
Total	115	100

Source: Field Survey, 2009

Table 7: Distribution of respondents according to frequency of contact

Frequency of contact	Frequency	Percentage (%)
Once a week	40	34.8
Once a month	2	1.7
Twice a month	62	53.9
Once a year	-	-
No contact	11	9.6
Total	115	100

Source: Field Survey, 2009

Table 8: Distribution of respondents according to access to credit

Access to Credit	Frequency	Percentage (%)
Yes	104	90.4
No	11	9.6
Total	115	100

Source: Field Survey, 2009

Table 9: Distribution of respondents according to source of credit

Source of credit	Frequency	Percentage (%)
Personal savings	38	33.3
Family members	11	9.6
Incorporation	1	0.9
Cooperative society	16	14.0
Thrift societies/isusu	34	14.0
NGOs	11	9.6
CBOs	-	-
Banks	3	2.7
Total	115	100

Source: Field Survey, 2009

Table 10: Respondents ownership of radio

Ownership of Radio	Frequency	Percentage (%)
Yes	111	96.5
No	3	2.6
Total	115	100

Source: Field Survey, 2009

Table 11: Distribution of respondents according to listening

Listen to Radio	Frequency	Percentage (%)
Yes	107	93.0
No	8	7.0
Total	115	100

Source: Field Survey, 2009

Table 12: Distribution of respondents according to frequency of listening

Frequency of listening to radio	Frequency	Percentage (%)
Many times a day	20	17.4
Twice a day	43	37.4
Thrice a day	22	19.1
Once a day	19	16.5
Sometimes a day	11	9.6
Rarely listen to radio	-	-
Total	115	100

Source: Field Survey, 2009

Table 6 shows that 81.7% of them having contact with extension agents while 18.3% have no contact with extension agents.

Table 7 shows that 53.9% had contact with the extension agent twice a month while 9.6% had no contact with the extension agents.

Table 8 shows that 90.4% of the respondents had access to credit while 9.6% had no access to credit.

Table 9 shows that 33.3% obtained credits from personal savings while 14.0% obtained credit from cooperative society.

Audience Acquaintance with Radio: The variables studied under audience acquaintance with the radio are: ownership of radio, listening and frequency of listening to radio, preference for radio station and lastly, monthly in which the agricultural message where heard on radio.

Respondent Owners of Radio: Table 10 shows that 96.5% of the respondents own a radio set, while 2.6% do not own a set.

This implies that most farmers own a radio set in the study area. This finding is synonymous with [7] which means that radio receivers were at least ten times more common than TV set in developing countries.

Distribution of Respondents According to Listening and Frequency of Listening to Radio: Table 11 shows that 93.0% (most) of the respondents listen to radio while 7.0 don't listen to radio.

Table 12 shows that 37.4% of them listen to radio twice a day while 9.6% of the respondents listening sometimes a day.

This implies that most farmers in Enugu state listen to radio at least twice a day (those with listening habits).

This finding is in line with [7] which means that radio is listened to by 80% of people living in developing countries every week, reaching people isolated by language, geography, conflict illiteracy and poverty.

Table 13: Respondents preference for radio station

Radio station listened to	Frequency	Percentage (%)
Coal city FM	41	35.7
Cosmo FM	21	18.3
Both (cosmo and coal city fm)	53	46.1
Total	115	100

Source: Field Survey, 2009

Table 14: Agricultural messages heard on radio by respondents

Agricultural messages on radio in 2008	Frequency	Percentage (%)
January – March	84	73.0
April – June	12	10.4
July – September	2	1.7
October – December	7	6.1
No response	10	8.7
Total	115	100

Source: Field Survey, 2009

Distribution of Respondents According to Preference for Radio Station: Table 13 shows that 46.1% of the respondents listened to both Cosmo FM and Coal city FM while 35.7% listened to Coal city FM.

This implies that they do not prefer one radio station over the other, as they tend to listen to one radio station at a particular time because of the preferred program.

Agricultural Messages Heard on Radio by Respondents: Table 14 shows that 73.0% of the respondents heard agricultural messages in the months of January – March, while 6.1% of them heard it in the months of October – December.

This implies that most agricultural messages are disseminated in the months of January – March.

Agricultural Messages Heard Through Radio by Respondent: Table 15 revealed that 45.2% of the respondents have heard information on pest and diseases control measure on Coal city FM radio while 50% of them have heard information on improved crop varieties plus how and when to plant on Cosmo FM respectively.

Table 15: Respondents comparison of selected radio station

Agricultural Messages (advert)	Coal City FM		Cosmo FM	
	Freq	Per	Freq	Per
Pest and disease control measure	52	45.2	35	
Information on improved crop varieties	46	40.0	50	
Teaching on agronomic cultural practice of crop varieties	45	39.1	26	
Fertilizer applications	43	37.4	39	
Improved ways of processing and storing agric products	43	37.4	41	
How and when to plant	39	33.9	50	
Method of livestock rearing	38	33.0		
Information on improved animal breeds	36	31.3		
Information on improved agricultural processing and storage machines	27	23.5		

Source: Field Survey, 2009

This finding is similar to [12] which states that 50% and above of the farmers indicated that eight (8) improved technologies were transferred to them through radio.

Agricultural Message Respondents Have Adopted Through Radio:

Table 16 revealed that 76.5% of the respondents adopted information on improved crop varieties, while 23.5% did not adopt the message.

Also the table revealed that 20.0% of the respondents adopted information on improved agricultural processing and storage machines, while 80% did not adopt the message.

This implies that farmers tend to adopt more of the messages that they consider relevant to them.

Respondents' Perception of the Relevance of Agricultural Messages on Radio: Table 17 shows that agricultural message with means above 3.0% are regarded as relevant to the respondents while those with mean below 3.0% are regarded to be of little or no relevance.

The finding is synonymous with [13] which means that radio can be an effective tool if programs are interactive, stimulating and relevant to needs and interest of rural people.

Constraints to the Relay of Agricultural Message on Radio: Table 18 showed that 46.1% respondents regard the problem of inadequate or irregular power supply as a major constraint to relay of agricultural messages on radio, this is followed by 40% that regards short airtime (usually for 15 – 30 minutes) and frequency of airing as part of the constraint.

Suggestion on How to Improve the Relay of Agricultural Messages on Radio: Table 19 showed that 40.9% of the respondents suggested that the broadcast of agricultural messages in local dialect will bring about improvement on the relayed on the relay of messages.

Table 16: Agricultural message respondents have adopted.

Agricultural Messages	Frequency	Percentage
Information on improved crop varieties	88	76.5
How and when to plant	78	67.8
Pest and disease control measure	74	64.3
Fertilizer application	68	59.1
Improved ways of processing and storing agricultural products	66	57.4
Teaching on agronomic cultural practice of variety of crops	44	38.3
Method of livestock rearing	39	33.9
Information on improved animal breeds	26	22.6
Information on improved agricultural processing and storage machines	23	20.0

Source: Field Survey, 2009

Table 17: Respondents perception of aired agricultural messages

Agricultural Messages	Mean	Standard Deviation
Information on improved crop varieties	3.76	0.76
How and when to plant	3.49	0.99
Pest and disease control measure	3.42	1.04
Fertilizer application	3.10	1.10
Improved ways of processing and storing agricultural products	2.92	1.07
Teaching on agronomic cultural practice of variety of crops	2.78	1.41
Method of livestock rearing	2.74	1.39
Information on improved animal breeds	2.63	1.37
Information on improved agricultural processing and storage machines	2.27	1.37

Source: Field Survey, 2009

Table 18: constraints to relayed agricultural message

Constraints	Frequency	Percentage (%)
Inadequate or irregular power supply	53	46.1
Short air time and frequency of airing	46	40.0
Poor signal reception	36	31.3
Language barrier	31	27.0
Poor funding/staff motivation	26	22.6

Source: Field Survey, 2009

Table 19: Respondents' suggestions on improvement of agricultural messages on radio

Suggestions	Frequency	Percentage
Improvement on reception/constant maintenance	21	18.3
Broadcast agricultural messages in local dialect	47	40.7
Adequate funding/staff motivation	21	18.3
Regular power supply	8	7.0
Reduced cost/increased frequency of airing	28	24.3
Create awareness on agricultural program	16	13.9
Design special radio for agricultural technologies dissemination	9	7.8

Source: Field Survey, 2009

Table 20: Relationship between respondent socio-economic characteristics and radio listening programs

Variables	X ²	df	Asymp.sig (2 sided)	Decision
Sex	2.143	1	0.142	NS
Marital status	10.665	5	0.058	NS
Age	4.138	4	0.388	NS
Educational qualification	6.656	7	0.466	NS
Association membership	6.903	2	0.032	S
Contact with extension agent	10.070	1	0.002	S
Frequency of extension contact	7.928	3	0.048	S
Access to credit	1.704	1	0.192	NS
Sources of credit	13.038	6	0.042	S

Source: Field Survey, 2009

S = significant

NS = No significant

This is synonymous with the findings of [14] who stated that language is the foremost obstacle for people to access the content of information.

Table 19 further showed that 24.3% of the respondents suggested that a reduction in the cost of airing, increased frequency of airing and broadcasting for at least an hour twice daily will also bring about improvement in the relay of agricultural messages.

This is in line with [15] who stated that farmers interest in radio can be raised when programs are aired severally.

Analysis of the Socio-Economic Characteristics of Respondents and Their Radio Listening Programs:

Table 20 showed that there is no significant and no relationship between respondents sex ($X^2 = 0.002$; $p > 0.05$) and their radio listening program.

This implies that respondents that had contact with extension agent at point of the other listen more to radio search for more information.

CONCLUSION

Summary: The study is aimed at assessing farmers' radio listening habits of the two radio station (Cosmo FM and Coal City FM) in Enugu State, to ascertain if farmers are getting the messages that influence their agricultural productivity.

Statistics analysis of the socio-economic characteristics of the farmers' shows that 65.2% are male, 72.2% are married and 75.5% were educated up to secondary school level.

90.4% of the farmers have access to credit which are mainly from their personal savings.

96.5% of the respondents own radio sets, which they listen to at least twice a day and have no preference of station.

The respondents agreed that they have heard agricultural messages on radio and adopted some, but consider four out of the messages very relevant.

The main constraint to the relay of agricultural messages on radio in this study are as follows; irregular power supply, short air time and frequency of airing.

Some of the suggestion on how to improve relay on agricultural messages on radio show that most farmers consider the broadcast of messages in local dialects, increased airtime and frequency model as important.

Conclusion: This study has showed that most farmers own listen to radio for various disseminated information. But have found only few messages out of the messages

disseminated in assessing the effects of radio listening program of farmers in agriculture relevant in their needs to enhance agricultural productivity.

This study also showed that irregular power supply, language barrier and inadequate research finding are the major constraints to the relay of agricultural messages on radio.

Recommendations: Based on the finding of this study the following recommendation will enhance radio listening habits in farmers.

- Research messages should be translated into the simplest language possible and translated to the prevalent language.
- Radio stations should provide forum for questions and answers on aired program.
- Radio stations/broadcasters should become independent of government in terms of management and programs and be more adoptive to their requirements.
- Farmers should procure transistor radio sets, operated by battery to enable them listen to radio when there is power failure.

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