Effectiveness of Shadez Agrotainment Programme in Technology Transfer Among Rural Farmers in Obio/Akpor Local Government Area, Rivers State

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Abstract: This study examined effectiveness of the Shadez Agrotainment Programme in Technology Transfer among Rural Farmers in Obio/Akpor Local Government Area. Data were collected from 80 rural farmers drawn from the study area using multistage sampling techniques. Structured questionnaire was used for data collection. Data were analyzed using descriptive statistical tools such as frequencies, percentages and mean. Results from the study showed that majority (57.1%) of the farmers were females and that 46.8% of the farmers were between the ages of 20-29yrs. 61.0% of the farmers were married with and average household size of 5 persons. The farmers had an average monthly income of ₦124,850 and average farm size of 1.8 hectares, with personal savings being the major source of income (62.3%). Types of agricultural information on technologies aired through Shadez Radio-Agricultural farmers Programme were improved crop varieties (94.8%) and Fertilizer Application (90.9%) and fish farming techniques (81.8%). Also, the rural farmers perceived relevance of the technologies transferred by the Shadez Agrotainment Programme included that Information provided by Shadez Agrotainment Programme have being useful in my price bargaining in marketing of agricultural produce ($\bar{x} = 3.31$), programme addresses my information needs ($\bar{x} = 3.25$), Information derived from the programme has contributed to the development of new market for my produce ($\bar{x} = 3.09$). The effectiveness of the programme in transferring technologies were fertilizer application ($\bar{x}=3.42$) and improved crop varieties with fish farming technique ($\bar{x}=3.09$). The major constraints identified by the farmers in technology transfer through Shadez Agrotainment Programme includes poor power supply ($\bar{x}=3.70$), lack of visual content ($\bar{x}=3.03$), and Lack of feedback from farmers ($\bar{x}=2.92$). Based on the findings, the study concluded that the Shadez Radio-Agricultural Programme plays a significant role in technology transfer among rural farmers, with particular effectiveness in promoting practices such as fertilizer application and improved crop varieties. It was recommended that to overcome the limitations of radio as an audio-only medium, the program could be complemented with visual aids through other platforms, such as mobile applications, social media, or community-based demonstrations.

Keywords: Technology Transfer, Shadez Agrotainment Programme,

INTRODUCTION

According to Abebe, Bijman, Pascucci, and Omta (2013), various channels are used to disseminate agricultural knowledge to farmers; the most traditional but still most used among farmers in developing countries is the face- to- face communication which is the most traditional channel in the history of mankind. With this channel of communication, communicators may employ different modes (facial expressions, gestures, intonation, words and body language) to convey a single message. It also enhances immediate feedback because the communicating parties are in the same physical location. However, the channel is known for its shortcoming by the numbers of persons it can reach and the time of the programme.

Agricultural extension service is established in order to impact knowledge, teach skills and change attitudes of people towards acceptance of innovation. Acceptance of innovations however has been premised on many factors relating more to farmers' personal views of such innovation (Ayoade & Akintonde, 2012).

The use of media in extension work thus enables extension personnel operate more effectively. Mass media can serve as a potent tool to achieve this (Odiaka & Criscent, 2018; Age, Obinne & Demenongu, 2012). The mass media as a source of information utilizes three major channels of communication which are television, radio, and print. While these three channels have their various uses and importance, radio is considered the most effective and efficient in disseminating information to farmers over a wide area (Familusi & Owoeye, 2014). Also, Auma, Wangia, Ligare and K'obill (2017) posited that the fastest media channel that can disseminate accurate and relevant agricultural market information to mass of smallholder farmers is community radio. Radio has been found to be one broadcast medium identified by almost all experts to be the most appropriate for rural liberation programmes. It cuts across distance as Uwandu, Thomas and Okoro (2018) found that mass media, especially radio play an important role in creating awareness about new agricultural technologies among farming communities across the world and thus has immediate effect. It has been considered the only medium of mass communication the rural population is familiar with (Yahaya, Adamson & Kareem, 2018). This is because a radio set is cheap to obtain and widely owned in rural areas since the advent of the battery-operated transistorized sets. Furthermore, radio is favored as a medium of communication in rural communities because it (i) transcends barriers of illiteracy and (ii) requires less intellectual exertion compared to print-media messages.

Shadez Agrotainment programme is an agricultural programme carried out by wave FM in order to reach out to their clientele, improve their standard of living, increase the yield of farmers and improving their agricultural practices. This programme enables farmers to have a rational decision on their activities and thus reduce scarcity of food and raw materials therefore ensuring sustainable food production. It helps farmers see the need or benefits of agriculture and how they can overcome their challenges.

Effective market information dissemination to farmers is important as it facilitates their planning strategies like quantities to be purchased, quantity to be sold immediately and quantity to be stored (Zyang *et al.,* 2016). It is on the premise that this study is being carried out to ascertain the effectiveness of the Shadez Agrotainment Radio programme in technology transfer among rural farmers in Rivers state.

The objectives of this study were to;

i.   describe socio-economic characteristics of the Rural Farmers in Obio/Akpor Local Government Area, Rivers State

ii.   identify the types of Agricultural Information on Technologies Aired through the Shadez Radio- Agricultural Programme

iii. ascertain the rural farmers' perceived relevance of the technologies transferred via Shadez Radio-Agricultural Programme

iv.   determine the effectiveness of the Shadez programme in transferring agric. technologies to the rural farmers

v.   identify the constraints encountered by the rural farmers in participating in the Shadez Agrotainment Programme

Study Area

The research was carried out in Obio-Akpor Local Government Area (LGA) of Rivers State. Obio-Akpor is a local government area in the metropolis of Port Harcourt, one of the major centers of economic activities in Nigeria, and one of the major cities of the Nigeria Delta, located in Rivers State. The local government area covers 260 km2, and the population is 464,789 (National population census 2006). The thick mangrove forest, raffia palms and light rainforest are the major types of vegetation. Due to the high rainfall, the soil in the area is usually sandy or sandy loam. It is always leached, underlain by a layer of impervious pan with potentials in crops purchase and also rich in Agriculture.

Research Design

The study adopted a descriptive survey research design.

Population of the Study

The population of the study consisted of all registered farmers in Obio/Akpor LGA under the Rivers State Ministry of Agriculture. There is a total of 240 farmers in Obio/ Akpor (Rivers State Ministry of Agriculture Report,2022).

Sampling Procedure and Sample Size

Multi-stage sampling techniques were used to select 80 farmers from the study area.

Data Collection Methods and Sources

Data were collected through the use of structured questionnaire.

Method of Data Analysis

Descriptive and inferential statistics was used to analyze the data. Descriptive statistics such as frequencies, percentages and mean were used to describe the socio-economic characteristics of the farmers and the types of technologies aired on radio. Multiple regression analysis was used to determine the relationship between the socio-economic characteristics of the rural farmers and effectiveness of Shadez Agrotainment programme in technology transfer to rural farmers in the study area.

RESULTS AND DISCUSSIONS

Socio-Economic Characteristics of the Respondents

The result in Table 1 showed that a large proportion (57.1%) of the respondents were females while 42.9% were males. This implies that farming was a female-dominated occupation in the in the study area This could be as a result of the fact that the nature of farming is not as energy- demanding. This result negates the findings of Abraham *et al* (2021) who reported that out of eighty (80) farmers interviewed, 55 were male farmers representing 68.8% of the total population while 16 were female farmers representing 31.3% in Odogbolu local government area, Ogun state, Nigeria.

A large proportion (46.8%) of the respondents were in the age bracket of 20-29 years while 22.1%, 15.6%, 13.0%, and 2.6% of the respondents were in the age brackets of 40-49, 50-59, 30-39 and 60 and above years old respectively. The rural farmers had an average age of 35.9 years. This suggests that they belong to the economically active population category which is between 35-44 years. They can therefore put more effort into farming to increase their output. This could also enhance their ability and willingness to participate in transfer of technology in their production and management activities. Due to the drudgery nature of small-scale farming, age is important to determine the quality of labour (Mukaila *et al.,* 2020). Thus, the rural farmers have the energy required to give quality labour on their farms, this supports the findings of Abraham *et al* (2021) that small-scale farmers had an average age of 44 years and that they belong to the economically active population category which is between 25-59 years.

Majority (61.0%) of the respondents were married, while 33.8% were single, 2.6% were either divorced and 2.6% were widowed implying that the rural farmers were responsible men and women who have family that they take care of and provide for their basic needs, which may impact on the amount they may be willing to spend on social media for information management.

Also, 35.1% of the respondents had secondary education while 25.9% had primary education and only 20.8% had no formal education, while 18.2% had no tertiary education. As a result of their academic attainment one way or the other, the respondents would have been exposed to the basic rudiments and operations of technology used in agriculture. This is against the findings of Abraham *et al* (2021) that stated that the majority (68.7%) of the farmers had tertiary education and 31.3% had secondary education. The implication of this is that the rural farmers are likely to readily adopt new technology and innovation for farming.

The result also revealed that a good majority (49.4%) of the respondents had a household size of 1-4 persons, 40% had a household size of 5-8persons, 3.6% of them had a household size of 13 persons and above and only 0.9% had a household size of 9-12 persons, with a mean household size of 5 persons. The large household size suggests that the poultry farmers are likely to enjoy family labour readily available. The farmer makes use of family labour for their activities which could reduce their operational cost in the business (Mukaila *et al.,* 2021). The size of the family will thus reduce the amount of hired labour employed in poultry farming.

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Majority (50.6%) of the rural farmers had a monthly income of 51,000- 100,000, 36.4% of the farmers had an income between 101,000-150,000 monthly, and only 21.1% of them had an income of 201,000 and above and another 5.2% earned 151,000-200,00 on a monthly basis. The average income was N124,850.00. This aligns with the findings of Abraham (2021) that rural farmers, however, had an average monthly income of N101,407.33 indicating that farming is a profitable venture.

The result showed that 41.6% of the rural farmers had a farm size of 1.7-2.2 hectares. 40.3%, 14.3%, and 3.9% had farm size of 1.1-1.6hectares, 2.3-2.8 hectares, and 2.9-3.4hectares respectively. The average farm size of the rural farmers was 1.8hectares. This implies that the majority of the farmers had a considerate farm size when it comes to the study area.

Majority (64.9%) of the rural farmers belonged to cooperative society, 22.1% of the farmers belonged to farming association, while women group and thrift had same percentage value of 6.5%. This result aligns with findings from related studies such as Adefila (2014) who observed that cooperative societies are vital in facilitating access to agricultural inputs, credit, and training, which are often beyond the reach of individual farmers. Also, this is supported by the work of Onyeneke (2017), who found that farmers who participate in associations tend to adopt improved agricultural technologies more readily than those who do not.

The result in Table 1 also revealed that majority (62.3%) of the rural farmers get their income from personal savings, 16.9% of the farmers get through commercial bank, 11.7% get through microfinance banks, while 11.7% get from relative and friends. This high dependence on personal savings suggests that these farmers may have limited access to external financial resources, which can restrict their ability to invest in necessary agricultural inputs, expand their operations, or adopt new technologies. The reliance on personal savings is a common trend in rural areas where financial services are often underdeveloped or inaccessible. Akudugu *et al.* (2012) noted that many rural farmers prefer to use their savings due to the lack of collateral and the high-interest rates charged by formal financial institutions, which makes borrowing unattractive or unfeasible. This situation can limit their ability to scale up their agricultural activities, leading to persistent low productivity and income levels.

Only 16.9% of the farmers reported obtaining income through commercial banks, indicating a relatively low level of engagement with formal banking institutions. This low percentage can be attributed to several factors, including the stringent loan requirements, lack of banking infrastructure in rural areas, and farmers' low financial literacy. In a related study, Obisesan (2013) found that commercial banks are often reluctant to lend to small-scale farmers due to the perceived high risk and the costs associated with providing services to rural areas.

The results also show that 11.7% of farmers access income through microfinance banks, which are more likely to cater to the needs of small-scale farmers compared to commercial banks. Microfinance institutions (MFIs) have been recognized for their role in providing financial services to the underserved, including rural farmers. According to Zeller and Sharma (2017), MFIs are better suited to meet the needs of rural farmers because they often offer more flexible loan terms and are more accessible. However, the relatively low percentage of farmers using microfinance banks suggests that there may still be barriers to access, such as limited coverage of MFIs or farmers' unfamiliarity with their services.

Table 1: Percentage Distribution of Rural Farmers According to their Socio-economic Characteristics

Characteristics	Frequency (n=77)	Percentage %	Mean
Gender			
Male	33	42.9	
Female	44	57.1	

Age (years)			
20 – 29	36	46.8	
30 – 39	10	13.0	40years
40 – 49	17	22.1	
50 – 59	12	15.6	
60 and above	2	2.6	
Marital Status			
Single	26	33.8	
Married	47	61.0	
Separated	0	0.0	
Divorced	2	2.6	
Widowed	2	2.6	
Educational Qualification			
Non-formal	10	20.8	
Primary School	16	25.9	
Secondary School	17	35.1	
Tertiary Institution	34	18.2	
Household Size (persons)			
1 - 4	36	46.8	
5 - 8	38	49.4	5 persons
9 - 12	3	3.9	
Farm Size (Hectares)			
1.1 - 1.6	31	40.3	
1.7 - 2.2	32	41.6	
2.3 - 2.8	11	14.3	1.8 hactares
2.9 - 3.4	3	3.9	
Organization Belonged to			
Farming Association	17	22.1	
Cooperative Society	50	64.9	
Women Group	5	6.5	
Thrift Association	5	6.5	
Income (N)			
51,000 – 100,000	39	50.6	
101,000 – 150,000	17	36.4	₦124,850.00
151,000 – 200,000	4	5.2	
201,000 and Above	17	22.1	
Income Source			
Personal Savings	48	62.3	
Relative/Friends	7	9.1	
Microfinance Banks	9	11.7	
Commercial Bank	19	16.9	

Source: Field Survey, 2024

Types of Agricultural Technologies Aired on Shadez Agrotainment Programme
The result in Table 2 revealed that a majority (94.8%) of the rural farmers in the study area acknowledged Improved crop varieties as improved technology aired on Shadez radio programme, followed by fertilizer application (90.9%), Fish Farming Technique (81.8%), Cassava-Maize/Yam Intercrop (74.0%), and they ranked 1st to 4th positions respectively. Others Yam staking Technique (68.8%), Vaccination of Animals (66.2%), Soil Conversation Practice (63.6%), Dry Season Veg. Production (51.9%), Practical tips on crop (50.6%), and Yam Minisette (36.4) they ranked 5th to 10th positions respectively. This compliments the findings of Ogada *et al.* (2014) who noted that the adoption of improved crop varieties is often driven by their higher yields, resistance to pests and diseases, and shorter maturation periods compared to traditional varieties. These benefits are particularly important in regions where farmers are grappling with the effects of climate change and declining soil fertility. Liverpool-Tasie *et al.* (2017) have documented the positive impact of fertilizer use on smallholder farmers' productivity, especially when coupled with improved crop varieties. The promotion of fish farming on Shadez Agrotainment is consistent with national and global trends that encourage diversification in agricultural practices to improve food security and income. A study by Hecht (2013) highlighted the potential of fish farming to contribute to rural livelihoods, particularly in regions with suitable water resources and increasing demand for fish protein. Intercropping is a common practice in many parts of Africa, where it helps farmers optimize their resources by growing multiple

crops on the same piece of land. According to Mucheru-Muna *et al.* (2010), intercropping can lead to higher overall yields and improved soil health, making it a valuable technology for smallholder farmers.

Table 2: Percentage Distribution on Types of Improved Technologies Aired on Shadez Agrotainment Programme Media platforms available for the farmers.

Types of Improved Technologies Aired on Shadez Agrotainment Programme	Frequency (*f*) (n = 77)	Percentage (%)	Rank
Improved Crop Varieties	73	94.8	1st
Fertilizer Application	70	90.9	2nd
Fish Farming Technique	63	81.8	3rd
Cassava-Maize/Yam Intercrop	57	74.0	4th
Yam staking Technique	53	68.8	5th
Yam staking Technique	53	68.8	5th
Vaccination of Animals	51	66.2	6th
Soil Conversation Practice	49	63.6	7th
Snailery Technique	40	51.9	8th
Practical Tips on Crop	39	50.6	9th
Yam Minisette	28	36.4	10th

Source: Field Survey (2024)   **Multiple Responses**

Perceived relevance of the programme to the farmers.

Table 3 presents the Perceived relevance of the technology transfer program to the rural farmers. Information provided by Shadez Agrotainment have been useful in my price bargaining in marketing of agricultural produce ($\bar{x}$ = 3.31) was ranked first among the perceived relevance of the program. programme addresses my information needs ($\bar{x}$ =3.25) was the second major relevance of the program. Information derived from the programme has contributed to the development of new market for my produce ($\bar{x}$ =3.09) ranked third, Information derived from the programme has aided proper decision and increase farm gate prices ($\bar{x}$ =3.00), Information derived from the programme has contributed to increase of farm income ($\bar{x}$ =2.89), Over the years the programme has helped to boost sales of my produce ($\bar{x}$ =2.73), The benefits derived from the programme is worth the time invested in listening to it ($\bar{x}$ =2.66) The category of commodities covered by the programme is only beneficial to some few farmers ($\bar{x}$ =2.49) with a grand mean of 2.93. The grand mean is an indication that the programme is perceived to be relevant by the farmers. This finding aligns with the work of Afolabi and Ajayi (2016), who emphasized the importance of access to market information in enhancing farmers' bargaining power and improving their income. Oladele (2011) also highlighted the role of tailored agricultural information in addressing the unique challenges faced by rural farmers, thereby improving their productivity and livelihoods. According to Okwu and Umoru (2009), access to market information is a critical factor in enabling farmers to explore new markets and improve their economic standing.

Table 3: Mean Distribution on Perceived relevance of the program to the farmers.

Perceived relevance of the program to the farmers (n = 77)	Strongly Agree	Agree	Disagree	Strongly Disagree	Sum	Mean	Remark	Ranking
Information provided by Shadez Agrotainment have been useful in my price bargaining in marketing of agricultural produce	35	35	3	4	255	3.31	Agreed	1st
The programme addresses my information needs	31	37	6	3	250	3.25	Agreed	2nd

Information derived from the programme has contributed to the development of new market for my produce	28	36	5	8	238 3.09	Agreed	3rd
Information derived from the programme has aided proper decision and increase farm gate prices	22	37	14	4	231 3.00	Agreed	4th
Information derived from the programme has contributed to increase of farm income	23	34	9	11	223	2.89	Agreed	5th
Over the years the programme has help to boost sales of my produce	20	31	11	15	210 2.73	Agreed	6th
The benefits I derive from the programme is worth the time invested in listening to it	21	26	13	17	205 2.66	Agreed	7th
The category of commodities covered by the programme is only beneficial to some few farmers	13	22	32	10	192	2.49	Agreed	8th
Grand Mean					**2.93**		

Source: Field survey, 2024   **≥ 2.5 – Relevant; ≤ 2.5 –Not Relevant**

Effectiveness of the Programme the technology transfer program to the rural farmers.

Table 4 presents the effectiveness of the programme in technology transfer program to the rural farmers. The programme was most effective in transferring information on fertilizer application ($\bar{x}$ = 3.42) and this ranked first. This was followed by improved crop varieties and fish farming technique ($\bar{x}$ =3.09), yam staking techniques ($\bar{x}$ =3.08), vaccination of animals ($\bar{x}$ = 2.87), information derived from the programme has contributed to increase in farm income ($\bar{x}$ =2.89), snail technique ($\bar{x}$ =2.73), soil conversation practice ($\bar{x}$ =2.69), practical tips on crop ($\bar{x}$ =2.66), dry season veg. production ($\bar{x}$ =2.62), cassava-maize/yam intercrop ($\bar{x}$ =2.61), and yam minisette ($\bar{x}$ =2.52) with a grand mean of 2.85 indicating the overall effectiveness of the programme. Fertilizer application, with the highest mean score, is ranked as the most effective aspect of the program. This suggests that farmers find the information and guidance on fertilizer use particularly valuable, likely due to its direct impact on crop yields and overall productivity. Fertilizer application is crucial for enhancing soil fertility and crop growth, and its prominence in the farmers' evaluations aligns with findings by Liverpool-Tasie et al. (2017), who noted that proper fertilizer use is often a key determinant of agricultural success in smallholder farming. Ogada et al. (2014). Similarly, the emphasis on fish farming techniques reflects a growing recognition of aquaculture as a viable means of enhancing food security and providing additional income, as discussed by Hecht (2013).

Table 4: Mean Distribution on Effectiveness of the Programme.

Effectiveness of the Programme (n = 77)	Very Effective	Effective	Less Effective	Not Effective	Sum	Mean	Remark	Ranking
Fertilizer Application	40	29	8	0	263	3.42	Effective	1st
Improved Crop Varieties	30	31	9	7	238	3.09	Effective	2nd
Yam staking Techniques	26	31	20	0	237	3.08	Effective	3rd
Vaccination of animals	17	42	9	9	221	2.87	Effective	4th

Snail Technique	27	12	28	10	210	2.73	Effective	5th
Soil Conversation Practice	14	34	20	9	207	2.69	Effective	6th
Practical Tips on Crop	18	20	34	5	205	2.66	Effective	7th
Dry Season Veg. Production	9	35	28	5	202	2.62	Effective	8th
Cassava-Maize/Yam Intercrop	16	22	32	7	201	2.61	Effective	9th
Yam Minisette	19	14	33	11	195	2.53	Effective	10th
Grand Mean						2.85		

Source: Field survey, 2024   **≥ 2.5 – Effectiveness; ≤ 2.5 – Not Effectiveness**

Constraints Encountered by the Rural Farmers in Technology Transfer through the Shadez Agrotainment Programme

Table 5 presents the constraints encountered by the rural farmers in technology transfer through the Shadez Agrotainment Programme. poor power supply ($\bar{x}$ = 3.70) was ranked first among the constraints encountered by rural farmers in technology transfer through Shadez Radio program. lack of visual content ($\bar{x}$ =3.03) was the second major constraints of the program. lack of feedback from farmers ($\bar{x}$ =2.92) ranked third, management of the programme (=2.82), poor timing ($\bar{x}$ = 2.75), high cost of getting radio ($\bar{x}$ =2.73) and lack of trained specialist ($\bar{x}$ =2.68) with a grand mean of 2.95 indicating the constraints of the programme. This finding is consistent with the broader challenges of infrastructural deficits in rural areas, as discussed by Odoemelam and Ajuka (2016), who noted that inadequate power supply can significantly hinder the effectiveness of agricultural extension services that rely on electronic media. Lack of visual content. Radio, as an audio medium, inherently lacks the visual aids that can be crucial for understanding complex agricultural techniques, this is supported by the findings of Okeke et al. (2015), who highlighted the importance of visual demonstrations in agricultural training and the challenges posed by their absence in radio-based programs.

Effective technology transfer requires not only the dissemination of information but also the ability to gather feedback from the target audience to ensure that the content is relevant and actionable. According to Alabi and Ajayi (2014), feedback mechanisms are critical in agricultural extension programs as they help tailor the information to the specific needs and conditions of the farmers. Other constraints include management issues, poor timing of broadcasts, the high cost of acquiring a radio, and a lack of trained specialists. These challenges further illustrate the barriers to effective technology transfer in rural areas. The timing of broadcasts, for instance, is crucial because if programs are aired at inconvenient times, farmers may not be able to tune in, reducing the program's overall impact. Similarly, the high cost of radios and the lack of trained specialists point to broader issues of accessibility and quality in rural extension services, as also noted by Arokoyo (2013).

Table 5: Mean Distribution on Constraints Encountered by the Rural Farmers in Technology Transfer through the Shadez Agrotainment Programme (n = 77)

Constraint Encountered	Very Great Constraints	Great Constraints	Constraints	Not a Constraints	Sum	Mean	Remark	Rank
Poor Power Supply	61	11	3	2	285	3.70	Constraint	1st
Lack of Visual Content	26	31	16	4	233	3.03	Constraint	2nd
Lack of feedback from farmers	33	16	17	11	225	2.92	Constraint	3rd
Poor Management of the Programme	22	35	4	16	217	2.82	Constraint	4th
Poor Timing	20	32	9	18	212	2.75	Constraint	5th
High Cost of getting Radio	31	10	20	16	210	2.73	Constraint	6th
Lack of Trained Specialist	19	18	34	8	206	2.68	Constraint	7th
Grand Mean						2.95		

Source: Field survey, 2024   **≥ 2.5 – Constraint; ≤ 2.5 – Not Constraint**

CONCLUSION AND RECOMMENDATIONS

Based on the findings, the study concluded that the Shadez Radio-Agricultural Programme plays a significant role in technology transfer among rural farmers, with particular effectiveness in promoting practices such as fertilizer application and improved crop varieties. However, the program's impact is constrained by challenges such as poor power supply, lack of visual content, and

inadequate feedback mechanisms, which limit its overall effectiveness. Despite these challenges, the program is well-regarded by farmers for its relevance in addressing market information needs and practical agricultural techniques. It was recommended that to enhance its effectiveness, addressing infrastructural limitations, improving content delivery, and strengthening communication with farmers are essential. Also, to overcome the limitations of radio as an audio-only medium, the program could be complemented with visual aids through other platforms, such as mobile applications, social media, or community-based demonstrations.

References

Abebe, G. K., Bijman, J., Pascucci, S., & Omta, O. (2013). Adoption of improved potato varieties in Ethiopia: The role of agricultural knowledge and innovation system and smallholder farmers' quality assessment. *Agricultural Systems, 122*, 22–32.

Adefila, J. O. (2014). Spatial assessment of farmers' cooperative organizations in agricultural development in Gurara area of Niger State, Nigeria. *Journal of Ecology and the Natural Environment, 6*(7), 244-254.

Afolabi, M. O., & Ajayi, A. O. (2016). Influence of market information on price bargaining power of farmers in South-West Nigeria. *Journal of Agricultural Extension and Rural Development, 8*(3), 46-53.

Age, A. I., Obinne, C. P. O., & Demenongu, T. S. (2012). Communication for sustainable rural and agricultural development in Benue State, Nigeria. *Sustainable Agriculture Research, 1*(1), 118–129.

Akudugu, M. A., Egyir, I. S., & Akwasi, A. (2012). Agricultural credit allocation and constraint analyses of selected microfinance institutions in Ghana. *African Journal of Agricultural Research, 7*(2), 383-390.

Alabi, M. O., & Ajayi, A. O. (2014). Feedback mechanism in agricultural extension: A tool for effective communication. *Journal of Agricultural Extension, 18*(1), 125-136.

Arokoyo, T. (2013). ICTs in the transformation of agricultural extension: The case of Nigeria. *Journal of Agricultural Extension and Rural Development, 5*(5), 99-107.

Auma, P., Wangia, S. M., Magomere, T., Ligare, E. C., & K'obill, J. (2017). Effectiveness of community radio in market information among smallholder maize farmers: Experience from Suba Sub-community Kenya. *International Journal of Innovative Research and Development, 6*(3), 54–63.

Ayoade, A. R., & Akintode, J. O. (2012). Constraints to adoption of agricultural innovations among women farmers in Isokan Local Government Area, Osun State. *International Journal of Humanities and Social Science, 2*(8), 57–61.

Familusi, E. B., & Owoeye, P. O. (2014). An assessment of the use of radio and other means of information dissemination among the residents of Ado-Ekiti, Nigeria. *Library Philosophy and Practice*. Retrieved from http://digitalcommons.unl.edu/libphilprac/1088

Hecht, T. (2013). Global aquaculture in 2012: Review. *Aquaculture Today, 32*(1), 14-27.

Liverpool-Tasie, L. S. O., Kuku, O., & Ajibola, A. (2017). Farmers' perception of soil fertility and fertilizer yield response in Nigeria. *Agricultural Systems, 154*, 1-12.

Mucheru-Muna, M. W., Mugendi, D. N., & Kung'u, J. B. (2010). Soil productivity, planting density and fertilizer use efficiency for maize-bean intercrop in the sub-humid zones of Kenya. *Journal of Agricultural Research, 4*(6), 456-461.

Obisesan, A. A. (2013). Credit accessibility and poverty among smallholder farmers in Southwestern Nigeria. *Greener Journal of Agricultural Sciences, 3*(2), 120-127.

Odiaka, E. C., & Criscent, I. E. (2018). Mass media coverage of agricultural information: The Benue State example. *Journal of Agricultural Extension, 11*(1), 45-54. Retrieved from http://journal.aesonnigeria.org/index.php/jae/article/view/1639

Odoemelam, L. E., & Ajuka, J. C. (2016). Impact of infrastructural deficit on agricultural production in Nigeria. *Journal of Agricultural Extension, 20*(1), 92-101.

Ogada, M. J., Mwabu, G., & Muchai, D. (2014). Farm technology adoption in Kenya: A simultaneous estimation of inorganic fertilizer and improved maize variety adoption decisions. *Agricultural and Food Economics, 2*(1), 12.

Okeke, C. U., Ezihe, J. A. C., & Onu, F. M. (2015). Impact of visual aids in agricultural extension delivery in Nigeria. *International Journal of Agricultural Research, 10*(2), 54-61.

Okwu, O. J., & Umoru, B. I. (2009). A study of women farmers' agricultural information needs and accessibility: A case study of Ndokwa agricultural zone of Delta State, Nigeria. *Journal of Agriculture and Food Information, 10*(4), 38-52.

Oladele, O. I. (2011). Effect of information communication technology on agricultural information access among extension officers in North West Province, South Africa. *Life Science Journal, 8*(3), 64-69.

Onyeneke, R. U. (2017). Determinants of adoption of improved technologies in rice production in Imo State, Nigeria. *African Journal of Agricultural Research, 12*(11), 888-896.

Uwandu, C. N., Thomas, K. A., & Okoro, C. M. (2018). Utilization of agricultural information sources and adoption of animal and crop technology among farming households in Imo State, Nigeria. *Journal of Agricultural Extension, 22*(1), 143–155.

Yahaya, M. K., Adamson, F. A., & Kareem, I. T. (2018). Coverage of agricultural programmes in broadcast stations in Oyo State. *Journal of Agricultural Extension, 22*(3), 22–30.

Zeller, M., & Sharma, M. (2017). Rural finance and poverty alleviation. *Food Policy Review, 3*, 1-15.

Zyang, Y., Wang, L., & Duan, Y. (2016). Agricultural information dissemination using ICTs: A   review   and   analysis   of information dissemination models in China. *Journal of   Information Processing in Agriculture, 3*(1), 17–29.