

UTILIZATION OF “RADIO FARMER” PROGRAMME OF IMO AGRICULTURAL DEVELOPMENT PROGRAMME BY RURAL FARMERS IN IMO STATE, NIGERIA

¹Okoroma, E.O, ¹Nnadi, F.N, ¹Anaeto, F.C., ¹Echetama, J.A, ²Uche-Nwachi, M.N. and ³Anaeto, C.A. ¹Department of Agricultural Extension, Federal University of Technology, P.M.B. 1526, Owerri, ImoState, Nigeria

²Department of Agricultural Technology, Akanulbiam Federal Polytechnic, Uwana. P.M.B. 1007, Afikpo Ebonyi State

³Personnel Department, Alvan Ikoku Federal College of Education Owerri, Imo State
Tel: 08064896919 e-mail: oserv55@yahoo.com

Abstract

The study assessed the utilization of ‘radio farmer’ programme of Imo State Agricultural Development Programme (ADP) by rural farmers in Imo State, Nigeria. Specifically, the study described the demographic characteristics of the farmers; examined rural farmers’ access to agricultural technologies disseminated through the “radio farmer” programme; assessed the extent to which the technologies were utilized by the farmers as well ascertained problems likely to constrain the effective utilization of the ‘radio farmer’ programme by the farmers. Multi-stage sampling technique was used to select one hundred and fifty (150) farmers for the study. Structured questionnaire and interview schedule were used to collect data from the respondents. Frequency distribution, percentage counts, mean score analysis and Ordinary Least Square multiple regression were used in data analyses. Result revealed that majority (86%) of the farmers had formal education. 88% had access to the ‘radio farmer’ programme. Majority (91.7%) of the farmers were using the ‘radio farmer’ programme to access information on improved agronomic practices. Result further showed that all the technologies disseminated through the “radio farmer” programme were utilized, though, at varying degrees: Snail farming (M= 2.5), dry season vegetable production (M= 3.0), poultry production (M= 2.0), rabbit keeping(M= 2.4), mushroom production (M=2.1), bee-keeping (M=2.4), yam minisette technique (M=2.3), etc. Majority (97.5%) of the farmers perceived the radio farmer programme as an effective channel of disseminating agricultural innovations. The demographic attributes of the farmers had a strong direct relationship ($R^2= 0.72$) with the utilization of the radio farmer programme. However, time of broadcast was identified as a serious problem militating against the utilization of the ‘radio farmer’ programme (M= 2.3).It was therefore recommended that portable radio receivers which can be carried about should be provided for the farmers to enable them listen to the programme anywhere anytime.

Keywords: utilization, radio farmer programme, Imo State ADP, rural farmers, agricultural technologies,

1. INTRODUCTION

1.1 Background to the study

Considerable amount of knowledge and research recommendations on crop and animal productions, disease control, soil management, fertilizer application, agricultural credit sources, etc, are generated daily from and across research facilities and institutes with the aim of increasing agricultural productivity. But the widening gap between what research findings have shown to be possible and feasible on one hand and what obtains on the other hand, such as the intractable decline in agricultural production, poverty and food insecurity raises the question of whether the potentials of research information are being harnessed by farmers and other users of agricultural information and technologies. That is, whether farmers are properly educated, motivated, convinced and furnished with trendy and best fit technologies to boost food production (Nnadi and Anaeto 2013).Bringing the knowledge of a given agricultural technology to the beneficiaries is as good as realizing its potentials, and of course, a primary objective (Nwachukwu, 2003).

Hence, when the Italian, Marconi first transmitted messages in 1895 through the air by electronic impulses using wireless system, little did anyone know how that experiment would impact on agricultural communication and dissemination of production technologies. Today, the radio medium has become a very effective channel for distributing agricultural research information, especially, in the area of raising farmers’ awareness and interests

(Uchem, 1991). To manage the uncertainties of commodity prices, decline in yield and policy changes the radio has been very suitable in raising farmers' awareness and alertness on pests and diseases outbreak, new agricultural technologies, climate change, food price and food shortages, government policies, environmental disaster warnings, population control, alert on nutrition and health-related problems. More essentially, radio broadcast overcomes spatial and literacy constraints, livelihood and digital disparity associated with information dissemination across the rural milieu, especially in areas with difficult terrain and road network (Nwachukwu, 2003; Mgbada, 2010).

Rural farmers are defined by low livelihood indices like small farm holdings, increased illiteracy, dearth of basic social amenities/infrastructural facilities like electricity, portable water, road networks; poor quality of life, higher food insecurity, etc. In penchant to create group feeling among resource-poor rural farmers in Imo State, as well as mobilize them for greater productivity and development, the 'radio farmer' programme was conceived by the State's Agricultural Development Programme (ADP). The programme which was launched in 1990 as a platform for transmitting vital agricultural information to farmers in Imo state, was dedicated to enlightening, educating and informing farmers on variety of issues, such as the existence of improved crop and animal varieties, weed control, bee-keeping, use of agrochemicals, modern farming techniques, etc, in line with its mandate as the extension arm of the Ministry of Agriculture. The programme was broadcast in English and Igbo languages to enable those constrained by literacy to benefit and comes to air Tuesdays and Thursdays at 6.00 pm local time.

Several development broadcast designed to assist farmers improve their knowledge, skill and attitude for greater productivity fail to do so due to the inability of the target audience to see the channel with credibility (unbiased and credible). According to Nwosu (2005) a broadcast channel must generate elements of trust and respect which in turn creates believability. Credibility of the channel enables farmers to see the communicated technologies as authentic, reliable and replicable in their context. Understanding how rural farmers in Imo State access, utilize and perceive the "radio farmer" programme as a channel that improves their knowledge of new and improved agricultural technologies, home economics, inputs, agro-processing and marketing does not only tell of its credibility. It highlights the "radio farmer" strength areas that must be consolidated when replication is intended, hence the study.

1.2 Objectives of the study

The broad objective of the study was to assess the utilization of "radio farmer" programme of Imo State Agricultural Development Programme (ADP) by rural farmers in Imo state, Nigeria. Its specific objectives included to:

- determine the demographic characteristics of the rural farmers;
- identify the extent to which agricultural technologies are disseminated through the radio farmer programme and the extent to which the technologies/broadcasts of the 'radio farmer' programme were utilized by the farmers;
- assess farmers' perception of the effectiveness of 'radio farmer' programme; and
- investigate factors militating against the effective utilization of the radio farmer programme by rural farmers in Imo State.

1.3 Hypothesis of the study

H₀: The demographic characteristics of rural farmers have no significant relationship with the utilization of the "radio farmer" programme of Imo ADP by rural farmers in Imo State

2. METHODOLOGY

The study was carried out in Imo State of Nigeria. Imo State is located in the Southeastern agricultural zone of Nigeria and lies between latitude 4^o 45'N and 7^o 15'N and longitude 6^o 50'E with land area of 5,530 Km². It is bordered by Abia State on the East, by River Niger and Delta State on the West, by Anambra State to the North and Rivers State to the South with an estimated population of about 4.8 million people and an annual growth rate of 3.35 percent (National Population Commission, 2010). The State is divided into three political and agricultural zones, namely: Owerri, Orlu and Okigwe zones with 27 Local Government Areas (LGAs). The population of the study included all rural farmers in Imo State. Multistage sampling technique was used to select respondents for the study. First, the population was stratified into the three agricultural zones of Owerri, Orlu and Okigwe. The second stage involved the random selection of 15(fifteen) rural communities, 5 from each

zone. Lastly, 10 farmers were randomly sampled from each community making a total of 150 respondents in all. Questionnaire and interview schedule were used in collecting primary data from the respondents. The data analysis was done using descriptive statistics like frequency distribution, mean score and percentage. The extent to which the information broadcast are utilized by the rural farmers was measured on a 3-point Likert type scale of Highly utilized, Utilized and Not utilized, while Factors Militating against the effective utilization of the radio farmer programme by rural farmers in Imo State was measured on Very serious, Serious and Not serious using a 3-point Likert type scale. The discriminating index was set at 2.0 mean score to accept or reject the scaling items.

3.1 RESULTS AND DISCUSSION

Table1: Distribution of the respondents according to their socio-economic characteristics

Item	*Frequency	Percentage (%)	Mean
Sex			
Male	60	40.0	
Female	90	60	
Age			
20-29	16	10.7	47 years
30-39	24	16.0	
40-49	43	28.7	
50-59	47	31.3	
60-59	15	10.0	
70 and above	05	3.3	
Educational Attainment			
No formal education	21	14.0	Formal Edu.
Primary education	61	40.7	
Secondary education	50	33.3	
OND/NCE	06	4.0	
HND/University Degree	12	8.0	
Membership of Social Organizations			
Farmers co-operative associations	80	29.4	
Community development associations	60	22.1	
Farm produce groups	102	37.5	
Farm labour groups	30	11.0	

Source: Field Survey data, 2013

*Multiple responses

The result in table 1 reveals that majority (60%) of the farmers were female. This aligns with the opinion of ILO (2008) that women do more of the planting, ploughing, harvesting, storage, processing, marketing and other agricultural activities. The average farmer, as shown in Table 1 was within the active age of 47years old. This gives them greater disposition, enthusiasm and energy to try-out technologies communicated through the “radio farmer” programme. Majority (86%) of the rural farmers had formal education, which will likely facilitate their utilization of the “radio farmer” programme since farmers’ educational level has a positive relationship with the adoption of improved practices (Ani, 2007). Also the result shows that an average farmer belonged to at least one social organization, which increases their chances of sharing information and cross fertilizing ideas regarding the “radio farmer” programme with other members of the social organizations.

Table 2: Rural farmers’ access to the “radio farmer” programme

Variables	Frequency	Percentage
A. Awareness		
Aware	141	94.0
Not aware	9	6.0
B. Accessibility		
Access	132	88.0
No access	18	12.0

Source: Field survey data, 2014

Table 2 results show that there is significant awareness and access to the “radio farmer” broadcast programme as majority (94%) of the farmers were aware of it, while 88% had access to the “radio farmer” programme. It is expected that farmers’ awareness and access to the broadcast programme will arouse their interest to tryout some of the technologies communicated thereof.

Table 3: Utilization of basic agricultural information of the “radio farmer” programme by rural farmers in Imo State

Broadcast information	*Frequency	Percentage %
a. Market prices of agricultural Production	108	81.8
b. Improved agricultural technologies and agronomic practices	130	98.5
c. Use of agro-chemicals	95	72.0
d. Harvesting processing and storage	102	77.3
e. Soil testing and conservation practices	98	74.2
f. Pests and disease control	96	72.7
g. Agricultural credit and loan facilities	93	70.5
h. Farmers co-operatives/organization	79	59.8
i. Government policies and programmes	121	91.7

Source: Field survey data, 2014

*Multiple responses

Results in table 3 clearly show that majority (91.7%) of the farmers were using the “radio farmer” programme to access information on improved agronomic practices. This agrees with the findings of Mgbada (2010) that the radio is best suited to raising farmers’ awareness on improved agricultural practices. Most of the farmers (97.0%) were using the radio farmer” programme to access weather forecast/conditions. This result aligns with the position of Arokoyo (2011), which sees the radio as an ICT device that can be effectively used to deliver early warning on weather conditions to assist farmers determine when it is most suitable to plant. In an interview with the farmers, it was found that they used the information they accessed to decide on farm inputs to purchase, agronomic practices to adopt and the time to plant, especially, in the wake of climate change influence on agricultural productivity.

Table 4: Utilization of agricultural technologies disseminated on the “radio farmer” programme

Agricultural Technology	Mean score	Remark
a. Artificial brooding of local chicks	2.8	Utilized
b. Snail farming	2.6	Utilized
c. Dry season vegetable production	2.6	Utilized
d. Poultry production	2.3	Utilized
e. Rabbit rearing	2.3	Utilized
f. Fish production	2.3	Utilized
g. Mushroom production	2.2	Utilized
h. Bee keeping	2.1	Utilized
i. Yam minisetete technique	2.3	Utilized
j. Cassava melon/maize alternate row intercropping	2.1	Utilized
k. Upland rice production	1.7	Not utilized
l. Lowland rice production	1.5	Not utilized
m. Pineapple production	2.2	Utilized
n. Fertilizer use and application	2.6	Utilized
o. Improved cassava varieties	2.4	Utilized
a. Yam/cassava/maize/melon alternate row planting	2.2	Utilized
b. Health management in sheep and goat	2.1	Utilized
p. Pests and disease control	2.1	Utilized

Discriminating mean ≥ 2.0 (Utilized), Mean < 2.0 (Not utilized)
 Field survey data, 2013

Source:

Table 4 revealed that upland rice and lowland rice production technologies were not utilized by the farmers (Mean = 1.6) and (Mean = 1.7), while artificial brooding of local chicks was the most utilized technology of the “radio farmer” programme (Mean = 2.8). Agom *et al* (2009) attributed the poor adoption of rice technology to the problem of land fragmentation common among farmers in Imo State. The farmers explained that snail farming, poultry production, rabbit rearing, mushroom production, bee-keeping technologies were largely utilized probably because of their nutritional value (rich sources of cholesterol-free protein) and also because they require little resources (finance, space, technical know-how, structure) to be adopted. The farmers attributed their utilization of artificial brooding of local chicks, Dry season vegetable production, cassava/melon/maize alternate row intercropping, yam minisetete technique, pineapple production, fertilizer use and application, yam/cassava/maize/melon alternate row intercropping, health management in sheep and goat and Pests and disease control technologies to the impressive results of On-Farm Adaptive Research (OFAR) trials on the technologies carried out by Imo ADP with farmers in the state.

Table 5: Perceived Effectiveness of the “Radio Farmer” programme

Item	Frequency	Percentage (%)
A. Frequency of listening to the programme		
Weekly	80	53.0
Monthly	40	27.0
Occasionally	12	8.0
Do not listen at all	18	12.0
B. Duration of the programme		
Sufficient	84	56.0
Insufficient	48	32.0
C. Time of broadcast		
Convenient to farmers	27	18.0
Convenient to farmers	105	70.0
D. Effectiveness in disseminating innovation		
Effective	114	76.0
Ineffective	36	24.0

Source: Field survey data, 2013

Table 5 shows that most (53.0%) of the farmers listen to the programme every week. Time of broadcast for the programme was however perceived not being convenient by majority (82.0%) of the farmers. In all, the radio

farmer programme was essentially adjudged by majority (76.0%) of the farmers as an effective channel of disseminating innovation.

Table 6: Problems constraining the effective utilization of the “Radio Farmer” programme by rural farmers

Constraints	Mean score	Remark
a. Time of broadcast	2.2	Serious
a. Power supply/lack of electricity	1.7	Not serious
b. Language used in broadcasting	1.7	Not serious
c. Lack of interactivity with programme presenter	1.6	Not serious
d. Lack of demonstration	1.7	Not serious
e. Poor radio signal	1.4	Not serious

Discriminating mean ≥ 2.0 (Serious), Mean < 2.0 (Not serious)

Source: Field survey data, 2013

Time of broadcast for the “radio farmer” programme was identified as a serious problem (Mean =2.2) constraining the effective utilization of the “radio farmer” programme. Most of the farmers (71.9%) complained that the broadcast time of the programme (6.00 pm) often clash with their other livelihood activities. This keeps most of them away from their homes and reach of their radio sets, to listen to the broadcast. This result lays credence to the finding of Otobe (2014) that men and women in developing countries engage in various economic and non-economic activities that consume their time and often hinder them from participating in time-oriented programmes.

Table 7: Relationship between the socio-economic characteristics of farmers and the utilization of “radio farmer” programme of Imo ADP by rural farmers in Imo State

Explanatory Variables	Linear Function	Double Log	Semi-log	Exponential Function
Constants	1.696	12.560	2.137	22.634
R ²	0.720	0.136	0.098	0.179
No of Observation	150	150	150	150
F-value	12.111**	0.423	2.783*	0.886
Sex X ₁	.011(2.983)*	0.000(9.223)**	0.033(2.626)**	0.000(1.623)
Age X ₂	00.000(2.151)*	0.000(-0.899)	0.009(-1.989)*	0.085(10.111)**
Educational Level X ₃	0.000(5.289)**	0.369(0.330)	0.001(-0.729)	0.000(12.211)**
Membership of Social Org. X ₄	0.003(4.24)**	0.000(-7.095)**	0.000(1.792)	0.000(0.415)
Monthly income X ₅	0.006(2.943)**	0.000(-1.168)	0.000(0.404)	0.001(-1.415)
Year of Farming Experience X ₆	0.000(6.753)**	0.030(0.207)	0.000(-1.464)	0.009(-4.848)**

Source: Field survey data, 2013

* t – ratio significant at 5% probability level

** t – ratio significant at 1% probability level

Table 7 results show that the linear function had the best fit with coefficient of multiple determination (R²) of 0.720, implying that about 72 percent of the variation in the utilization of the “radio farmer” programme of Imo ADP by rural farmers in Imo State was derived from the joint action of the socio-economic characteristics investigated in the study. The coefficients of educational level (t = 5.289), Membership of Social Organization (t = 4.24), monthly income (t = 2.943) and year of farming experience (t = 6.753) were positive and significant at 1%. This implies that increase in the level of education, membership of social organizations, monthly income and years of farming experience will increase rural farmers’ utilization of agricultural information and technologies in Imo State. Education increases intrinsic motivation and energizes behaviours, and the more agricultural information an individual receives, the greater the possibility of success in the agribusiness. Increase in farming experience, increases farmers’ output (Onwumere, 2008, Clover and Darroch, 2005, Onwumere and Nmesirionye, 2011). The result also shows that Sex (t = 2.983) and age (t = 2.151) were significant at 5%, implying that they are also important factors influencing the utilization of the radio farmer programme. With regards to sex, ILO (2012) observed that the day-to-day life experiences and economic activities are not the same for men and women, hence, affects how they utilize agricultural information and technologies. Age on the other

hand, provides enthusiasm and vigour for agribusiness (Onwumere, 2008), thereby determines the rate with which the radio farmer programme is utilized.

4. CONCLUSION AND RECOMMENDATION

On the basis of the results it can be concluded that the “radio farmer” programme of Imo ADP was effectively utilized. This suggests that the programme has impacted agricultural production, such as the increase in fish production, snail rearing at homestead, honey production witnessed in the State. The radio farmer programme was perceived by rural farmers in as an effective channel of disseminating innovations in Imo state. The broadcast time was however, not convenient to the farmers as it sometimes clashes with other economic and noneconomic activities of the farmers. The demographic characteristics of the farmers have direct relationship with the utilization of the radio farmer programme.

To increase the utilization of the radio farmer programme by farmers for greater access to basic agricultural information and technologies, the study therefore recommends that:

- The broadcast time should be rescheduled to address the primary constraining factor against the effective utilization of the radio farmer broadcast programme.
- Complementary radio signal devices such as, cell phones, radio receivers, etc, which can be carried about should be provided by the government and other stakeholders to enable farmers avail themselves of the programme anywhere anytime.
- The radio farmer programme should be packaged in CD/DVDs and distributed to farmers and other utilizers of agricultural information and technologies through different outlets, such as retail shops, conference venues, ADP offices, workshop venues, higher institutions, rural tele-centres, etc.

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