Analysis of Relevance of Agricultural Extension Services on Crop Production in Irepodun Local Government Area of Kwara State, Nigeria

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Abstract - The study examined the relevance of agricultural extension services on crop production in Irepodun Local Government Area of Kwara state. Nigeria. Data were collected by using structured interview schedule admistered on, 112 farmers' sampled for the study. Descriptive statistics such as frequency counts, percentages were used for the analysis and T test was used to test the stated hypothesis. Results show that (77.7%) of the respondents were between the age category of 31-50years, while 74.1% were male, 58.9% had no formal education while 40.2% had low level of education. Almost all the respondents were visited by village extension agents while 61.6% of the respondent cultivated farm size of between 1 to 5 hectares, and 73.2% cultivated maize, 70.5% cultivated yam, 67.9% cassava. Respondents indicated relevance of agricultural practices introduced by extension agents. Findings also show that there was no significant difference in land use before and after extension services, but there was significant different in crops yield. There is need for motivation of extension agent through adequate provision of field operation facilities in order to encourage their commitment and dedication to duty.

ANALYSIS OF RELEVANCE OF AGRICULTURAL EXTENSION SERVICES ON CROP PRODUCTION IN IREPODUN LOCAL GOVERNMENT AREA OF KWARA STATE,NIGERIA

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Abstract - The study examined the relevance of agricultural extension services on crop production in Irepodun Local Government Area of Kwara state. Nigeria. Data were collected by using structured interview schedule admistered on, 112 farmers' sampled for the study. Descriptive statistics such as frequency counts, percentages were used for the analysis and T test was used to test the stated hypothesis. Results show that (77.7%) of the respondents were between the age category of 31-50years, while 74.1% were male, 58.9% had no formal education while 40.2% had low level of education. Almost all the respondents were visited by village extension agents while 61.6% of the respondent cultivated farm size of between 1 to 5 hectares, and 73.2% cultivated maize, 70.5% cultivated yam, 67.9% cassava. Respondents indicated relevance of agricultural practices introduced by extension agents. Findings also show that there was no significant difference in land use before and after extension services, but there was significant different in crops yield. There is need for motivation of extension agent through adequate provision of field operation facilities in order to encourage their commitment and dedication to duty.

I. Introduction

To improve the agricultural production, some forms of appropriate technologies were necessary. Appropriate technologies (agricultural practices) in this context are defined as the latest scientific and technological developments that have been adjusted to suit the local conditions to the highest possible degree, (FAO, 1996, Oladele and Fawole, 2007). In this regard, farmer involvement in technology development has generated a lot of models through several studies (Byerlee et al, 1989). Technologies has defined as all the methods of production which has been developed in the basis of existing state of scientific knowledge (Roy, 1990, Oladele and Fawole, 2007).The last twenty years have witness great investment in agricultural research and development of new technologies in Nigeria. The national and international research centers have reported significant yield increase in many crops; insects' pest and disease that cause damage to plants, animal and crops have been brought under substantial control. In Nigeria, the extension services system is the most important public service institution with the widest range of responsibilities for agricultural and rural development (Oladele and Fawole, 2007). Agricultural extension workers serve as conduct 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, 1995). 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, 2002).

The responsibilities of extension services include transferring problems from the farm and rural home to research centers for solutions. Thus agricultural extension services aims at changing the rural people and train them to make independent decisions and make use of available local resource (Maunder, 2002). It is obvious that continued dissemination of research result to farmers is of utmost important for increasing the present level of agricultural productivity, when farmers are exposed to more and more research findings the better they will be able to improve their yields per acre of land cultivated (ogunfiditimi, 1999). There is an increasing in awareness on the impact of agricultural extesnsion services in the developmental process in relation to food crop production, through voluntary educational programme that serve as a teaching and learning techniques to disseminate useful agricultural information to the farmers in order to influence their knowledge, skills and attitude that assists them in using the technical knowledge gain to solve their own problem (Maunder 2002). Although extension workers need to mastered cultural differences which varies from one locality to another before implementation of any programme which should be based on the need and interest of the people which are closely related to improving their livelihood through increasing farm production and their physical environment (Leagen, 2002).

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

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of fertilizer, organic manure, pesticides and capital investment inputs which farmers must learn how to use through the education role of extension workers (William, 1999).Specifically the study ; described socio-economic characteristics of the respondents, examine the relevance of farming practices introduced by extension agents to farmers', examine the size of land cultivated before and after the advent of extension agents and examine the crop yield before and after the advent of extension agents. It was hypothesized that there was no significant difference in land cultivated before and after extension services, also there was no significant difference in crop yield before and after extension services.

II. Methodology

The study was carried out in Irepodun Local Government Area of Kwara State, Nigeria. Multistage Sampling technique was used for the study. The area made up of two extension blocks in which each block made up of eight extension cells. Respondents were randomly selected from four extension cells selected from each extension block, making eight extension cells (Ajase, Oko, Isin, Esie, Arandun, Idofin, Olla and Ekan-Moje) selected for the study. These cells were selected due to farming activities that is the main occupation of the people. Purposive sampling techniques was used to select two communities from each extension cells due to their rural base, making a total of 16 communities selected for the study and seven respondents were randomly selected from each community selected. Thus giving a total of 112 respondents which constitute sample size for the study, a structure interview schedule was used to obtained data from the selected respondents. Both descriptive and inferential statistics was used to analyze the data. The descriptive statistics used include frequency counts and percentages while the inferential statistics employed was T-test.

II. Results and Discussion

a) Socio-Economic Profiles of Sampled Respondents

Table 1revealed that 77.7% of the respondents were between the age group of 31 to 50 years, 12.5% were above 51 years, while 9.8% were below 30years. This implies that majority of the respondents were at their active working age. About 74.1% of the respondents were male and 25.9% were female while 59.8% had no formal education while 40.2% were educated. This implies that below average of the respondents had low level of education .Further in table 1 majority(87.5%) of the respondents had more than 10years as years of farming experience and 95.5% o were visited by village extension agents, 61.6% cultivated farm size of between 1-5 hectares. This implies that extension agents have made its impact in reaching most of the respondents. This findings

conform with (Oladosu, 2004) extension services system is the most important public service institution with the widest range of responsibilities for agriculture and rural development

b) Crops Cultivated

Results in Table 2 shows that 73.2% of the respondents cultivated maize, 70.5% cultivated yam, 67.9% cultivated cassava, while 40.2%, 32.1% and 21.4% cultivated cowpea vegetables and cocoyam respectively. This agrees with Youdeower and Akinwumi (1999) Edeogbon et al (2008) who stated that most farmers cultivated arable crops in Nigeria.

c) Relevance of Practices Introduced by Extension Agents

Table 3 shows that all the respondents indicated the relevance of the practices. Majority (91.1%) of the respondents indicated that improved crop varieties is relevant to them, 87.5% indicated methods of planting as relevant, 85.7% indicated using of agriculture chemicals as relevant, while 81.3% indicated using of machinery and equipment as relevant. Further in the table 77.7% indicated attending of exhibition, workshop ,seminar and methods of crops processing as relevant to them in their farming activities, also 75.9% indicated using of organic manure as relevant, 69.6% indicated using of fertilizer as relevant 69.6% and 67.9% indicated methods of harvesting and methods of crops storage as relevant. These results were in agreement with the findings of Oladele and Fawole (2007) who reported that farmers perceived the relevance of agricultural technologies as the potential to affect the eventual adoption of technologies.

d) Crops Yield Before and After Extension Services

Results in table 4revealed that 69.6% (tone) of the respondents indicated 0.05-1.0(tones) as their crop yield for maize before extension service, 66.1% indicated 0.25-1.25(tones) as their crop yield for cassava before extension service while 52.7% indicated 0.1-1.0(tones) as their crop yield for yam before extension service. Furthermore, table 4 shows that 82.1.% indicated 0.1-3.0 (tones) as their crop yield for cassava after extension service, 76.8% of the respondents' indicated 0.1-1.05(tones) as their crop yield for maize after extension service, while 61.6% indicated 0.2-1.5(tones) as their crop yield for yam after extension service. This implies that extension service was relevant to crop production in the study area because there are differences in their crop yield before and after extension services. This agree with William, (1999) who reported that agricultural extension services has been identified to be relevant in rapid increase in agricultural production.

e) Hypotheses Testing

T-test results shows that there was no significant difference in the land use before and after

extension services. This finding agrees with that of Omoham (1996) Edeoghon et al (2008) who reported that small farm holdings constitute most of the farming activities in Nigeria. However there was significant difference in crop yield before and after extension services. This is because the agricultural practices introduced by extension agents assisted the farmers to increase their crop production. These results are in agreement with the findings of Akinbile and Odebode (2002) who reported that farmers in Osun State are aware of these agricultural practices introduced by extension agents.

f) Conclusion and Recommendations

From the result of the study it was observed that agricultural practices introduced to farmers by extension agents are relevant to their farming activities. It was also discovered that there was no significant difference in land use and there was significant difference in crop yield before and after the advent of extension agents in the study areas. Based on these findings, the following recommendations are proposed: Village extension agents need to be motivated through provision of field operation facilities and better enumeration in order to encourage their commitment and dedication to duty .There should be high subsidy on farm inputs in order to motivate farmers to try and eventually adopt agricultural practices introduced to them and More extension workers need to be employed in order to reduce extension agents to farm families' ratio.

Table 1 : Distribution of respondents by socio- economic characteristics

Characteristics	Frequency	Percentage
Age		
<30	11	9.8
31-40	29	25.9
41-50	58	51.8
51 and above	14	12.5
Total	112	100.0
Sex	Frequency	Percentage
Male	83	74.1
Female	29	25.9
Total	112	100.0
Educational qualification	Frequency	Percentage
No formal education	67	59.8
Primary education	25	22.3
Secondary education	15	13.4
Tertiary education	05	4.5
Total	112	100.0
Farming experience (years)	Frequency	Percentage
<10	14	12.5
11-20	20	17.9
21-30	41	36.6
31 and Above	37	33.0
Total	112	100.0
Contact with extension agents	Frequency	Percentage
Everyday	02	1.8
Twice in a month	88	78.8
Not regular	11	9.8
No visit at all	05	4.5
Total	112	100.0
Farm size (hectare)	Frequency	Percentage
1-5	69	61.6
6-10	26	23.2
10 and Above	17	15.2
Total	112	100.0

Source : Field Survey 2012

Table 2 : Distribution of respondents by Crops Cultivated

Crops	Frequency	Percentage
Yam	79	70.5
Cowpea	45	40.2
Cassava	76	67.9
Cocoyam	24	21.4
Maize	82	73.2
Vegetables	36	32.1

Source : Field Survey 2012
*Multiple responses

Table 3 : Distribution of respondents by practices introduced by extension agents

Practices	Relevant	Not relevant
Fertilizer application	78(69.6)	34(30.4)
Improved crops varieties	102(91.1)	06(5.4)
Using of machinery and equipment	91(81.3)	21(18.8)
Using of agricultural chemicals	96(85.7)	16(14.3)
Attending exhibition workshops and Seminar.	87(77.7)	25(22.3)
Methods of planting	98(87.5)	14(12.5)
Methods of harvesting	78(69.6)	34(30.4)
Methods of crops processing	87(77.7)	2(22.3)
Methods of crop storage	76(67.9)	6(32.1)
Using of organic manure	85(75.9)	27(24.1)

Source : Fielccd survey 2012
*Multiple responses.

Table 4 : Distribution of respondents by crops yield before and after

Crops*	Yield(tonnes)	Frequency	percentage
Maize	0.05-1.0	78	69.6
Cocoyam	0.03-0.6	41	36.6
Yam	0.1-1.0	59	52.7
Cowpea	0.05-0.25	32	28.6
Cassava	0.25-1.25	74	66.1
Vegetables	0.001-0.003	29	26.0
Crops yield after	Extension service		
Crops*	Yield(tonnes)	Frequency	percentages
Maize	0.1-1.05	86	76.8
Cocoyam	0.04-0.13	43	38.4
Yam	0.2-1.5	69	61.6
Cowpea	0.3-0.75	35	31.3
Cassava	0.1-3.0	92	82.1
Vegetables	0.004-0.006	33	29.5.

Source : Field survey 2012
*Multiple responses

Table 5 : T-test result shows different between land use before and after extension services

Advent of extension agents	land difference in mean		Degree of freedom	Standard Deviation	T
Before	yam	3.345	48	3.397	-5.743*
After	yam				
Before	cowpea	2.413	48	3.958	-5.197*
After	cowpea				
Before	cassava	4.561	48	4.100	-6.142*
After	cassava				
Before	maize	1.215	48	6.533	-2.018*
After	maize				
Before	cocoyam	-6.17E-03	48	3.561	-0.142
After	cocoyam				
Before	vegetable	3.291	48	3.762	-4.562*
After	vegetable				

Source: Data analysis 2012
*Significant at (P<0.05)

Table 6 : T-test result shows difference between crop yield before and after extension services

Advent of Extension Agent	Crops yield	Difference in mean	Degree of freedom	Standard Deviation	T
Before	yam	-1.728	48	5.194	2.732*
After	yam				
Before	cowpea	3.951	48	1.724	2.17*
After	cowpea				
Before	cassava	4.518	48	1.354	2.883*
After	cassava				
Before	maize	8.210	48	1.232	4.916*
After	maize				
Before	cocoyam	1.975	48	1.811	0.949
After	cocoyam				
Before	vegetable	5.240	48	1.205	3.461*
After	vegetable				

REFERENCES RÉFÉRENCES REFERENCIAS

1. Akinbil L.A. and Odebode, S.O. (2002) Determinants of farmers use of sustainable conservation practices in Osun State Nigeria: Journal of Sustainable Development in Agriculture and Environment 3(2) Pp 55 -63.

2. Byerlee, D.L, Harington, L and Winkleman, D.L. (1989) Farming system research issues in research strategy and technology design. American Journal of Agricultural Economics 6 (4) Pp 897-904.

3. Empire, J.A. (1995) Transfer of Agricultural Research Result and Technology In Towards Strengthening the Nigeria Agricultural Research system (ends) Shula, B. Addie, N.O., Odegbaro, O.A. and Adamou, A. NARP publication University of Ibadan Press, Ibadan. Pp 251-264.

4. Edeoghon, C.O. Ajayi, M.T. and Ugboya, T.O. (2008) Awareness and use of Sustainable Agricultural practices by Arable Crop Farmers *Journal of Sustainable Development in Agriculture and Environment 3 (2) Pp 55-63*

5. Food and Agricultural Organization of united Nation (FAO) (1996) *food for all Report of the World Food Summit FAO Rome.p21*

6. Leagen, J.P. (2002) "Extension Educational and Modernization" Behavioural change in agricultural concept and strategies for influencing Transition Cornel University Press Ithaca New York London. Pp45-47.

7. Maunder B.C. (2002) Agricultural extension a reference manual FAO publication Rome.

8. Ogunfiditimi, T.O. (1999) Adoption of Improved Farm Practices choice under Uncertainty Indian Journal of Extension Education 17 (1 and 2) 91-98.

9. Oladele, O.I. and Fawole, O.P. (2007) Farmers perception of the Relevance of Agriculture Technologies in South-Western Nigeria. *Journal of Human Ecology 21(3) Pp 191-194.*

10. Roy, .S. (1990) Agriculture and Technology in Developing Countries Sage Publication Limited, London Pp 2-6.

11. Williams, S.K.T (1989) Sources of Information on improved farming practices in some selected areas of western Nigeria. *Bulleting of rural economics and Sociology. p65*

12. Omohan, D.A. (1996) "Diffusion of Innovation" Faculty of social science. Quarterly Journal, Edo-State University 1(1) Pp 23-31.

13. Youdeowei, A and Akinwumi, J.A (1999) Importance of Agriculture in tropical countries in Youdowei, A Ezedima, F.O.C. and Onazi, C.O. (eds) Introduction to Tropical Agriculture Longman Limited London Pp 1-3.