Evaluation of Usage of Training and Visit Extension Services System in Agricultural Extension Delivery to Maize Farmers in Ikeduru Local Government Area of Imo State.

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Abstract

The study evaluated the usage of training and visit system of agricultural extension services on maize production in Ikeduru local government area of Imo state, Nigeria. The specific objectives were to examine the socioeconomic characteristics of the maize farmers, examine the effect of training and visit extension system on the maize farmers and identify the limitations of the training and visit extension system in the study area. It employed multi-stage sampling technique to select 90 respondents. Data were collected from both primary and secondary sources. Result showed that more (43.33%) of the respondents were between 41 – 50 years age bracket, 41.11% of the respondents were male while 58.89% were female. majority 62.22% of the respondents are married, the result revealed that 45.56% of the respondents had secondary education Table 6 revealed that 38.89% of the respondents had spent between 15 – 25 years in the farming operation and the result also showed that 61.11% of the respondents agreed that they were visited monthly by the extension agents. The result showed that 38.89% of the respondents indicated increase in food production, 32.22% increase in farmers' income, 16.67% adequate availability of farm inputs and 12.22% improvement in standard of living as effect of training and visit system of agricultural extension service on maize farmers. From the analysis it is evident that the limitations of the T&V system hold serious implications for the extension system in the study area. It was concluded that majority of the farmers reported having visited monthly by the extension agents due to some factors hindering their movement to the study area. Based on the findings, it was recommended that government should make resource available for effective delivery of extension servicers in Ikeduru LGA.

Keywords: Training and Visit (T&V), Extension Services, Extension Services System, Agricultural Extension Delivery, Maize Farmers.

Introduction:

Agriculture occupies a key position in Nigerian economy judging by its critical role of providing food security, provision of employment, revenue generation and provision of raw materials for industrial development. Maize is a staple food of great socio-economic importance. The demand for maize outstrips supply as a result of the various domestic uses (Akande, 2015). In Nigeria, the demand for maize is increasing at a faster rate daily. This may be due to the fact that grain is being used for manufacturing feed and also serve as the main food for many households (Ogunniyi, 2011). Maize is a staple grain/cereal crop grown almost in all parts of the world. It is a high yielding cereal grown successfully under rainfed environment and requires less capital. It has established itself as a very significant component of the farming system and determines the cropping pattern of the predominantly peasant farmers (Ahmed, 2016). This grain crop is used as human food, animal feed, as well as for

industrial usage. It can be prepared in a variety of ways for human consumption such that you can hardly see a person who doesn't consume it in one form or the other.

Maize can be boiled, roasted or fried while industrially it can be processed to produce cornflakes, golden morn, quaker oat, custard, flour, beer and beverages, as well as animal feed. Yahaya and Nannim (2010) noted that maize is one of the most abundant food crops in Nigeria; about 80% is consumed by man and animals while 20% is utilized in variety of industrial processes for production of starch, oil, high fructose, corn sweetener, ethanol, cereal and alkaline, consisting of 71% starch, 9% protein and 4% oil on a dry weight basis. Gupta (2011) noted that maize has immense potential to meet food requirement of human population because it has a great significance as human food, animal feed and diversified uses in a large number of industrial products, also that the adoption of improved and sustainable maize technologies holds the key to ensure both sustainability and increased maize production.

Agricultural extension organizations are defined as the entire set of organizations that support and facilitate people engaged in agricultural production to solve problems and to obtain information, skills and technologies to improve their livelihoods and well-being. They are provided by a variety of agencies in the public, commercial and voluntary sectors Akinnagbe and Ajayi (2010) viewed extension as a service to "extend" research-based knowledge to the rural sector to improve the lives of farmers. It thus included components of technology transfer, broader rural development goals, management skills and non-formal education. The traditional view of extension in Africa was very much focused on increasing production, improving yields, training farmers and transferring technology. Today's understanding of extension goes beyond technology transfer to facilitation; beyond training to learning and includes assisting farmers to form groups, dealing with marketing issues and partnering with a broad range of service providers and other agencies (Davis, K. (2008); Akinnagbe and Ajayi (2010).

Agricultural extension workers serve as conduit pipes between research institutes and farmers through the transmission of improved technique of farming that will enable farmers to increase their productivity in order to meet the increasing food need of the teaming population (Ekpere, 2013). The extension service being the bridging link between the research centers and the farm families, convince farmers through the use of educational methods to accept scientific findings and technological development that are relevant to improve their methods of agricultural practices (Leagen, 2018).

The main objective of agricultural extension services is to encourage farmers by improving their skill, attitude and knowledge in order to be technically efficient in their various areas of agricultural production. The objective of any national agricultural extension is to improve farmers' output by adopting new or improved farming technologies, practices and methods. Traditionally, farming technologies reach the farmers via extension personnel, who have the responsibility to ensure that the desired technology is appreciated and use by the farmers Mbaise M, (2016).

In Nigeria, the current agricultural extension approach Farmers' Field School (FFS) which still operates with the Training and Visit (T&V) approach. The major aim of T&V system is to build up a professional extension service that is capable of assisting farmers in increasing production and raising their standard of living and provide appropriate support for agricultural development. The system involves the systematic application of well-known management principles with a view to professionalizing the extension services Akintonde *et al.*, (2021).

Extension assists farmers by increasing their awareness of improved agricultural technology and improving their decision-making skills. It also aims at improving agricultural production by enhancing the knowledge, attitude and skill of the farm population, thus for the rural farmers to be more efficient, the required knowledge, skill and attitude needed to make proper use of new technologies can be enhanced through the extension training. It is on this

note that this paper established the effect of training and visit system of agricultural extension services on maize production in Ikeduru local government area of Imo state Nigeria.

There are numerous problems facing the agricultural extension service in Nigeria which include, lack of appropriate technological and scientific knowledge application limits. Not all farmers are literate, to the extent that it is difficult for them to comprehend all the ideas being communicated. Even after communicating the ideas, some of the farmers cannot subsequently translate the ideas to practice. In the same area, most of the farmers are conservative that they are not prepared to accept any positive changes. Furthermore, the farmers are financially poor to procure the needed inputs. The extension agents also have their problems and challenges. They are still few in number with low extension agents to farmers ratio. They are poorly motivated in terms of remuneration and provision of transport facilities to visit the farmers.

Also, increased use of mass media as a complementary channel of technology diffusion portends the danger of depriving Nigerian farmers the manifold benefits of the face-to-face contact method of agricultural information dissemination. In like manner, a situation whereby linkages with research are not quite enhanced; village agents are not following the regular visit schedules, or contact farmers are not attending visits suggests that the goals of implementing Research-Extension-Farmer-Input System (REFILS) as a management mechanism in Nigeria is likely to be defeated. Moreover, relating farmers' problems back to research by extension staff may apparently remain a herculean task to accomplish Ajayi, (1999).

On the other hand, the high cost of implementing the T&V system holds serious implications for Nigerian extension system as well. This is more so because over the years, Nigeria has exhibited a marked dependence on donor agencies to finance some of her agricultural and rural development programmes. The nation's overdependence on donor agencies for funding of such agricultural and rural development programmes has been remarked Abgamu, (2006). Consequently, the reluctance of most African countries, Nigeria inclusive, to adequately fund their agricultural Sub-sectors and an undue reliance on foreign donor agencies to finance agriculture could adversely affected agricultural production at large and the effectiveness of extension service in particular. As at today, the withdrawal of funding by the World Bank has rendered most, if not all the ADPs in Nigeria comatose as exemplified by serious management problems across the ADPs. This position has been corroborated by Auta and Dafwang (2010) who reported that today the ADPs in majority of the states stand just as symbols of past glory.

The devastating level of maize production in Nigeria has measured high prices for maize input rises like feed millers. This situation has led to increase of poultry products in the country. To solve this problem agriculture extension model of training and visit system has to be used to increase the skills of maize farmers and adopt from management practices to increase maize production.

Over the years several agricultural extensions approaches of agricultural extension have evolved and one of such approaches is the Training and Visit (T & V) system. Although the T & V system was aimed at overcoming some of the limitations that characterized the conventional extension approach, the system has come under serious criticism by numerous writers in recent time. Therefore, this research project on effect of training and visit system of agricultural extension services on maize production in Ikeduru local government area of Imo state is done to evaluate the extent of T and V system on maize productivity in the study area.

Therefore, the following research questions guided the study.

1. What are the socioeconomic characteristics of the maize farmers?
2. What are the effects of training and visit extension system on the maize farmers?
3. What are the limitations of the training and visit extension system?

The broad objective of the study is on the evaluation of usage of training and visit extension services system in agricultural extension delivery to maize farmers in Ikeduru local government area of Imo state.

The specific objectives were to;

i. describe the socioeconomic characteristics of the maize farmers;
ii. examine the effect of training and visit extension system on the maize farmers;
iii. identify the factor affecting the training and visit extension system in the study area;

Materials and Methods

The study was carried out in Ikeduru Local Government Area of Imo State. It is located in the southern part of the state within latitude 7^{o}6 East and 7^{o}50 East, longitude 5^{o}34 North and 5^{o}34 North of the south east zone of Nigeria with an area coverage of 15square kilometers. It is made up of the following 17 towns (communities) namely: Avuvu, Atta, Eziama, Amakohia, Ngugo, Ikembara, Akabo, Amatta, Abazu, Uzoagba, Amaimo, Inyishi, Iho, Okwu, Umudim, Ugiri ike, and Eziama. The Ikeduru Local Government Area has the following neighbors, Mbaitolu, Mbano, and Mbaise, and they share a common culture and markets. According to 2006 population census, it is estimated that the population of Ikeduru Local Government Area is 209, 593 thousand people and the population density varies from 110-200 persons per square kilometre (NPC, 2006). The area is located in the rainforest region, two distinct seasons abound, rainy and dry season. The mean rainfall is ranging from 200-25cm, with temperature ranging from 26-28^{o}c and relative humidity ranging from 80-90 percent.

The sample frame for the study consisted of maize farmers in Ikeduru LGA. Multi-stage sampling technique was used to select the respondents. In the first stage three (3) autonomous communities were random selected from the seventeen (17). In second stage three (3) villages were randomly selected from each three (3) autonomous community to have nine villages and the last stage were the random selection of ten (10) maize farmer from each village, which will give a total number of ninety (90) maize farmers as sample size for the study. Data for the study were obtained from the primary and secondary sources. The primary data were collected through structured questionnaire and oral interview, while secondary data were obtained through relevant textbook, seminar paper, internet, magazine, past research work and journals etc. The primary data collected for the study included the socioeconomic characteristics of the maize farmers, effect of training and visit extension system on the maize farmers and limitations of the training and visit extension system in the study area. Data collected were analyzed using descriptive statistics. Descriptive statistics includes frequency distribution tables and percentages.

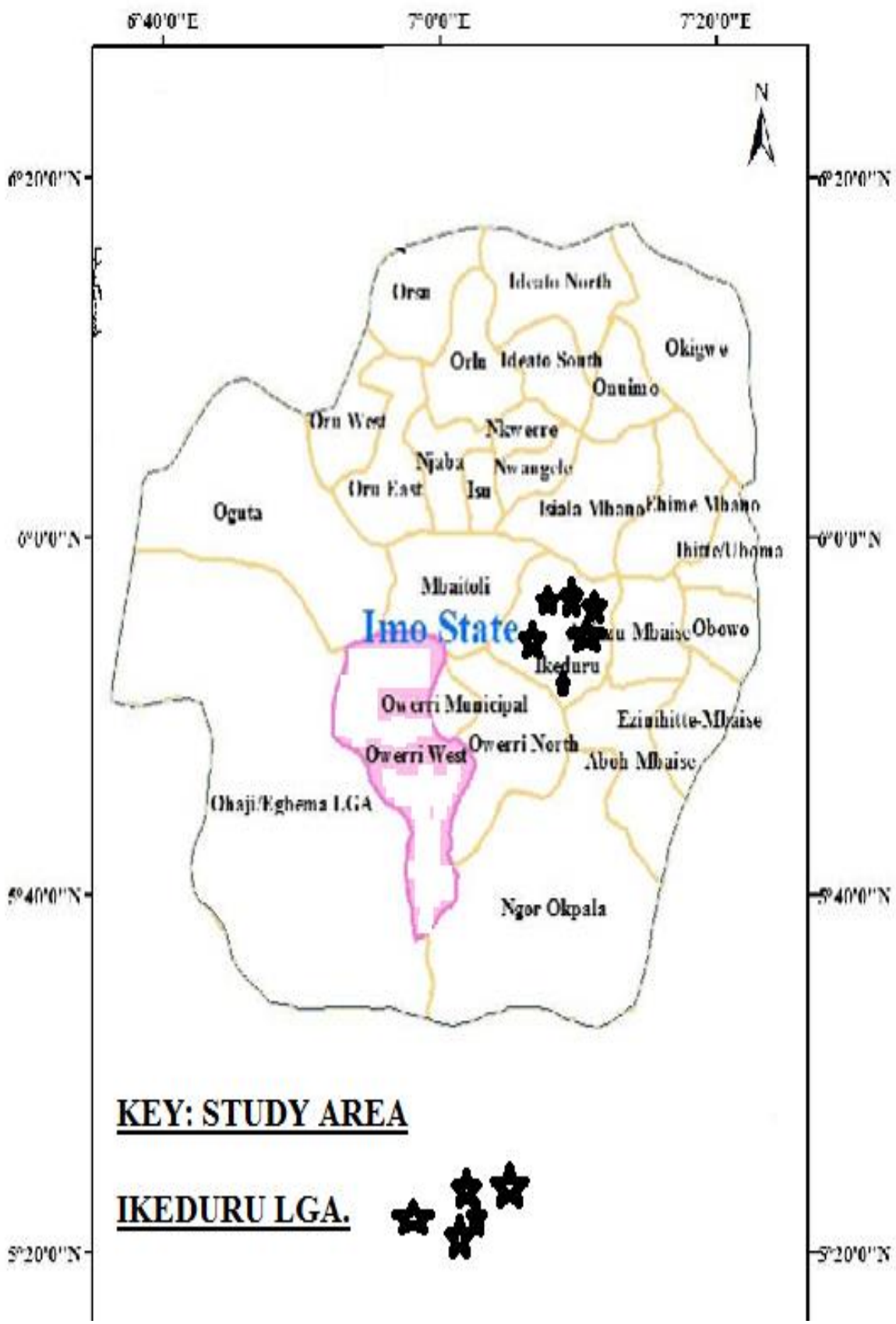


Figure 1. **Map of Imo State showing Ikeduru Local Government Area (the study area).**

Result and Discussion

Socioeconomic Characteristics of Respondents

Table 1: Socioeconomic characteristic of respondents.

Age (Years)	Frequency	Percentage
<31	15	16.67
31-40	25	27.78
41-50	39	43.33
51-60	11	12.22
Gender		
Male	37	41.11
Female	53	58.89
Marital Status		
Single	20	22.22
Married	56	62.22
Divorced	4	4.44
Widowed/Widower	10	11.11
Educational Level		
Primary education	26	28.89
Secondary education	41	45.56
Tertiary education	23	25.56
Household Size		
<6	23	25.56
10-Jun	32	35.56
15-Nov	20	22.22
16-20	10	11.11
Above 20	5	5.56
Farming Experience		
1 – 5	12	13.33
5 – 10	19	21.11
10 – 15	24	26.67
15 – 25	35	38.89
Total	**90**	**100**

Source: ***Field Survey, 2024***

The result showed that the majority (43.33%) of the respondents were between 41 – 50 years age bracket, 27% were between the age of 31-40years while 16.67% were <31years and 12.22% were between the age of 51-60 years. This implies that more than half of the respondents were in their middle age group. In essence, majority of the respondents were still in their active and economically productive age who should be ready to acquire new knowledge and skills from the agricultural extension workers. This is in accord with Akinnagbe (2018) who asserted that farmers in most part of the country were predominantly in their middle age.

The result revealed that 41.11% of the respondents were male while 58.89% were female. This indicated that agricultural activities in the area are dominated by female. There

was a high level of homogeneity in the distribution of farmers' gender in the study area due to cultural practices and belief systems that farming systems is a business of women. These findings agree with earlier findings of Adinya *et al.*, (2019) showed that about 85% of women are involved in agriculture, which indicates that women in Africa are active in agriculture and they are the main stream of traditional agriculture. For instance, during farm operations, the women prepare and cleared land while the men make mounds. However, the planting operations which follow land preparation keep the women working harder.

Majority 62.22% of the respondents are married, 22.22% of the respondents were single while 11.11% of the respondents were widowed/widower and 4.44% of the respondents were divorced. This implies that there are more married contact famers and extension agents than unmarried contact famers.

The result revealed that majority 45.56% of the respondents had secondary education, 28.89% of the respondents had primary education and 25.56% of the respondents had tertiary education. This implies that the majority of the respondents has formal education which enable them to adoption new agricultural innovation from the extension agent. This is in consonance with Onyemauwa (2017) that most farmers had spent considerable years in formal education before venturing to agricultural production. Education is the regarded as the planned process of bringing desirable changes in the behavior, skills, attitude and knowledge. Education helps in dissemination and adoption of new agricultural techniques among farmers in the area.

Result also reveals that 35.56% of the respondents have between 6-10 persons in household, 25.56% of them have less than 6 persons in their household while 22.22% of them have between 11-15 persons in their household, 11.11% of them have between 16-20 persons in their household and 5.56% of them have above 20 persons in their household. This showed that there are low family sizes in all categories which could help as family labour in the enterprise.

Also, 38.89% of the respondents had spent between 15 – 25 years in the farming operation, 26.67% of them had spent 10 - 15 years, 21.11% of them had spent 5 – 10 years and 13.33% of them spent 1 - 5 years. This implies that a good farm experience could impact positively their productivity and management of farming operation which indicated that the majority of the farmers would be aware of the agricultural extension strategies and its benefits, Long farming experience is an advantage for increase in farm productivity since it encourages rapid adoption of farm innovation (Obinne, 2018) and much experience in farming may have exposed them to the benefits of using agricultural extension strategies in reducing poverty in the area.

Extension visitation

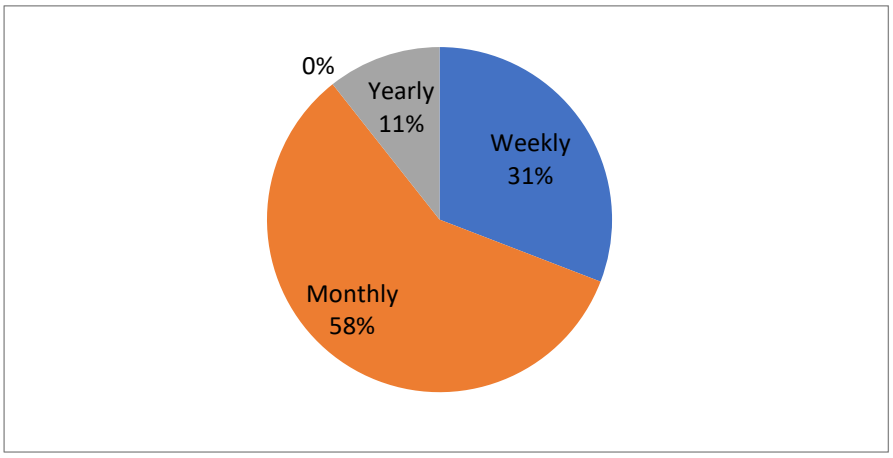


Figure 2: Chart showing extension visitation to farmers

Figure 2. shows that 31.22% of the respondents were visited weekly by extension agents, the result shows that 58.11% of the respondents were visited monthly by the extension agents and 11.11% of the respondents were visited yearly by extension agents. This implies that the frequency of extension contact was mostly monthly which may not be enough to disseminate essential improved farming techniques to boost productivity to the maize farmers in the study area. Agricultural extension services has been identified to be relevant in rapid increase in agricultural production that aims to involve a shift from traditional resources based method to science based method which involves varieties of new cultural practices like use of fertilizer, organic manure, pesticides and capital investment inputs which farmers must learn how to use through the education role of extension workers (William, 2018).The strength and expansion of agricultural production still rely upon provision of required, relevant and appropriate technologies through the extension and support services Akintonde *et al.*, (2021). Where this service is not adequate it will lead to low productivity causing food insecurity to the Nation. Chessa (1992) observes that the essence of this approach was a tightly structured work program for the extension agents based on a strict schedule of regular visits.

Effect of training and visit system of agricultural extension service on maize farmers.

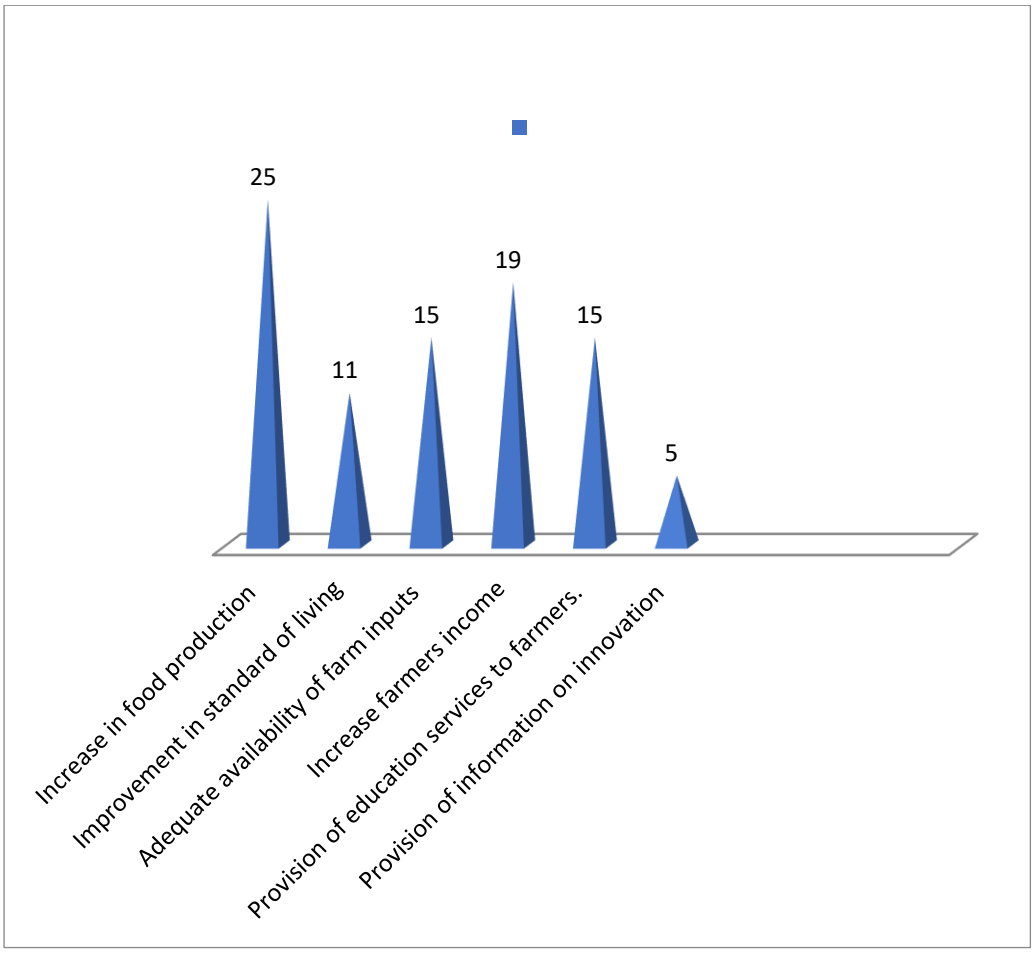


Figure 3: Effect of training and visit system of agricultural extension service on maize farmers.

The result showed that 38.89% (25) of the respondents indicated increase in food production, 32.22% (19) of the respondents indicated increase farmers income, 16.67% (15) of

the respondents indicated adequate availability of farm inputs and 12.22% (11) of the respondents indicated improvement in standard of living as effect of training and visit system of agricultural extension service on maize farmers. This implies that availability of increase in food and increase farmers income were the major effect on the training and visit system of agricultural extension service in the area. The result would encourage farmers that engaged fully in agricultural production to seek productive information from the extension officers from time to time as to ensure food availability in the study area. The T&V was organized in such a way that it was carried out fortnightly by the agent frontline extension worker (FEW), to each selected farmer in his or her domain. Supervision was close and exercised through a management structure with a single line of responsibility. This single direct line of technical support and administrative control aimed at assigning specific extension duties to agricultural agents so that they may not be held responsible for all aspects of rural development Elias (2016).

Limitations of the training and visit extension system.

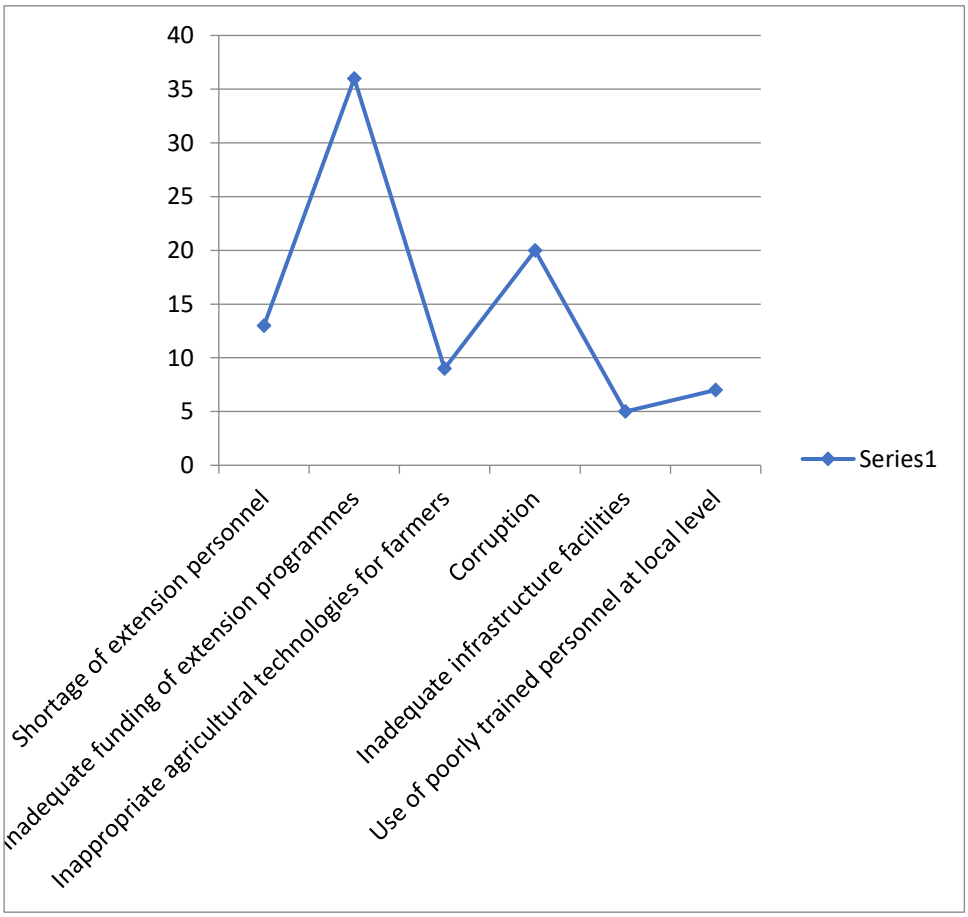


Figure 4: Constraints of the training and visit extension system.

Figure 4: revealed that 40% of the respondents indicated inadequate funding of extension programmes, 22.22% of them indicated corruption, 14.44% of them indicated shortage of extension personnel while 10% of them indicated inappropriate agricultural technologies for farmers, 7.78% of them indicated inadequate infrastructural facilities and only 5.56% of them indicated use of poorly trained personnel at local level. This implies that the main challenges of the T &V agricultural extension services are inadequate funding of extension programmes, corruption, irregular evaluation of extension programmes and

inappropriate agricultural technologies for farmers. According to Samanta (2015) who stated that the inadequate funding of agricultural programme, problem of evaluation of extension programme, corruption are the most challenges of agricultural extension strategies in the area and this has led to abandon of agricultural programme, high poverty rate and employment in the country.

Conclusion

The T&V approach focused on the transfer of knowledge and farming skills through close contact with the farmers on the basis of a regular visiting cycle. It had training and updating sessions for the agents at regular intervals. Moreover, the T&V was hierarchically organized with subject specialists for quality and efficient extension.

The researchers concluded that T & V information dissemination approach is fast, most reliable and formidable in transfer of knowledge and other information farmers need to improve still maximize production and yield. The researchers also concluded that T & V also gives farmers advantage of proximity, close contact, first hand narrative on update and changes of technology through regular visitation of T & V extension staff. The researchers concluded that must maize farmers are stereotyped because they lack knowledge of innovations and technology information update and this was caused by irregular visitation of the T & V extension staff and poor information dissemination.

This research was carried out to expose that T & V is necessary key to reaching the farmers with updates on innovation and technologies, mostly the nation at large should tremendously achieve self-sufficient on food.

Recommendations

Based on the findings of the study, the following recommendations were made;

i. More extension officers should be recruited and trained. This will ensure that the extension officers are not overworked in their efforts to provide extension services to the farmers.

ii. The extension officers should provide to the farmers viable recommendations which have been tried out through on-farm trials and demonstrations. This will ensure that the inherent fear in farmers to take up new farming ideas is eliminated. Consequently, this will lead to an increase in the rate of adoption of production recommendations.

iii. Farmer training should be upheld, and the farmers motivated to adopt what they learn during training. The motivation could be in the form of individualized visits to the farmers' homes and farms by the extension officers to ascertain the progress in adoption of recommendations.

iv. Further a farmers' training center (FTC) should be established in the communities from where the farmers can learn the various aspects of farming.

v. The extension officers should be provided with means of transport (mobility). This will enable them to efficiently visit farmers located near and far from the district headquarters. It will further enable the extension officer to visit the farmers more regularly. This will inevitably reverse the current scenario whereby farmers located far away from town do not receive extension services frequently.

vi. Agricultural extension service should be revisited and strengthened towards effectiveness delivery of its core mandate of disseminating innovative packages to the farmers.

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