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ORIGINAL ARTICLE

ARABLE CROP FARMERS' ACCESS TO AGRICULTURAL EXTENSION SERVICES IN IVO LOCAL GOVERNMENT AREA OF EBONYI STATE, NIGERIA

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Abstract
The study focused on arable crop farmers' access to agricultural extension services in Ivo Local Government Area of Ebonyi State, Nigeria. Specifically, it described the socio-economic characteristics of the farmers; ascertain farmers' awareness of agricultural extension services available in the study area determined the farmers' access to agricultural extension services and identified strategies to improve farmers' access to agricultural extension services in the study area. The population of the study comprised of all the registered small scale arable crop farmers in Ivo Local Government Area. A two stage sampling procedure was used to select 135 respondents, questionnaire was used to obtain data and data collected was analyzed using descriptive statistics. The farmers were aware of various services rendered by agricultural extension in the study area, such as provision of educational services (77%), assist in the procurement of effective agro-chemicals (herbicides and pesticides) (60%). The farmers agreed that they had access to various agricultural extension services such as provision of incentive to farmers (61%), access to procurement of improved varieties of crops (60%). On the strategies to improve access to agricultural extension services, the farmers indicated the use of mobile phone Short Message Services (SMS) and other social media platform with mean 3.9 and training on cooperative society management (mean = 3.6). In conclusion the arable farmers in the study area had access to agricultural extension. However, the study recommends that agencies in charge of both public and private agricultural extension services should factor in the use of mobile phone SMS and other social media platform for information dissemination to farmers in Ebonyi state, Ivo LGA in particular as this will improve the access of the farmers to extension services.
Key Words: Rural Farmers, Awareness, Agriculture, Improve Access, Extension Services

Introduction

The Nigerian agricultural system is getting more complex; as it is contending with both natural and man-made factors such as high population growth rate, insecurity, herders and farmers clash and climate change among others. According to UNDESAPD (2019), by 2050 it is expected that the world population would increase to about 9.7 billion people. Furthermore, the Food and Agriculture Organization estimates that an increase of 60 per cent in food production is needed to feed this teaming population (Feed the Future, 2015). To achieve food security and reduce poverty, huge resources are invested by the public sector on agricultural research to generate new knowledge, technologies and practices aiming at increasing agricultural development and food production, in Nigeria, Ebonyi State in particular (Adenle, *et al*., 2019). Campo *et al* (2017), further explained that improving farm productivity and farmers' livelihoods, largely depend on how the relevant technological information from research centers is accessed by farmers and other stakeholders.

Over the years, agricultural extension has been at the front-line in the dissemination of timely, current and adequate information to farmers for increased productivity. In the third world countries agricultural development is based on extension services through assisting farmers to identify their problems and connect with research for a solution to the various production problems they could be encountering (Apantaku and Oyegunle, 2016; Sennuga, *et al* 2020). According to Ijeoma and Adesope (2015), the basic task of the extension service is to provide research-based information, educational programs, and technology transfer and needs of the people, enabling them to make informed decisions for their economic, social and cultural well- being. Extension services have a crucial part to play in ensuring that Nigeria achieves the zero hunger of the sustainable development

goal by 2030. It is generally accepted that if agricultural extension service is well applied, it can result to increased agricultural production through the transfer of information directed towards enhancing attitude, knowledge and skills of farmers (Danso-Abbeam *et al.,* 2018). However, end-user's timely access to research findings to update their knowledge and practice has been identified as one of the major problems in agricultural development.

Agricultural extension services comprises different activities that makes up-to-date information and other services required by farmers and other stakeholders to assist them in improving their organizational, technical and managerial issues encountered in their livelihoods on sustained basis (Suleiman *et al.,* 2022). Identifying the right pathway for disseminating information to farmers who are often uneducated, resource poor and living in rural areas would be vital for successful adoption of technologies and improvement in food production. It becomes worrisome as the efforts made by the government towards improving agricultural extension services, most farmers are still struggling on how to produce, when to produce, where to produce, how to source for inputs and where to sell their produce. Hence, farmers are experiencing low production, huge post-harvest losses (Ali and Danladi, 2020) and unimproved living conditions, leading to a slow-down in the achievement of food security and the sustainable development goals 1 (zero hunger) and 2 (poverty reduction). This situation needs urgent attention therefore, researchers want to know if farmers in Ivo local government area of Ebonyi State actually have access to agricultural extension service, that will equip them contribute effectively to food security and better their living conditions. This study focused on the farmers' socio-economic characteristics, awareness of agricultural extension services, access to agricultural extension services and strategies to improve farmers' access to agricultural extension services in Ivo LGA of Ebonyi State.

Methodology

This study was carried out in Ivo LGA of Ebonyi State, Nigeria, which has its Headquarters in Isieke. Ivo LGA was created in Ebonyi State south-east geographical zone of Nigeria on October 1, 1996. It has an estimated population of 141,980 inhabitants living across the various towns and villages. The coordinate is between 6'15W and 8'03E. Ivo LGA of Ebonyi State is made up of Ishiagu, Akaeze, Obinagu-ishiagu, Amanonye, Nzerem, Isieke, Amaeke and Ihie. The major economic activities of the people are mainly farming and other economic activities include pottery and trading. Ivo LGA of Ebonyi State is richly blessed with agricultural heritage and has abundant production of crop varieties such as rice, yam, and cocoyam among others Mbah (2021) and also they are blessed with mineral deposits like limestone (Olade 2019). The population of this study comprised of all the registered small scale farmers (crops farmers) in Ivo local government area in Ebonyi State, Nigeria. A simple survey design was employed. There were three hundred and fifty (350) registered small scale arable crop farmers in the study area. Two stage sampling procedure was used to select sample for the study. A randomly sampling procedure was used to select five communities out of the eight communities in Ivo LGA at the first stage, and a proportionate random selection of 50% of the population across the five communities selected for the study. Tables 1 and 2 show the population of study by the communities and the sample size per community respectively. A structured questionnaire was used for data collection and data collected was analyzed using simple descriptive statistical tools (mean, frequencies and percentages).

Table 1: Names of Communities and the Population of the small scale farmers

S/N	Communities	Population
1.	Nzerem-Okue	101
2.	Amagu	79
3.	Ogwo	40
4.	Amita	42
5.	Amaonye	40
6.	Ngwogwo	27
7.	Amaeke	21
8.	Ihie	20
	Total =	**370**

Source: Ebonyi State ADP

Table 2: Names of Selected Communities and the Sampling Size

S/N	Communities	Population	Sample size (50%)
1.	Nzerem-okue	101	50
2.	Amagu	79	39
3.	Amita	42	21
4.	Ngwogwo	27	14
5.	Amaeke	21	11
	Total =	**270**	**135**

Results and Discussion

The results in tables 3a and 3b show the socio-economic characteristics of the small scale farmers in Ivo LGA of Ebonyi State, the age shows that 11.0% of the farmers were between 20 and 29 years, 24.0% were between the ages of 30 and 39, 27.0% were within 40-49, 18.0% were between 50 and 59 while 20.0% were 60 and above. This implies that a good percentage (62%) of the respondents were still young within 20-49 years. According to Adesope, *et al.* (2023) younger farmers tends to be more open to change than older ones, hence, would seek information that will increase their decision making capacity, access to agricultural extension services. The result also showed that 59.0% were males while 41% were females. Having fewer women may be due to some socio-cultural restrictions which inhibits the participation of women in capacity building activities including agricultural extension services (Azanaw and Tassew, 2017). Only 10% of the farmers were single which shows that the farmers have responsibilities and will require the service of agricultural extension to enhance their production and living conditions. This result agreed with the findings of Ovharhe *et al.* (2020) who noted that majority of the farmers serviced by agricultural extension in Delta State were married. Half (50.0%) of the respondents were Christians. A majority of the small scale farmers were educated. There is a general belief that education enhances the ability to comprehend and adopt relevant agricultural information. This means that having access to agricultural extension services would yield good result on their farm productivity. According to Kalungu and Filho (2016), highly educated farmers tend to adopt relevant agricultural technologies better than illiterate ones. The result of monthly revenue of the respondents shows that majority (82%) earned forty thousand naira (₦40,000.00) and below, indicating that majority of the small scale farmers in the study area had monthly revenue below the national minimum wage of ₦70,000 monthly. It was also found out that 75% of the small scale farmers had a large (6 and above persons) household size. Agricultural extension services often service households not just the

individual farmer. By implication, a large household having access to extension services may serve as a multiplier of extension efforts as most farmers get information about new technology through family and friends. The farmers are well experienced as a majority (93%) had been in farming since 6 years and above. A majority (92%) of the farmers operated on less than 2.6 hectares of land which implies that they were small scale farmers which is not uncommon among Nigerian rural farmers. Also, it was shown that about 70% of the farmers had access to agricultural extension services. This result also indicated that about 9.0% of the farmers access to extension service at least ones fortnightly, 10.0% monthly, 14.0% quarterly, 20.0% twice a year, 17.0% yearly while 30.0% rarely accessed agricultural extension services. This result suggests that some farmers in the study area had good contact with extension agents, however, a good percentage (30%) of the farmers rarely had access to extension services. This could be due to the outrageous extension farm ratio or other problems associated with agricultural extension services in developing countries. If this trend, (inadequate access of Ivo LGA farmers to agricultural extension services) is not handled with urgency, then, farmers in this area will not be able to contribute maximally to the realization of the sustainable development goals 1 and 2 by 2030.

Table 3a: Socio-economic Characteristics of Farmers in Ivo LGA, Ebonyi State

Variables	Frequency (n)	Percentage (100%)
Age		
20-29	15	11
30-39	33	24
40-49	36	27
50-59	24	18
60 and above	27	20
Gender		
Male	79	59
Female	56	41
Marital status		
Married	63	47
Single	21	15
Divorce	13	10
Separate	9	7
Widowed	29	21
Religion		
Christian	67	50
Islam	8	6
Traditional	33	24
Others	27	20
Educational Qualification		
No formal education	8	6
FSLC	21	15
SSCE	22	16
NCE	24	18
ND	13	10
HND	22	16
B.SC/B.AGRIC	20	15
Others	5	4

Estimated Monthly Revenue	23	17
Below 10,000		
10,001- 20,000	49	36
20,001-30,000	33	25
30,001- 40,000	19	14
40,001 and above	11	8
Household size		
1 -5	34	25
6 - 10	49	36
11 - 15	36	27
16 and above	16	12

Table 3b: Socio-economic Characteristics of Farmers in Ivo LGA, Ebonyi State Contd.

Variables	Frequency (n)	Percentage (100%)
Farm experience Below		
1 year	10	7
1 -5 years	32	24
6 - 10 years	19	14
11 - 15 years	33	25
16 years and above	41	30
Farm size		
Less than 1 hectare	19	14
1 - 1.5 hectare	48	36
1.6 - 2.0 hectare	30	22
2.1-2.5 hectare	27	20
Above 2.6 hectare	11	8
Access to Extension Services		
Yes	88	65
No	47	35
How often do you access extension services		
At least ones in 2 weeks	12	9
Once a month	19	14
Quarterly	14	10
Twice a year	27	20
Yearly	23	17
Rarely	40	30

Farmers Awareness of Agricultural Extension Services in Ivo LGA

Table 4 shows the awareness of farmers in Ivo LGA on the services rendered by agricultural extension. Result indicated that the farmers were very much aware of the various services rendered by agricultural extension ranging from provision of educational services (77%), assist in procurement of effective agro-chemicals (herbicides and pesticides) (60%), assist in the formation and registration of farmers' cooperative (53%). Other services provided by agricultural extension were as identified by the farmers were; improved varieties of crops and livestock (51%), that 46% of the respondents acknowledge that they have gotten assistance in procurement of loan and credit facilities, helps in accessing market information was (41%),

links researchers and farmers (40%) to assisted in identification of farm problems and possible solution (33%). This implies that the farmers will be looking forward to accessing these services from agricultural extension in order to make informed decision on their livelihoods as to improve production and contribute maximally to Gross Domestic Product of the nation. Ijeomah and Adesope (2015) asserted that the basic task of the extension service is to provide research-based information, educational programs, and technology transfer and needs of the people, enabling them to make informed decisions for their economic, social and cultural well- being.

Table 4: Farmers Awareness of Agricultural Extension Services in Ivo LGA

S/N	**Agricultural extension services delivered by extension agents**	**Frequency**	**Percentage**
1.	Assistance in procurement of loan and credit facilities	62	46
2.	Teaching of innovation (educational services)	104	77
3.	Procurement of improved varieties of crops and livestock	69	51
4	Procurement of loan and credit facilities	60	46
5.	Provision of incentive to Farmers	61	45
6	Provision of links between research and farmers.	54	40
7	Assisting farmers in identification of farm problems	45	33
8	Assistance in formation and registration of farmers' cooperatives.	71 55	53 41
9	Assistance in accessing marketing information		
10	Procurement of effective farm chemicals (pesticides and herbicides)	81	60

Multiple response

Farmers Access to Agricultural Extension Services Ivo LGA of Ebonyi State

Table 5 shows the agricultural extension services accessed by the farmers. They had access to agricultural extension services, although, the most prominent among the services accessed were provision of incentive to farmers (61%), access to procurement of improved varieties of crops and livestock (60%), procurement of effective farm chemicals (60%), provision of incentive to farmers (61%) and educational services (56%). An increase in the access of the various services rendered by agricultural extension will boost decision making power and improve food production which in turn result to increased income and food security.

Table 5: Access to Agricultural Extension Services by Farmers in Ivo LGA of Ebonyi state

S/N	**Agricultural extension services delivered by extension agents**	**Frequency**	**Percentage**
1.	Assistance in procurement of loan and credit facilities	66	49
2.	Teaching of innovation (educational services)	76	56
3.	Procurement of improved varieties of crops and livestock	81	60
4	Procurement of improved farm implements	64	47
5.	Provision of incentive to Farmers	82	61
6	Provision of links between research and farmers.	66	49
7	Assisting farmers in identification of farm problems	57	42
8	Assistance in formation and registration of farmer's cooperatives.	71	53
9	Assistance in accessing marketing information	55	41
10	Procurement of effective farm chemicals (pesticides and herbicides)	81	60

Multiple Response

According to Philip and Lindsay (2021) enhancing farm productivity and farmers' livelihoods largely depend on how the relevant technological information from research centers is accessed by farmers and other stakeholders. In order words, farmers' access to up-to-date information is key to increase output and healthy farm business.

Strategies to Improve Farmers Access to Agricultural Extension Services

Table 6 shows the mean distribution of farmers' according to the strategies to improve their access to agricultural extension services. It was found out that farmers agreed to all the items presented as strategies to improve farmers' access to extension services in the study area as the grand mean of the strategies was **3.3** which is above the decision mean of 2.5. However, the most prominent among the strategies were the use of mobile phone SMS and other social media platform to facilitate information sharing with mean 3.9, followed by training on cooperative society management (mean = 3.6), employing more extension agents (mean = 3.6). Others were; training of the extension agents on effective communication skills (mean = 3.4), provision of more logistics for extension agents (3.0) and engagement of more opinion leaders (mean = 3.0) among others. The farmers in the study area pointed out that the use of mobile phones and other social media platforms will enhance agricultural extension services. This could be as a result of the low extension agent farmer ratio or may be due to high rate of insecurity and bad state of rural roads in Nigeria which has made it difficult for extension agents and farmers to have access to each other (Okorie *et al.,* 2022*;* Agaptus *et al.,* 2019; Lokesha and Mahesha, 2016). More so, it has been observed that use of mobile phones or social media is one of the fastest means of disseminating timely information to wide range audience. At times these massages may be in the form of voice notes (audio) or recorded videos (audio-visuals) which can be replayed when in doubt to enhance comprehension (Gurshaminder *et al.* (2024). Such audios and videos can be translated into local languages to bridge language barriers and preserve the real meaning of the message intended by the sender.

Table 6: Strategies to Improve Farmers' Access to Agricultural Extension Services

Strategies to Improve Farmers Access to Agricultural Extension Services	Mean
Employing more extension agents to improve extension agent-farmer ratio	3.6
Engaging more opinion leaders from the local communities to support agricultural extension agents in delivering their services	3.0
There should gender mainstreaming in agricultural extension programs	3.0
Training on cooperative societies management to help make existing cooperative societies active	3.6
Use of mobile phone SMS and other social media platform to facilitate information sharing	3.9
Information should be timely and easy to comprehend	3.1
Provision of more logistics (transport) for the existing agricultural extension agents	3.1
Training extension agents on effective communication skills	3.4
Grand Mean	**3.3**

Decision Mean 2.50

Conclusion

A good percentage (62%) of the respondents were still young within 20-49 years, 59.0% were males, only 10% were single, 50.0% were Christians, a majority were educated with a high proportion earning ₦30,000 and below monthly. The farmers had a large household size and well experienced in farming business which they operated in a small scale. The farmers were very much aware of the various services rendered by agricultural extension such as provision of educational services, procurement of effective agro- chemicals, formation and registration of farmers' cooperative, provision of improved varieties of crops and livestock, among other. The farmers agreed they had access to agricultural extension services, although, the most prominent among the services accessed were provision of incentive to farmers, access to procurement of improved varieties of crops, procurement of effective farm chemicals, provision of incentive to farmers and educational services. The farmers indicated that to enhance the access to agricultural extension services in Ivo LGA, strategies such as the use of mobile phone SMS and other social media platform, training on cooperative society management, employing more extension agents, training extension agents on effective communication skills, provision of more logistics for extension agents, and farmers agreed on engaging more opinion leaders among others should be put in place.

Recommendation

Agencies in charge of both public and private agricultural extension services should factor the use of mobile phone SMS and other social media platform for information dissemination to farmers in Ebonyi State, Ivo LGA in particular as this will improve the access of the farmers to extension services. Extension services providers should access the training needs of the village extension agents, build their capacities on effective communication skills, which could be through fortnightly trainings review, workshop, digital skill acquisition or in-service training. This will help them to communicate effectively. The farmers in Ivo LGAs of Ebonyi State should come together and form viable farmers' co-operative as this will enhance their access to assistance both from the public and private agricultural extension services.

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