



Strategies for Improving Agricultural Extension Service Delivery in Afikpo North Local Government Area, Ebonyi State

**J. U. Ndem^{1*}, B. N. Okafor², M. A. Ochijenu³, F. Azuuku⁴, L. I. Eni⁵, C. Nwovu⁴,
C. N. Edu¹ and C. M. Okpara⁶**

¹*Department of Technology and Vocational Education, Ebonyi State University, Abakaliki, Nigeria.*

²*Department of Vocational Education and Entrepreneurship Studies, Nnamdi Azikiwe University, Awka, Nigeria.*

³*Kogi State University, Ayigba, Kogi State, Nigeria.*

⁴*Department of Agricultural Education, Ebonyi State College of Education, Ebonyi State, Nigeria.*

⁵*Department of Agricultural Education, Cross River State University of Science and Technology, Calabar, Nigeria.*

⁶*Department of Vocational and Technical Education, Alex-Ekwueme Federal University, Ndufu-Alike Ikwo, Nigeria.*

Authors' contributions

This work was carried out in collaboration among all authors. Author JUN designed and did the literature review of the study. Authors BNO, FA, MAO and LIE prepared the questionnaire for the study. Authors CMO and CNE interviewed the respondents using the questionnaire whereas all the authors were involved in the analyses and discussion of the findings. All authors read and approved the final manuscript.

Article Information

DOI: 10.9734/JAERI/2020/v21i930165

Editor(s):

(1) Dr. Daniele De Wrachien, State University of Milan, Italy.

(2) Dr. Chandra Shekhar Kapoor, Mohan Lal Sukhadia University, India.

Reviewers:

(1) Vikramjit Singh, College of Veterinary and Animal Science, India.

(2) Pravin Charandasji Gedam, Central Silk Board, India.

Complete Peer review History: <http://www.sdiarticle4.com/review-history/61969>

Original Research Article

Received 20 August 2020
Accepted 26 October 2020
Published 25 November 2020

ABSTRACT

This study determined the strategies for improving agricultural extension service delivery in Afikpo North Local Government Area, Ebonyi State Nigeria using three purposes of study. The study adopted survey research design. The population of the study was 81 contact farmers and extension agents. Data were collected with questionnaire which was validated by five specialists

*Corresponding author: E-mail: ndemjoseph2012@gmail.com;

and analysis using mean statistics and standard deviation. It was discovered that training programmes, provision of essential amenities in the rural areas and incentives to the extension agents improve agricultural extension service delivery. All the hypotheses were accepted at ($p < 0.05$) level of significance. The researchers recommended that the Government of Ebonyi State should always organize training programmes, provision of essential amenities in the rural areas and incentives to the extension agents. Low productivity of agricultural commodities by rural farmers is as a result of inadequate extension education services which need proactive to ensure adequate extension education services.

Keywords: Agriculture; extension; extension agent; education; service delivery; rural farmers.

1. INTRODUCTION

Extension education is an out of school voluntary adult education program, using teaching and learning principles, concerning people's livelihood, carried out in systematic way in an atmosphere of mutual trust and respect.

Also agricultural extension still remain the most crucial and critical means to reach farming households in the rural areas and globally. There are changing trends and challenges facing agricultural extension delivery in Nigeria which has necessitated the growing campaign for increase in private participation and funding, Oladoja in [1]

The concept of agricultural extension differs from one country to the other and from one agricultural agency to another. For instance, in Australia and New Zealand, it refers to as agricultural advisory work, while in USA it is a cooperative extension service. Consequently, its definition depends on the objective of the organisation providing the services. Agricultural extension as a service or a system which assists farmers, through educational procedures, in improving farming methods and techniques, increasing production efficiency and income and bettering their levels of living and uplifting the social and educational standard of rural life [2]. Furthermore, extension service is defined as extending of services or system which extends the educational advantages of an institution to persons unable to avail them in a normal manner [2]. The general role played by extension is to disseminate information, provide assistance and advice to farmers in order to increase their agricultural production and quality control procedures [3].

Agricultural extension involves exchange knowledge to end users, however, on the simplest level; Agricultural extension could be defined as a voluntary out of school educational

programme for clientele consisting of the relevant contents, principles and procedures. It also involves dissemination of information on innovation or new technology to the clientele. Agricultural extension is also regarded as the body of knowledge which accumulates experience and research findings with respect to extension and borrows insights from other disciplines and field of endeavours which seems pertinent to extension. Therefore agricultural extension is the process through which farmers learn reasons why they must change their attitude and practice. It is also to note that it does not involve only farmers with production i.e. cultivation practices only but those who are involved in processing and marketing of agricultural products.

Agricultural extension often emphasizes working with people rather than for them, selects for adjustment those problems which people themselves recognize as problems, conditions which they have previously felt little concern as well as possible solutions.

The role of agricultural extension agents is very crucial in improving agricultural development in Nigeria. It does this by facilitating the education of farmers to improve their skills, knowledge and attitude as related to agricultural development. It transmits the result of research on how to solve the problems of agriculture to farmers and encourages the application of these and other improved technical knowledge on agriculture by farmers. It takes the problem of farmers to research institutions for solution.

Thus extension work teaches people to recognize what to want and how to work out ways of satisfying these desires [3].

The dissemination of agricultural extension service is being carried out by the extension agents. The whole agricultural extension process is dependent upon the extension agent who is

the critical element in all extension activities. The Extension agent is an educated, trained professional working with farmers. If the extension agent is not able to respond to a given situation and function effectively, it does not matter how imaginative extension approach is or how impressive the supply of inputs, indeed, the effectiveness of agricultural extension service will be defeated. Therefore the success or failure of an extension programme is dependent upon the effectiveness of the agricultural extension agents. The extension agents work with farmers in a variety of ways. It is often an intimate relationship and one which demands much tact and resourcefulness. The extension agent inevitably works with farmers whose circumstances are different from his own. In his extension work, the extension agent basically intervenes in the life of the farmers in a particular area. The extension agent is a change agent. He intervenes to bring about change in order to help improve the lives of the farmers and their families [4].

This is not an easy task and a series of issues arises in relation to his intervention. The basic role of the extension agent is to bring change into a rural area and what areas of knowledge and personal skills would be useful in performing this role both need to be considered in this case [4].

Furthermore, a rural area is explained as an area characterized by widespread of poverty, inadequate health care, poor communication facilities, poor nutrition, and high illiteracy rates.

The farm sizes of rural dwellers are generally small. The farmers use poor productive resources and income per capital is low. There is a high level of poverty, physical infrastructures such as roads, storage structures including health facilities, educational structures, electricity supply and water supply are generally less available in rural areas than in urban centers.

The rural areas in Nigeria are inhabited by the bulk of the nation's population about 80 per cent). They serve as the base for the production of food and fiber. They are also the major sources of capital formation for the country. The term rural can be defined and be differentiated from urban in many perspectives. For instance, census figure have been used traditionally to differentiate rural from urban areas. However, the fact that there is no consensus on the figures has made use of census definition rather problematic. For instance in 1953, the then colonial

government in Nigeria decided that an urban centre is any compact settlement with a population of at least 5,000 persons (Department of statistics, population census of the Eastern region of Nigeria, Lagos, 1953) while in 1963, an urban area was simply defined as one with a population of 20,000 or more inhabitants, and any area with lesser population in either case is regarded by implication as rural area [5].

A casual observer often refers to any place where large number of industries or any industry exists as urban while referring to an area without industries as rural [6].

The rural sector of Nigeria population can be distinguished from the urban sector in terms of volume of non-agricultural activities within the two sectors. Economic activities in the rural sectors depend directly or indirectly on the exploitation of land. It centers principally on agricultural Activities such as: Animal husbandry, poultry, fishing, forestry and food processing. One of the features of the rural areas is the absence of modern infrastructural facilities. Many rural areas are immersed in poverty so palpable that the people are the embodiment of it. In most rural areas in Nigeria, basic infrastructures, where they exist at all are too inadequate for meaningful development. Physical infrastructures like motorable roads are often lacking. The inhabitants and their livestock depend on shallow wells or guinea worm-infested ponds for their water supply. The rural people have less opportunity for educational opportunities, employment and good living. This, no doubt affects the quality of life of the rural population. The implication of this situation on the Nigerian population is evident since about eighty percent of the population lives in the rural areas. This means that only twenty percent of the populations enjoy the available social amenities. Doubtless enough, agricultural extension education can be effectively utilized to substantially reduce the disparity between the rural and the urban population.

The rural farmers need the services of the agricultural extension agents and it is the duty of the agricultural extension agents to disseminate the extension education services to the rural farmers; but unfortunately, it has been observed that despite the presence of the extension agents in Afikpo North Local Government Area of Ebonyi State, the rural farmers find it extremely difficult to enjoy the agricultural extension services. The delivery of agricultural extension education

service has not been effective. As a result of this, agricultural production in Afikpo North Local Government area has been affected resulting to low productivity, poor harvest and high cost of agricultural commodities. The question that arises is that in what ways could the delivery of agricultural extension services could be improved.

1.1 Objectives of the Study

The main purpose of the study was to determine the strategies for improving agricultural extension services delivery to the rural farmers in Afikpo North Local Government Area in Ebonyi State.

Specifically, the study sought to determine:

1. Training programmes for the extension agents for improving Agricultural extension service delivery in Afikpo North Local Government Area of Ebonyi State.
2. Provision of essential amenities in the rural areas for improving Agricultural extension services delivery in Afikpo North Local Government Area of Ebonyi State.

Provision of incentives to the extension agents for improving agricultural extension services delivery in Afikpo North Local Government Area of Ebonyi State.

1.2 Research Questions

The following questions guided the study:

1. What are the training programmes for extension agents for improving Agricultural extension services delivery in Afikpo North Local Government Area of Ebonyi State?
2. What are the essential amenities in the rural areas for improving agricultural services delivery in Afikpo North Local Government Area of Ebonyi State?
3. What are the incentives for the extension agents for improving agricultural extension services delivery in Afikpo North Local Government of Ebonyi State?

1.3 Hypotheses

HO1: There is no significant difference in the mean ratings of the extension agents and the rural farmers, on training programme for improving agricultural extension service delivery.

HO2: There is no significance difference in the extension agents and farmers on provision of

amenities in the rural areas for improving agricultural extension service delivery in Afikpo North Local Government Area,

HO3: There is no significance difference in the extension agents and farmers on provision of incentives for improving agricultural extension service delivery in Afikpo North Local Government Area.

2. METHODOLOGY

This work determined the strategies for improving agricultural extension services delivery in Afikpo North Local Government Area of Ebonyi State, Nigeria. The work was guided by three purposes of study with the corresponding research questions. Three null hypotheses were tested for the study. A descriptive survey design technique was adopted to carry out the study. The sample for the study was 81 which comprised 50 contact farmers and 31 extension agents. Data were gathered by using researchers' self-structured questionnaire as the instrument. The instrument was validated by five specialists, three specialists in extension education and rural sociology and two specialists in measurement and evaluation. A pilot test was carried out to determine the reliability of the instrument and cronbach Alpha was adopted to determine the internal consistency of the items; this yielded a reliability coefficient of 0.98. The data collected were analyzed by the application of statistical means and standard deviation. Decision pertaining to the research questions was taken by adopting 2.50 as a criterion level. This means that any of the instrument's items whose mean score was within the range of 2.50 and above was being decided as the factor that improves agricultural extension service delivery while any of the instrument's items below 2.50 was taken to be the factor that does not improve agricultural extension service delivery. The null-hypothesis was accepted when the t-calculated was less than the t-table and was rejected when the t-calculated was greater than the t-table at 0.05 level of significance.

3. RESULTS AND DISCUSSION

3.1 The Results of All Three Hypothesis of the Study are Described as below;

Research Question 1: What are the training programmes for the extension agents for improving agricultural extension services delivery in Afikpo North Local Government Area of Ebonyi State?

Table 1 reveals that all the items had their mean score ranged between 3.45 to 3.62 and the standard deviation ranged between 0.57 and 0.82 and the grand mean of 3.52 which is above the criterion level of 2.50. This shows that the respondents were of the opinion that training of extension agents through organizing workshop, seminar, conferences, in-service training and on-the-job training will improve agricultural extension services delivery in Afikpo North Local Government Area of Ebonyi State. The range of the standard deviation shows that the mean did not deviate far from the central mean.

Research Question 2: What are the essential amenities needed in rural areas for improving agricultural extension services in Afikpo North Local Government Area?

Table 2 shows that all the items had their mean scores above the cut-off point of 2.50 with standard deviation ranging between 0.59 – 0.86 and the grand mean of 3.44. This implies that the

respondents identified eleven (11) essential amenities that are needed in the rural areas for improving agricultural extension services delivery in Afikpo North Local Government Area. The range of the standard deviation shows that the mean did not deviate far from the central mean.

Research Question 3: What are the incentives needed in the rural areas for improving agricultural extension services delivery in Afikpo North Local Government Area.

Table 3 indicates that all the items had their mean scores above the cut-off point of 2.50 with the standard deviation ranging between 0.63 and 0.82 and the grand mean of 3.39. The respondents identified twelve (12) incentives that are needed by the extension agents for improving agricultural extension services delivery in Afikpo North Local Government Area. The range of the standard deviation indicates that the mean did not deviate far from the central mean.

Table 1. Distribution of the respondents on the training programmes for the extension agents for improving agricultural extension services delivery in Afikpo North Local Government Area N=81

S/N	Item statement	SA(4)	A(3)	D(2)	SD(1)	\bar{X}	Sd	Remarks	
1	Organizing workshop for the extension agents may help improve Agricultural Extension service delivery	54	25	01	01	3.62	0.57	Agree	
2	Organizing seminar for the extension agents may help improve Agricultural extension service delivery	52	24	03	02	3.55	0.68	Agree	
3	Organizing conferences for the extension agents may help improve Agricultural extension service delivery	48	26	04	03	3.46	0.75	Agree	
4	Induction training for the extension agents may help improve Agricultural extension service delivery	49	25	02	05	3.45	0.82	Agree	
5	In-service training for the extension agents may help improve Agricultural extension service delivery	50	26	04	01	3.54	0.65	Agree	
6	On-the-job training for the extension agents may help improve Agricultural extension service delivery	50	25	05	01	3.53	0.67	Agree	
Grand Mean		3.52							

Key: SA – Strongly agree; A – Agree; D – Disagree; SD – Strongly disagree; X- Mean and Sd - Standard deviation

Table 2. Distribution of the respondents on the essential amenities needed in rural areas for improving agricultural extension services delivery in Afikpo North Local Government Area N=81

S/N	Item statement	SA(4)	A(3)	D(2)	SD(1)	\bar{X}	Sd	Remarks	
1	Improved health care services may help the delivery of Agricultural Extension Services	52	23	05	01	2.55	0.67	Agree	
2	Provision of portable water may help the delivery of Agricultural Extension Services	45	34	01	01	3.51	0.59	Agree	
3	Provision of civic centre in the rural areas may help the delivery of Agricultural Extension Services	43	30	05	03	3.39	0.76	Agree	
4	Provision of appropriate communication system in the rural area may help the delivery of Agricultural Extension Services	48	28	04	01	3.51	0.65	Agree	
5	Improved security network in the rural area may help the delivery of Agricultural Extension Services	50	25	04	02	3.51	0.70	Agree	
6	Modern markets in the rural area may help the delivery of Agricultural Extension Services	43	30	06	02	3.40	0.73	Agree	
7	Establishment of skill acquisition centre in the rural area may help the delivery of Agricultural Extension Services	48	25	06	02	3.46	0.74	Agree	
8	Construction of good roads network in the rural areas may help the delivery of Agricultural Extension Services	46	28	04	03	3.44	0.75	Agree	
9	Provision of rural electrification may help the delivery of Agricultural Extension Services	43	32	03	03	3.41	0.73	Agree	
10	Provision of Micro finance bank in the rural areas may help the delivery of Agricultural Extension Services	44	27	06	04	3.37	0.82	Agree	
11	Provision of post office in the rural areas may help the delivery of Agricultural Extension Services	42	26	09	04	3.30	0.86	Agree	
Grand Mean		3.44							

Hypotheses

HO1: There is no significant difference in the mean rating of the contact farmers and the extension agents on training programmes for extension agents for improving agricultural extension service delivery in Afikpo North Local Government area in Ebonyi state.

Table 4 reveals that all the items had their t-calculated less than the t-table; therefore the null hypothesis was accepted at the appropriate

degree of freedom of 79 at 0.05 level of significance ($p < 0.05$) This implies that the opinions of the contact farmers were the same with the extension agents.

HO2: There is no significant difference in the mean ratings of the contact farmers and the extension agents on provision of essential amenities in the rural areas for improving agricultural extension service delivery.

Table 5 shows that all the items had their t-calculated less than the t-table at 0.05 level of

significance at the appropriate degree of freedom of 79. Therefore, the null-hypothesis was accepted meaning that the respondents had the same opinion.

HO3: There is no significant difference in the mean ratings of the contact farmers and the extension agents on provision of incentive to the

extension agents for improving agricultural extension service delivery.

Table 6 reveals that all the items had their t-calculated less than the t-table at 0.05 level of significance. This means that the null-hypothesis was accepted. Therefore, it means that the opinions of the contact farmers were the same as

Table 3. Distribution of the respondents on the incentives needed in the rural areas for improving agricultural extension services delivery in Afikpo North Local Government Area N=81

S/N	Item statement	SA (4)	A (3)	D(2)	SD (1)	\bar{X}	Sd	Remarks
1	Granting of loan to the extension agents may help improve the delivery of agricultural extension services	25	46	08	02	3.16	0.69	Agree
2	Lease of agricultural equipment without payment may help improve the delivery of agricultural extension services	45	30	05	01	3.46	0.67	Agree
3	Distribution of fertilizers to the rural farmers at subsidized rate may help improve the delivery of agricultural extension services	44	29	04	04	3.39	0.80	Agree
4	Distribution of pesticides at subsidized rate to the rural farmers may help improve the delivery of agricultural extension services	43	28	07	03	3.37	0.79	Agree
5	Distribution of herbicides at subsidized rate to the rural farmers may help improve the delivery of agricultural extension services	41	30	06	04	3.33	0.82	Agree
6	Subsidizing the price or agricultural inputs may help improve the delivery of agricultural extension services	42	31	03	05	3.35	0.82	Agree
7	Provision of improved seedlings may help improve the delivery of agricultural extension services	39	35	06	01	3.38	0.68	Agree
8	Dissemination of useful information to farmers on new innovation and feedback for solution to their problems may help improve the delivery of agricultural extension services	49	25	05	02	3.49	0.72	Agree
9	Free medical treatment to the extension agents may help improve the delivery of agricultural extension services	47	30	02	02	3.50	0.67	Agree

S/N	Item statement	SA (4)	A (3)	D(2)	SD (1)	\bar{X}	Sd	Remarks
10	Free accommodation to the extension agents may help improve the delivery of agricultural extension services	45	32	03	01	3.49	0.63	Agree
11	Scholarship award to the extension agents may help improve the delivery of agricultural extension services	49	29	01	02	3.54	0.65	Agree
12	Subsidizing of the transportation allowances may help improve the delivery of agricultural extension services	34	41	04	02	3.32	068	Agree
Grand Mean		3.39						

Table 4. Comparative Analysis of the mean rating of the respondents on training programmes for the extension agents for improving agricultural extension service delivery. Should be double spaced

S/N	Item statement	Group	N	\bar{X}	Sd	Df.	t-cal.	t-tab.	decision
1	Organizing workshop for the extension agents may help improve Agricultural Extension service delivery	Contact farmers	50	3.62	0.57	79	-0.17	1.96	NSD
		Extension agents	31	3.65	0.59				
2	Organizing seminar for the extension agents may help improve Agricultural extension service delivery	Contact farmers	50	3.55	0.68	79	-0.29	1.96	NSD
		Extension agents	31	3.60	0.58				
3	Organizing conferences for the extension agents may help improve Agricultural extension service delivery	Contact farmers	50	3.58	0.75	79	0.66	1.96	NSD
		Extension agents	31	3.46	0.66				
4	Induction training for the extension agents may help improve Agricultural extension service delivery	Contact farmers	50	3.45	0.82	79	0.09	1.96	NSD
		Extension agents	31	3.43	0.80				
5	In-service training for the extension agents may help improve Agricultural extension service delivery	Contact farmers	50	3.54	0.65	79	-1.27	1.96	NSD
		Extension agents	31	3.77	0.62				
6	On-the-job training for the extension agents may help improve Agricultural extension service delivery	Contact farmers	50	3.53	0.67	79	-0.52	1.96	NSD
		Extension agents	31	3.62	0.59				

* NSD= Not significant different

Table 5. Comparative analysis of the mean ratings of the respondents on provision of essential amenities in the rural areas for improving agricultural extension service delivery

S/N	Item statement	Group	N	\bar{X}	Sd	Df.	t-cal.	t-tab.	Decision
1	Improved health care services may help the delivery of Agricultural Extension Services	Contact farmers	50	2.25	0.67	79	-0.72	1.96	NSD
		Extension agents	31	2.68	0.69				
2	Provision of portable water may help the delivery of Agricultural Extension Services	Contact farmers	50	3.51	0.59	79	0.05	1.96	NSD
		Extension agents	31	3.50	0.60				
3	Provision of civic centre in the rural areas may help the delivery of Agricultural Extension Services	Contact farmers	50	3.39	0.76	79	0.05	1.96	NSD
		Extension agents	31	3.38	0.77				
4	Provision of appropriate communication system in the rural area may help the delivery of Agricultural Extension Services	Contact farmers	50	3.51	0.65	79	0.38	1.96	NSD
		Extension agents	31	3.44	0.73				
5	Improved security network in the rural area may help the delivery of Agricultural Extension Services	Contact farmers	50	3.51	0.70	79	-0.55	1.96	NSD
		Extension agents	31	3.61	0.63				
6	Modern markets in the rural area may help the delivery of Agricultural Extension Services	Contact farmers	50	3.40	0.73	79	0.15	1.96	NSD
		Extension agents	31	3.43	0.70				
7	Establishment of skill acquisition centre in the rural area may help the delivery of Agricultural Extension Services	Contact farmers	50	3.46	0.74	79	0.38	1.96	NSD
		Extension agents	31	3.38	0.66				
8	Construction of good roads network in the rural areas may help the delivery of Agricultural Extension Services	Contact farmers	50	3.44	0.75	79	0.00	1.96	NSD
		Extension agents	31	3.50	0.68				
9	Provision of rural electrification may help the delivery of Agricultural Extension Services	Contact farmers	50	3.41	0.73	79	0.10	1.96	NSD
		Extension agents	31	3.39	0.74				
10	Provision of Micro finance bank in the rural areas may help the delivery of Agricultural Extension Services	Contact farmers	50	3.37	0.82	79	0.20	1.96	NSD
		Extension agents	31	3.33	0.88				

S/N	Item statement	Group	N	\bar{X}	Sd	Df.	t-cal.	t-tab.	Decision
11	Provision of post office in the rural areas may help the delivery of Agricultural Extension Services	Contact farmers	50	3.30	0.86	79	0.05	1.96	NSD
		Extension agents	31	3.29	0.78				

Table 6. Comparative analysis of the mean ratings of the respondents on provision of incentives to the extension agents for improving agricultural extension service delivery

S/N	Item statement	Group	N	\bar{X}	Sd	Df.	t-cal.	t-tab.	Decision
1	Granting of loan to the extension agents may help improve the delivery of agricultural extension services	Contact farmers	50	3.16	0.69	79	0.34	1.96	NSD
		Extension agents	30	3.14	0.67				
2	Lease of agricultural equipment without payment may help improve the delivery of agricultural extension services	Contact farmers	50	3.46	0.67	79	0.16	1.96	NSD
		Extension agents	31	3.43	0.69				
3	Distribution of fertilizers to the rural farmers at subsidized rate may help improve the delivery of agricultural extension services	Contact farmers	50	3.39	0.80	79	0.01	1.96	NSD
		Extension agents	31	3.28	0.87				
4	Distribution of pesticides at subsidized rate to the rural farmers may help improve the delivery of agricultural extension service	Contact farmers	50	3.37	0.79	79	-0.13	1.96	NSD
		Extension agents	31	3.40	0.75				
5	Distribution of herbicides at subsidized rate to the rural farmers may help improve the delivery of agricultural extension services	Contact farmers	50	3.33	0.82	79	0.15	1.96	NSD
		Extension agents	31	3.30	0.76				
6	Subsidizing the price or agricultural inputs may help improve the delivery of agricultural extension services	Contact farmers	50	3.35	0.82	79	-0.15	1.96	NSD
		Extension agents	31	3.38	0.80				
7	Provision of improved seedlings may help improve the delivery of agricultural extension services	Contact farmers	50	3.38	0.68	79	0.16	1.96	NSD
		Extension agents	30	3.35	0.70				
8	Dissemination of useful information to farmers on new innovation and feedback for solution to their problems may help improve the delivery of agricultural extension services	Contact farmers	50	3.49	0.72	79	0.10	1.96	NSD
		Extension agents	31	3.43	0.68				

S/N	Item statement	Group	N	\bar{X}	Sd	Df.	t-cal.	t-tab.	Decision
9	Free medical treatment to the extension agents may help improve the delivery of agricultural extension services	Contact farmers	50	3.50	0.67	79	-0.11	1.96	NSD
		Extension agents	31	3.52	0.58				
10	Free accommodation to the extension agents may help improve the delivery of agricultural extension services	Contact farmers	50	3.49	0.63	79	0.41	1.96	NSD
		Extension agents	31	3.42	0.59				
11	Scholarship award to the extension agents may help improve the delivery of agricultural extension services	Contact farmers	50	3.54	0.65	79	0.55	1.96	NSD
		Extension agents	31	3.44	0.70				
12	Subsidizing of the transportation allowances may help improve the delivery of agricultural extension services	Contact farmers	50	3.32	0.68	79	0.11	1.96	NSD
		Extension agents	31	3.30	0.63				

that of the extension agents on provision of incentives to the extension agents for improving agricultural extension service delivery.

4. FINDINGS

Based on the analysis of the data collected, the following findings were made;

1. Training programmes such as conferences, seminars, workshops and short term courses for the extension agents would help in improving Agricultural Extension Service delivery in Afikpo North Local Government Area of Ebonyi State.
2. Provision of Essential Amenities such as pipe-borne water and electricity among others in the rural areas would help in improving Agricultural Extension Service delivery in Afikpo North Local Government Area of Ebonyi State.
3. Provision of incentives such as medical allowances, among others to the extension agents will help for improving Agricultural Extension Service delivery in Afikpo North Local Government Area of Ebonyi State.

It was found that training programmes such as seminar, conferences, symposia, workshops and short-term training improve the agricultural extension service delivery. This work supports [3] who reported that attendance of conferences, workshops and seminars help to update the

knowledge of the extension workers who are committed to the training of the rural farmers. He further stated that the delivery of extension education can be effectively carried out when the extension agents and the farmers attend seminars and workshops where issues related to agricultural production are discussed.

Secondly, the research work reveals that provision of essential amenities in the rural areas help to improve agricultural extension service delivery. This findings is in an agreement with [7] who reported that agricultural production in the rural areas will be boosted when the small scale farmers in the rural areas are provided with the essential amenities such as pipe borne water, rural electrification, good road network, health clinics and effective communication systems. They further explained that the success of agricultural extension service delivery depends on the availability of essential amenities in the rural areas for the extension agents and the farmers.

The study also found that provision of incentives to the extension agents helps to improve agricultural extension service delivery. This finding supports the research of [8] who reported that incentives motivate the extension agents to carry out effective agricultural extension education dissemination to the rural farmers. He further explained that lack of incentives discourages the extension agents in their duties in the rural areas.

5. CONCLUSION AND RECOMMENDATIONS

The agricultural extension services delivery have significant effect on the farmers adoption of new innovation which enhance high quality yield of agricultural produce. To achieve this, the extension agents need to be effective in their duties. Therefore, for the extension agents to be effective, they need to be given re-training always and provided with the basic incentives to make them function effectively as well as providing the basic amenities in the rural areas where the extension agents reside. These will help to improve extension service delivery to the farmers.

Based on the findings of the study, the researchers made the following recommendations

1. Ebonyi state government should always train the extension Agents in order to update their knowledge in agricultural Extension Service delivery in Afikpo North Local Government Area of Ebonyi State.
2. The government of Ebonyi state should provide good roads and electricity among others in the rural areas for the use of the extension agents and the rural farmers.
3. The government of Ebonyi state and stakeholders in agriculture should always provide incentives to the extension agents for effective agricultural extension service delivery in Afikpo North Local Government Area of Ebonyi State.

ACKNOWLEDGEMENT

I hereby acknowledged those who assisted in one way or the other to ensure the success of this study. Top among them is Dr.

Chima Njoku who assisted in sharpening the research focus and the staff of the organizations where data were collected and the statistical analyst.

COMPETING INTERESTS

Authors have declared that no competing interests exist.

REFERENCES

1. Adejo PE, Okwu OJ, Ibrahim MK. Challenges and Prospects of Privatization of Agricultural extension service delivery in Nigeria; 2011.
2. Hamisu S, Ardo AM, Makinta MM, Garba L, Musa G. A Review on current status of Agricultural Extension Service in Nigeria; 2017.
3. Bababe B. Preview of the Roving Training Workshop for Gum Arabic Farmers in Bababe and Ezinma (eds) Gum Tapping Techniques; 2002.
4. Oakley, Garforth. Extension is the basic of small holder agricultural development in South Sudan London Journal Pres; 1985.
5. Bernadette AN. Rural Community Development; 2003.
6. Cess L. Communication for rural innovation: Re-thinking Agricultural Extension. Third Edition, Black-well publishing Company. 2014;245.
7. Nwachukwu I, Gideon CO. Agricultural Communication: Principles and Practice, Lambhouse Publishers, Nigeria; 2005.
8. Ndem JU, Ogonna E. Required skills needed by small scale farmers in carrot (*Daucus carota*) production for food security in Ebonyi State. Journal of Nigerian Association of Teachers of Technology (JNATT). 2015;10(1):83-89.

© 2020 Ndem et al.; This is an Open Access article distributed under the terms of the Creative Commons Attribution License (<http://creativecommons.org/licenses/by/4.0>), which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited.

Peer-review history:
The peer review history for this paper can be accessed here:
<http://www.sdiarticle4.com/review-history/61969>