

Broadcasting and Adoption of Innovations in Fadama III Project in Kogi State

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ABSTRACT

This study, "Broadcasting and Adoption of Innovation ins Fadama III Project in Kogi state of Nigeria" set out to investigate the extent to which broadcasting is contributing to knowledge and successful adoption of agricultural innovations by farmers involved in the Fadama III project in the state. Survey method was used with the questionnaire, to elicit information from respondents. Qualitative and quantitative data presentations along with chi-square statistical methods were used for data analysis. Findings showed that the state has been actively involved in using radio and television for knowledge and adoption of agricultural innovations by farmers especially in the Fadama III project. Such innovations include improved variety of seeds, soil selection and application of fertilizers, preservation methods, judicious distribution of crops as well as livestock farming and fish culture. Finding also showed that significant relationship exists between broadcast media and the knowledge and adoption of agricultural innovations in the state. The study recommends among others that for higher achievements in agricultural sector through the broadcast media there should be a policy initiative to expand the broadcast media, establish community viewing centers and integrate the other media involved in agricultural information with broadcasting for more adoption of innovations and development in the state and indeed Nigeria.

Keywords: Broadcasting, Adoption, Innovation 'FADAMA'

INTRODUCTION

Information is critical to the social and economic activities that define the development process. It is also very important and imperative to all economic activities ranging from agricultural, health, environment and transportation to manufacturing and service provision in a developing country like Nigeria, the evolving economy needs to be supported and sustained by re-orientation and attitude change, (Agbamu 2006). The mass media he asserts have become indispensable vehicles for the desired change.

In Kogi state, governments over the years have continued to introduce innovation in various sectors of its economy for purposes of development. Such innovative development agencies and projects includes; the Kogi state Agency for poverty reduction, Kogi State Agriculture Land Development Agency Kogi State

Directorate for Urban Development, Kogi State Strategic Health Development, Kogi State Strategic Health Development Plan Centre for Integrated Health Programme etc. (www.cihping.org; 2017). The mass media, especially radio and television have enormous role to play in the quest for the development because of their strategic position in communication, information, education, mobilization and attitude change (Agbamu 2006).

Innovation is a new way of doing things; a new product or a new system. In this regard, all developments in general and all social changes in particular, are innovations. Further on this, Moemeka (2000); believes that “weather one is replacing old methods, product or system completely with new ones, or working at removing the undesirable consequences of existing system, product or method, one is invariably introducing something new to the social system”

Agriculture has been described as the corner stone of human life and indeed the backbone of many economies of developing world particularly in sub-Saharan Africa. Falusi in Lawal and Olukoye (2008); notes that agriculture is the backbone of the economy of Nigeria because it employs 75% of the population. Besides the provision of food on which everybody depends, agricultural activities in the developing world are known to provide employment to rural dwellers who constitute about 80% of the population of these country (FAO, 2003). However, inspite of the indispensable nature of agriculture to the survival of a people and a nation at large, for many decades now, hunger, starvation and squalor have remained permanent features in majority of developing nations (FAO, 2008). Owing to the devastating effects of drought, desertification and adherence to primitive farming systems, food production in the developing countries has continued to decline (Agbamu, 2009). Successive government in Nigeria have since 1970's come up with laudable agricultural programmes which include, Operation Feed the Nation (OFN), the green revolution and intervention agencies like Directorate of Food, Roads and Rural Infrastructures (DIFERRI), the River Basin Development Authorities and the Accelerated Food Production Programme (Nwanwene, 2000).

Apart from innovative agricultural programmes introduced in Nigeria, Okwu and Obinne in Agbamu (2009) observe that agricultural institutes have doled out technological innovation in agriculture. These include fertilizers of various types, pesticides, herbicides, animal feeds, improved variety of seeds, tractors, harvesters; improvement in livestock farming and provision of veterinary services.

In the early 1990's the Federal Government of Nigeria established yet another programme, the Fadama I programme. It was designed to promote simple and low-cost improved irrigation technology under the World Bank financing. The widespread adoption of the technologies under the Fadama I project enabled farmers to greatly increase their production in some areas of the country. This according to Abdullahi *et al*; (2006) and Wikipedia (2007) impressed the Federal

Government and the African Development Bank and propelled them into establishing the Fadama II which is the second phase of the project. This phase also recorded appreciable success in some states of the federation. The above achievements prompted the Federal Government to adopt the strategy to improve agricultural development in all the states of the federation.

The National Fadama development project III, is therefore a follow-up on the first and second Fadama I and Fadama II phase of the project. It was launched in 2009 and was to be implemented from March 2009 to December 2013, it is therefore a comprehensive five-years action development programme by the Federal Ministry of Agriculture and Water Resources in collaboration with the Federal Ministry of Environment and other federal and state government agencies, local governments, private operatives and Non-Governmental Organizations (NGOs). The approach of the Fadama III project is predicated on the community-driven model and includes investing in capacity building, public infrastructure, imputes, adaptive research, extension services, land management, knowledge transfer, group-owned productive assets, advisory services and also mechanism to avoid or resolve conflicts among Fadama resources users. According to the plan of the project, it will help in achieving Nigeria's stated rural development and environment objectives including those outlined in NEEDS and SEEDS targets. The Fadama III project is active in all the 36 states of the Federation and the Federal Capital Territory and the target groups include; farmers, pastoralists, fishermen, nomads, traders, processors, hunters, gatherers as well as other economic interest groups.

One recurrent lacuna so far felt in this overview is the lack of a communication strategy to achieve all the laudable intentions, marshaled out in the successive projects. For a resounding success to be achieved in the Fadama III project Okwu and Obinne, cited in Agbamu (2009); insist that "effective communication needs to be in place". The communication channels available to rural people as far as agriculture is concerned includes opinion leadership, role play, folk media and the mass media especially the broadcast media.

The broadcast media-radio and television, according to Idachaba (2000); provide a preferred platform for effective communication of agricultural development because of their unique nature in terms of sight and sound. Television, due to its quality of sight and sound is a powerful instrument for social engineering, information, education and entertainment of the masses on divergent issues like agriculture, health and economy. On the other hand, Parkenson as seen in Odiaka (2009); posits that radio as a medium of communication is celebrated for its combination of higher reach and frequency attributes.

It is on the basis of the above that this research seeks to unravel the contribution of broadcasting in the adoption of innovations in the Fadama III project in Kogi State. Kogi is one of the North Central States of the country.

Due to its centrality and the meeting of two major rivers – the Niger and Benue, the state is called the Confluence state. The state has many tribes and sizable target groups like farmers, pastoralists, fishermen and professionals. There are also notable broadcast stations in the state including Radio Kogi, Confluence Radio and the Nigeria Television Authority (NTA) Lokoja. As such, Kogi state forms a fertile ground for investigating the impact of broadcasting in disseminating innovations and attitudinal change in the Fadama III project.

Statement of the Problem

From the studies cited in the background to this study, it has been established that broadcasting has made tremendous contributions in the development of agriculture in the developing countries and in Nigeria in particular. Odawe and Atibila, cited in Kente (2011); state that broadcasting, especially radio is the singular, most important institution in the development of agriculture in developing countries.

Nwosu, Soola and Nwodu (2008), assert that radio and television have been the media of communication through which Nigerians partake in ideas, issues and experiences that enrich their lives and help them overcome development challenges. Akinfeleye (2003); reports that there are 244 broadcast stations in the country. Kogi state has its fair share in NTA Lokoja, Radio Kogi and Confluence Radio. So, the problem this study seeks to investigate is the contributions of the broadcast media in enhancing the knowledge, acceptance and adoption of agricultural innovations in Fadama III Project in Kogi State.

Objectives of the Study

The broad objective of the study is to assess the role of broadcasting in enhancing the adoption of agricultural innovations in Fadama III project in Kogi State.

Other Objectives include:

- i. To find out if the broadcast media have been involved in the knowledge and adoption of agricultural innovations in Fadama III Project in the state.
- ii. To determine the extent to which the broadcast media have been used to diffuse agricultural innovations about Fadama III projects in Kogi State.
- iii. To identify ways through which the broadcast media affect attitudes of farmers positively towards the adoption of agricultural innovations under the Fadama III project in the state.
- iv. To examine the possibility of an initiative for broadcast media programming towards a new paradigm for agricultural development communication starting with Fadama III project in Kogi State.

Research Questions

From the objectives of the study, the following questions have been proposed to guide the study.

- i. Are broadcast stations in Kogi State involved in the knowledge and adoption of agricultural innovations in the Fadama III project?
- ii. To what extent has broadcasting been used to diffuse agricultural innovations about Fadama II project in the state?
- iii. How are farmers' attitude affected positively by the broadcast media towards the adoption of agricultural innovations in the Fadama III Project in the state?
- iv. To what extent will a new initiative in broadcast programme help radio and television stations in better agricultural development communication beginning Fadama III project.

Hypothesis

The study considers the following hypotheses, all stated in the null form.

1. H_0 : There is no significant relationship between the use of broadcast media in Kogi state and diffusion of agricultural innovations by farmers in Fadama III project.
2. H_0 : There is no significant relationship between broadcast media potentials and knowledge and adoption of agricultural innovations by farmers in Kogi state.
3. There is no significant relationship between encouraging factors and knowledge and development of agricultural innovations by farmers in Kogi State.

LITERATURE REVIEW

This section reviews important concepts, related works and empirical studies relevant to the study.

Concept of Broadcasting

Broadcasting is the act of sending messages through the electromagnetic waves to a wide, anonymous and heterogeneous audience that are scattered in different places simultaneously. The received messages come either in form of sound (radio) or sound and sight (television). The *New Encyclopedia Britannica* (1994) defines radio broadcasting as the transmission of radio signals that are intended for general public reception.

Radio broadcasting started in the 1920s but came to Nigeria in 1932 by the British colonial authority, mainly as a propaganda instrument and to provide information to the colonizers (Sani, 1994). In 1952, the Nigeria broadcasting service came into existence but over the years, the name changed to Federal Radio Corporation of Nigeria and now Radio Nigeria. From then on, radio stations started spreading throughout the regions and states of the federation.

Initially, all the radio stations were owned by the Federal Government but the 1979 constitution empowered both the Federal and state governments to own radio and television stations (Sani, 1994). The Babangida administration deregulated the broadcast industry in 1992 which further gave private entrepreneurs the license to own radio and television stations.

With broadcast liberalization and more tolerant governments, there are now over 227 public and private radio and broadcast in Nigeria (NBC, 2004). All the stations broadcast in English, however, a good number of them carry a variety of programmes in local languages. Kogi state has two radio stations - Radio Kogi and Confluence Radio. As in other developing countries, radio is the medium for the mass people of Nigeria and Kogi people in particular.

Concept of Development

Development, according to Web Encyclopedia (www.wikipedia.org) is an act of improving by expanding, enlarging or refining. Armstrong (2005); expands this definition by saying that, development means improvement in a country's economic and social conditions, more specifically, improvement in ways of managing an area's natural and human resources in order to create wealth and improve people's lives. Giving a more elaborate definition, Rodney (1972); see development as the level of the individual to imply increased skill and capacity, greater freedom, creativity, self-discipline, responsibility and national well-being. Common to all definitions of development are the following features as identified by Okunna (2002).

- i. Development brings change
- ii. This change is for the better
- iii. The changes for the benefits of majority of the people
- iv. The process is participatory and on-going.

In a nutshell, development is about reaching people in a society and helping them to improve their lives. Development is central to man's survival on earth and communication is needed to bring about this meaningful development in any social setting. It is this need that gave rise to the study of development communication which is the use of all forms of communication resources to attract attention and support for development programmes. According to Nwodu and Ukozor (2003); "it involves deliberate, well desired and articulate codes aimed at bringing development messages to the knowledge of the targets".

Moemeka (1994) says development communication is the application of the processes of communication to the development process. Uche (1999); on his part, says development communication is a process of disseminating or transferring information, messages, values, attitudes and promoting behavioural patterns that would encourage attitudinal change germane to creating a conducive environment, promoting socio-political and economic transformation of the individual and his social system. This will ultimately enable him to achieve

social equity, participate in democracy, liberty and justice and the protection of his rights and property and respect for the sanctity of natural and clear environment.

Theoretical Framework

This study naturally draws from many communication theories like the diffusion of innovations theory, the Agenda Setting theory, the Development media theory, the Uses and Gratification theory etc, but a few will be treated here.

Diffusion of Innovation Theory

The Theory, according to Anaeto, Onabanjo and Osifeso (2008), was propounded by Ryan Broyce and Neal Gross in the year 1943. In the 1940s Ryan and Gross studied the diffusion and adoption of hybrid corn by Iowa farmers in the United States of America. They classified farmers according to the rate, (that is, the amount of time) at which the farmers adopted innovations and the researchers came up with group categorization (Kombol, 2006). These are (a) Innovators or the (first group to adopt innovations, (b) Early Adopters – they are the second group to adopt innovations. (c) The Early Majority then follows (d) Late Majority and (e) the Laggards: these are the last group to adopt innovations.

The main objectives of the diffusion of innovation theory as observed by Daramola (2003); is to communicate to members of a social system, a discovery or ideas based on research. The relevance of this theory to the present study is instructive. Innovations in agricultural practices need to be communicated and the farmers need to adopt same for any success to be achieved.

The Uses and Gratification theory

The Uses and Gratification theory was propounded by Elihu Katz, Jay Blumer and Micheal Gurevitch in the year 1974. The main thrust and concern of the theory as observed by Daramola (2003); is to assess how the people and use the mass media to satisfy their needs. The assumptions of the theory according to Katz, Blumer and Gurevitch (1974); include;

1. The audience is active
2. The initiative in linking need gratification and media choice lies with the audience member.
3. The media completes with other sources of need for satisfaction
4. Many of the goals of media use can be derived from data supplied by the individual audience members themselves.
5. Value judgments about cultural significance of mass communication should be suspended while audience operations are explored on their own terms.

The theory according to Daramola (2008); is based on the assumption that the audience is proactive and seeks the media that satisfy their needs. The implication of the theory is that much as the media is trying to influence the people and to diffuse innovations, care should be taken because the audiences are not passive but active and therefore have the capacity to reject messages that are incongruent with their needs.

METHODOLOGY

This study adopts the survey research method. This method is preferred because, according to Wimmer and Doninick (2000); the survey offers the following advantages.

- a. Large amount of data can be collected with minimum ease
- b. It is good for investigating problems about elements of a population in their natural and realistic settings.
- c. The survey method is also very cost effective considering the volume of information which can be gathered through it.

The population of the study comprise of 180 staff strength of the broadcast stations in the state. This is added to the 8010 Fadama III farmers in the state bringing the population to 8190 people. The sample size of 381 was drawn from the population using Taro Yarmani's formular for sample size determination,
$$n = \frac{N}{1 + N(e)^2}$$

To select the respondents for the questionnaire, a multi-state sampling technique was used first to purposively select five local government areas out of the twenty-one (21) local government areas that make up the state. The chosen local government areas include, Lokoja, Kabba/Bunu, Okene, Ankpa and Idah. The local governments and their headquarters were chosen because of their having a blend of suburban and rural areas with reasonable infrastructure and large farming populations. Twenty-five Fadama user groups were identified, that is five for each local government. The 381 questionnaires were thus distributed to the local governments as follows:

Lokoja 77, Kabba/Bunu 76, Okene 76, Ankpa 76 and Idah 76. Having fully allocated the questionnaires, they were administered to respondents in the five local governments. Even though the questionnaires were administered face-to-face, six (6) questionnaires were lost bringing down the sample to 375.

Findings

Out of the 375 respondents, 255 representing 68% were male while 120 representing 32% were female. Three hundred and thirty (330) respondents or 88% were married while 45 people or 12% were single. On type of farming activity, 152 persons or 40.05% are in crop farming, 70 people or 18.6% are in livestock, 113 representing 30.1% are in fisheries while 40 people representing 10.6% are in

mixed farming. The responses to some of the thematic questions which formed the focus of the enquiry will be presented in the following tables.

Table 1: Regularity of listenership to broadcast stations in the state

Option	Frequency	Percentage
Very often	320	85.3%
Often	48	12.8%
Rarely	7	1.9%
Total	375	100%

Field Survey 2017

Table 2: Whether agricultural programmes are produced in these media

Option	Frequency	Percentage
Yes	375	100%
No	-	-
Total	375	100%

Field Survey 2017

Table 3: Regularity of agricultural programmes produced by the media

Option	Frequency	Percentage
Once weekly	54	14.4%
Once weekly/repeat	296	79.9%
Thrice weekly	17	4.5%
Daily	8	2.1%
Total	375	100%

Field Survey 2017

Table 4: Whether respondents adopted the techniques acquired

Option	Frequency	Percentage
Yes	375	100%
No	-	-
Total	375	100%

Field Survey 2017

Table 5: Extent to which the knowledge and adoption of innovations have improved the respondents farming experience

Option	Frequency	Percentage
Very well	306	81.6%
Well	62	16.53%
A little	7	1.86%
Total	375	100%

Field Survey 2017

Table 6: Factors encouraging high rate of adoption of innovations by farmers

Option	Frequency	Percentage
Usage of local language broadcast	18	4.8%
Influence of interpersonal and local sources	10	2.6%
Affordability of innovations	13	3.46%
Relative ease of innovation	16	4.26%
Communicability of the innovations	14	3.7%
Total	375	100%

Field Survey 2017

Table 7: Factors hindering very high rate of adoption of agricultural innovation by farmers in Kogi State

Option	Frequency	Percentage
Time the radio or TV programmes are done	45	12%
Duration of the broadcast is short	56	15%
Non participation of the farmers in the programme	90	24%
All of the above	184	49%
Total	375	100%

Field Survey 2017

Test of Hypothesis

The three hypothetical postulations in this study were put to statistical test to know whether they would be accepted or rejected, using the Chi-square test. Consequently hypothesis one (Ho:1) was subjected to chi-square test (X^2) in the null form, using information contained in table one. Ho:1 There is no significant relationship between use of broadcast media in Kogi State and diffusion of innovations by farmers in Fadama III project.

The hypothesis was tested at 0.05 level of significance with 2 as the degree of freedom. The result showed that the calculated chi-square X^2 value (7.87) was higher than the tabulated X^2 value (5.991) hence the rejection of the null hypothesis and the acceptance of the alternate hypothesis. Therefore, there is significant relationship between use of broadcast and diffusion of agricultural innovations by Fadama III farmers in the state.

Hypothesis two (Ho.2) which states that there is no significant relationship between broadcast medias potentials and knowledge and diffusion of agricultural innovations by farmers in the state was tested using Chi-square at 0.05 level of significance with 2 degrees of freedom. The data contained in table 5 was used.

The result showed that the calculated test value (6.73) was higher than the tabulated χ^2 value (5.991) hence the rejection of the null hypothesis and acceptance of the alternate hypothesis. Therefore, there is significant relationship between broadcast media potentials and knowledge and diffusion of agricultural innovations by Fadama III farmers in the state.

Hypothesis three (Ho.3) which states that there is no significant relationship between encouragement factors and knowledge and adoption of agricultural innovations by farmers in Kogi State was subjected to a chi-square (χ^2) in the null using data in table 6 at 0.05 significance level with 5 degrees of freedom. The result of the test showed that the calculated χ^2 value of (2.664) is lower than the tabulated value (11.07). This shows the acceptance of the null hypothesis and the rejection of the alternate hypothesis. This means that there is no significant relationship between encouraging factors and knowledge and adoption of agricultural innovations by farmers in the Fadama III project in Kogi State.

DISCUSSION OF FINDINGS

From the demographics of the respondents, it could be seen that majority of them are male and married, that is 255 or 68% and 330 or 88% respectively. On the other hand, women constituted only 120 or 32% while those that are single are 45 or 12%.

It could also be seen that majority of the farmers in Kogi State are into crop farming, that is 153 respondents or 40.5%, 18.6 percent are in livestock, 30.1% are in fishery while 10.6% are in mixed farming.

On the thematic questions, research question one asks whether broadcast stations in Kogi State are involved in the knowledge and adoption of agricultural innovations in the Fadama III project. The information in table 2, shows that 100% percent of the respondents affirmed that agricultural programmes are produced by the broadcast media in the state.

Research question two, seeks to know the extent to which broadcasting has been used to diffuse agricultural innovations about Fadama III project in the state. Information in table three shows the regularity of agricultural programs by the media. It demonstrates that 78.9% of the respondents agree that such programmes come up at least once a week with a repeat broadcast within the week.

Research question three, seeks to know whether farmers' attitude are affected positively by the broadcast media towards the adoption of agricultural innovations in the Fadama III project. Table two shows a one hundred percent 100% favourable disposition of the farmers towards the broadcast programmes. Research question four seeks to know the extent to which a new initiative in broadcast programming will help radio and television stations in better agricultural development communication beginning from Fadama III project in

the state. Table 6 shows responses as to the factors that could encourage high rate of adoption of broadcast innovations as presented by the broadcast media in the state. Table 7 conversely shows the hindering factors to high rate of adoption. What this points to is that the broadcast media should build up on areas of success while the drawbacks should be surmounted.

Also in the test of hypothesis, two of the three hypothesis put forward in the null form were rejected, hence accepting the alternate hypothesis but the third hypothesis was accepted:

- i. There is significant relationship between the use of broadcast media in Kogi State and diffusion of innovation by farmers in the Fadama III project.
- ii. There is significant relationship between broadcast media potentials and knowledge and diffusion of agricultural innovations by farmers in the state
- iii. There is no significance relationship between encouraging factors and knowledge and adoption of agricultural innovations by farmers in the Fadama III project in the state.

Hence, it could be said that radio and television have immense role to play if farmers in any agricultural programmes are to adopt and apply innovations that could improve their practices and increase their yields or returns.

CONCLUSION

From the discussion of findings, the study concludes that broadcasting has been identified as appropriate channel of development communication and the radio and television stations in Kogi State are making tremendous contributions to the development of agriculture and have indeed contributed greatly to the success of Fadama III project of the state.

The frequency of radio and television programmes on different aspects of agriculture and the language variants of broadcasts have broken barriers of illiteracy and created a strong relationship between the media and the farmers' knowledge and adoption of agricultural innovation in the state.

This conclusion also recognizes the contributions of other agents such as agricultural extension workers, opinion leaders, churches, mosques, age grade associations etc, who equally provide information and assistance to farmers. In spite of these, the contribution of the broadcast media in the knowledge and diffusion of agriculture innovations in Kogi State have been immense.

RECOMMENDATIONS

The recommendations of this study stem from the realization that broadcasting is an indispensable tool for agricultural development and successful Fadama farming in Kogi State and the nation in general. The study therefore recommends that:

- i. The Federal and State governments should evolve new broadcasting policies that will specifically provide for programming objectives to achieve higher agricultural development.
- ii. The government should take advantage of other media of communication which have the capacity to influence farmers' knowledge and adoption of agricultural innovations.
- iii. The government should re-establish community viewing centers in all communities in the country.
- iv. The government should provide infrastructure such as power, rural roads, clinics, machines etc. so that the farmers could utilize the modern technology to enhance their adoption of agricultural innovations.
- v. Government should equally pay more attention to other media found useful in the diffusion of innovations so that they can compliment broadcasting in the rural development drive.

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