Contribution of Extension Services to Food Crop Production in Ogun State, Nigeria

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ABSTRACT
This study determined the contribution of extension services to food crop production in Ogun State, Nigeria. A multistage sampling technique was used to select 100 respondents (32 extension agents and 68 farmers) in the study area. Questionnaire and interview schedule were used to collect data from respondents; data were subjected to descriptive and inferential statistics. Result revealed that majority of the respondents are male (extension agents 75%, farmers 73.5%) and are in their active age between 31-40yrs (extension agents 50%, farmers 38.2%). Significant relationship exists between age, educational attainment and sex and effectiveness of information disseminated by extension agents to farmers. Also, there exists significant difference in Kg/output before and after extension agents' involvement. It is therefore recommended that workshops, seminars and trainings should be organized for both extension agents & farmers, increased incentives for extension agents, proper and greater financial allocations to extension services towards smooth contributions of extension services to food crop production are pertinent to increase the production of food crop in Ogun State through extension contribution.
Keywords*:* Contribution, Extension Services, Farmers, Food crops, Nigeria.

INTRODUCTION
Agricultural extension services comprise all the different activities that provide the information, goods and services needed and demanded by farmers and other actors in agricultural settings to assist them in developing their own technical, organizational and management skills and practices so as to improve their livelihoods and well-being (Christoplos 2010).   Extension is both a political and an organisation instrument implement to facilitate development and it ranges from transfer of crop technology to participatory problem solving educational approaches, which aims at reducing poverty and enhancing community involvement in the processes of development (Rivera and Qamar 2003). Extension services mainly involve the passing of agricultural information to the farmer. These messages are what constitute information which farmer absorbs and tries to implement in their farming practices. An effective extension is formation service contributes significantly to food crop production. An effective extension information is one that meets the farmers needs and the content of the information is specific simple and useful (Gundu, 1985).

Agriculture is still the bedrock of the rural economy in Nigeria, having a strong hold on the national economy and offering considerable entrepreneurial opportunities to a large chunk of the population, mostly on a subsistent level. Agriculture contributed 41.67% to the gross domestic product in 2005

(Central Bank of Nig. 2006). The food production state of the nation is largely premised on the reliance of rural farmers on staple food production which is the prime mover of their social economic development activities.

The flurry of agricultural development programme embedded with extension service intervention, suffered from poor logistics and poor will power from the government to diversity the agriculture economy, trade and commerce. These programmes are National Accelerated Food Production Programme (NAFDP,1973), Agricultural Development program (ADP 1975), Operation Feed the Nation (OFN, 1976). Green Revolution Programme (GRP, 1981) River Basin and Rural Development Authorities (RBDAS), National Seed Service (NSS), Agricultural Credit Guarantees Scheme, Agricultural Research Project among others.

Food production is failing to keep pace with the nation's increasing population due to low budgetary allocations to agriculture by State and Federal governments, logistical challenges in the planning and implementation of extension systems and in human resource development and management succession; and sustainability amidst in accurate weather forecasts, farmers access to agricultural inputs, credit services and validated, up-to-date information on existing technologies. The percentage of food-insecurity in households was reported to be 18% in 1996 and 40% in 2005 (Sanusi, Badejo & Yusuf, 2006). The economist intelligence units Global food security index (GFSI) ranked Nigeria 80th among 105 countries with respect to food affordability, availability and quality components. Agricultural extension has been widely reorganised by scholars as an essential ingredient for ameliorating the livelihood of farmers. Investments in the extension services have been considered as important tools for improving agricultural productivity and increasing farmers' income (Anderson & Feder 2007). Extension is a two way method of taking proven practices to farmers to improve their productivity and at the same time bringing farmers problems back to researcher for solution. To be successful, extension must start at the stage of development that the farmers are and gradually build them up to a level of higher standards of achievement. Although, per capital agricultural production has been declining in sub Saharan Africa, in contrast with increasing trends in Latin America and East Asia (Haggblade & Hazell, 2010).

Due to the poor performance of the agricultural sectors in this region, food insecurity has increased significantly, despite this laps recorded in agricultural productivity in Sub Saharan Arica, extension have been reported to have contributed immensely in order to reduce food in security (Hailemichael 2013). Though there are contradictions in agricultural extension services, it could be traced to the chain of delivery of extension programs in terms of methods of dissemination, complexity, predictability, acceptability, affordability of innovation packages among others.

The slow rate of growth of agriculture and food production is pertinent in the growing of food importation, increased threat to food insecurity and failing diversification of the economy from oil to agriculture, commerce, trade and industrialization. It is against this backdrop, that this study was designed to assess the contribution of extension services to food crop production in Ogun State. The objectives of the study were:
* identify the demographic characteristics of the respondent
* ascertain the methods used by extension agents
* determine the problems limiting the contribution of extension service to food crop production
* ascertain the farmer's perception on the contribution of extension services

RESEARCH METHODOLOGY
Area of study: The research was carried out in Ogun State, Nigeria. The state is otherwise known as the Gateway to Nigeria, emerged in February 1976. It is situated within the tropics and covering 16,409,26 square kilometres, it is bounded in the west by the Republic of Benin , in the south by Lagos State and the Atlantic ocean, in the east by Ondo State and in the north by Oyo State. It has one main river called Ogun river from where the State adapt its name. There are 20 Local Government Areas in the State. The State was divided into 4 zones on their location, they are Ijebu zone, Remo zone, Egba zone and Egbado zone,

the major food crops include rice, maize, cassava, yam, banana while the main cash crops are cocoa, kolanuts, rubber, palm oil and palm kernels.

Sampling Procedure and Sample Size

The multi stage sampling technique was employed for the study and it involved the use of four agencies that are solely agricultural base within the State: The agencies are Ogun State Agricultural Development Programme (OGADEP), AMREC-Federal University of Agriculture Abeokuta, Diocesan Agricultural Development Programme (DADP) a non-governmental organization and Ogun State University Extension Village Schemes (OSUEVS). From each agencies 17 farmers and 8 extension were randomly selected from the four agencies, 68 farmers and 32 extension agents were selected making a total number of 100 sampled respondents. The total population for the study are shown below:

Table 1: Summary of the total population for the study.

Agency respondent	Location	No of Farmer	No of Extension agents	Total number of
OGADEP	Abeokuta	17	8	25
AMREC	Abeokuta	17	8	25
DADP	Ijebu-Ode	17	8	25
OSVEVS	Ago-Iwoye	17	8	25
Total.		68	32	100.

Instrument of Data Collection

The instruments used for this research were questionnaire for extension agents and interview schedule for farmers. The questionnaire was completed by the extension agents. Interview schedule was used for the farmers. The two tools contained the same information, it was divided into three sections, Section A asked for general information, Section B asked about their demographic characteristics while Section C was made up of items on food crop production and the contributions made by extension agents.

Methods of Data Collection and Analysis:

Data were collected from primary sources (respondents) with the aid of questionnaire & interviewed schedule. Descriptive statistics such as percentages and frequency distribution were used to analyse the data collected. In testing for the hypothesis Spearman Correlation and T-test were used. The hypothesis were stated in the Null from (HO)

Ho_1: There is no significant relationship between effectiveness of how extension agents disseminate information to farmers and their demographic characteristics.

Ho_2: There is no significant different in food crop output before and after extension agent involvement.

Ho_3: There is no significant different in the percentage of involvement before and after extension services

RESULTS AND DISCUSSION
Table 2: Distribution of Demographic Characteristics of Respondents

Characteristics	Extension Agents	Farmers
1. Age (years)	F (%)	F (%)
Above 60yrs	0 (0.0)	0. (0.0)
51-60yrs	0 (0.0)	11 (16.2)
41-50yrs	5 (15.6)	24 (35.3)
31-40yrs	16 (50.0)	26 (38.2)
Below 30yrs	11 (34.4)	7 (10.3)
2. Sex		
Male	24 (75.0)	50 (73.5)
Female	8 (25.0)	18 (26.5)
3. Marital status		
Separated	0 (0.0)	2 (3.0)
Married	21 (65.6)	51 (75.0)
Single	11 (34.4)	15 (22.0)
Educational Status		
No Formal Education	0 (0.0)	7 (10.3)
Quaranic school	0 (0.0)	2 (3.0)
Adult Literacy class	0 (0.0)	2 (3.0)
Primary Education	0 (0.0)	26 (38.2)
J ss /Modern school	0 (0.0)	9 (13.0)
SSCE/GCE/WAEC	4 (12.5)	18 (26.5)
OND/NCE	10 (31.3)	4 (5.8)
HND/BSC/B.Agric	15 (46.9)	0 (0.0)
M.Sc/PhD	3 (9.3)	0 (0. 0)

Source: Field Survey 2018

Age is a factor that determines the level of dynamism and experience of an individual's ability to take decision and participate actively in the development of self and community. From the above table, it can be deduced that 50% of the extension agents and 38 2 % of farmers falls between age 31-40yrs which means that they are still active and agile, while 34.4% of extension agents and 10.3% of farmers falls below 30yrs.

Similarly, majority of the respondents 76% of extension agents and 73.5% of farmers were male, this suggests that farming are dominated by man and this could be explained by the physical extension and drudgery involved in farming activities. It was also revealed that majority of the respondents were married, 65.6% of extension agents were married while 75% of farmers were also married.

In the same vein, 46.9% of extension agents are holder of first degree (HND/BSC/B.Agric) while 38.2% of farmer has primary education.

Table 3 shows that majority of extension agents (84.6%) and farmers (90.2%) agreed that the methods used by extension agents were effective with tours and visits having the highest percentage (96.9% for extension agents) while communicating in farmers own language has the highest percentage (97.1%). This implies that extension agents should try as much as possible to learn and understand the language of the farmers for effective communication; also, extension agents should always visit the farmers on farm in order to see, know and understand what the farmers are going through in order to help them out of their problem. It also implies that the use of use of farmers' local language in the simplest form will facilitate understanding, knowledge and aid acceptance of agricultural initiatives which will improve farmers' productivity and therefore make extension services effective. The used of television has highest percentage of not been used by farmers (11.8%) to access information from Extension Agents this is due to the fact that most rural areas have epileptics power supply.

Table 3: Distribution of Respondents by Rating the Effectiveness of Extension Method Used

a. = contact with farmers directly as individual without audio visual materials
b. = contact with farmers directly in their groups without audio visual materials
c. = contact with farmers directly as individual using audio visual materials
d. = contact with farmers directly in their groups using audio visual materials
e. = use of radio
f. = use of television /video tapes /CD tapes
g. = use of audio tapes
h. = use of posters and other publications
i. = group discussion/meetings
j. = extension teaching and demonstrations
k. = shows and exhibitions
l. = tours and visits
m = extension campaigns
n = contact farmers / SPAT strategy.
0 = linking farmers with credit and input
p = communicating in their own languages

Variables	Extension Agents			Farmers		
	Effective	Not effective	Not used	Effective	Not effective	Not used
	F (%)	F(%)	F(%)	F (%)	F(%)	F(%)
A.	26 (81.3)	3 (9.4)	2 (6.3)	54(79.4)	11(16.2)	2 (2.9)
B.	22 (68.4)	8 (25)	2(6.3)	49 (72.1)	16 (23.5)	3 (4.4)
C.	27 (84.4)	1 (3.1)	4 (12.5)	61 (89.7)	5 (7.4)	2 (2.9)
D.	24 (75.0)	2 (6.3)	6 (18.8)	62 (91.2)	5 (7.4)	1 (1.5)
E.	22 (68.4)	0(0.0)	10 (31.3)	60(88.2)	1(1.5)	7 (10.3)
F.	21 (65.6)	1 (3.1)	10 (31.3)	60 (88.2)	0 (0.0)	8 (11.8)
G.	22 (68.4)	2 (6.3)	9 (28.1)	59 (86.8)	3 (4.4)	6 (8.8)
H.	27 (84.4)	1 (3.1)	4 (12.5)	63 (92.6)	2 (2.9)	2 (2.9)
I.	30 (93.8)	1 (3.1)	1 (3.1)	66 (97.1)	0 (0.0)	2 (2.9)
J.	31 (96.9)	1 (3.1)	0 (0.0)	65 (95.6)	1 (1.5)	2 (2.9)
K.	31 (96.9)	1 (3.1)	0 (0.0)	65 (95.6)	1 (1.5)	2 (2.9)
L.	31 (96.9)	1 (3.1)	0 (0.0)	62 (91.3)	2 (2.9)	3 (4.4)
M.	28 (87.5)	2 (6.3)	2 (6.3)	61 (89.7)	2 (2.9)	5 (7.4)
N.	29 (90.6)	1 (3.1)	2 (6.3)	62 (91.3)	2 (2.9)	3 (4.4)
O.	31 (96.9)	1 (3.1)	0 (0.0)	65 (95.6)	1 (1.5)	2(2.9)
P.	31 (96.9)	1 (3.1)	0 (0.0)	66 (97.1)	1 (1.5)	1 (1.5)
Total	433 (1353.2)	27 (84.3)	52 (162.8)	980(1441.5)	53 (78)	51(74.8)
% Total	84.6	5.3	10.2	90.2	5.0	4.8

Table 4 shows that majority of extension agents (93.8%) agreed that inefficient input supply backup and frustration of farmers due to poverty are major problems limiting the contribution of extension services to food crop production while majority of farmers (88.2%) agreed that inability of extension agency to provide services to farmers due to economic depression is the major problem limiting the contribution of extension services followed by unwillingness of farmers to make any direct contribution (financial) into programmes meant to improve their work (85.3%).This suggest that availability of efficient and accessible input supply will help extension services to contribute effectively to food crop production. Similarly, this indicates that an active extension agency providing effective extension services will help farmers' productivity and consequently contribute to food crop production because farmers depend largely on extension services for information on farming activities.

Table 4: Distribution of respondents by problems limiting the contribution of extension services to food crop production

Note A = inefficient input supply backup   B= inadequate credit back up

 C= Non availability of innovations to disseminate to farmers in food crops

 D= low morale of extension agents   E= poor pricing and marketing arrangement

 F= frustration of farmers due to poverty

 G= lack of commitment and skills on the part of extension agents

 H= non-involvement of farmers as participants in planning, implementation and evaluation stages

 I= lack of viable farmers own organisation   J= lack of effective mutual savings and credit scheme

 K= inability of extension agency to provide services to farmers due to economic depression

 L= unwillingness of farmers to make any direct contributions (financial) into programmes meant to improve their work.

Hint: A= Agreed   B= Undecided   C= Disagreed

Variables	Extension Agents			Farmers		
	A	B	C	A	B	C
	F (%)	F (%)	F (%)	F (%)	F (%)	F (%)
A.	30 (93.8)	2(6.3)	1(3.1)	48(70.6)	6(8.8)	15(22.1)
B.	28 (87.5)	2 (6.3)	2 (6.3)	51 (75.0)	2 (2.9)	15(22.1)
C.	19 (59.4)	5(15.6)	12 (37.5)	50 (73.5)	2 (2.9)	16 (23.5)
D.	26 (81.3)	5 (15.6)	1 (3.1)	52 (76.5)	2 (2.9)	14 (20.1)
E.	29 (90.6)	2 (6.3)	1 (3.1)	57(83.8)	5 (7.4)	7 (10.3)
F.	30 (93.8)	2 (6.3)	1 (3.1)	54(79.4)	5 (7.4)	9 (13.2)
G.	28 (87.5)	3 (9.4)	1 (3.1)	51 (75.0)	3 (4.4)	14 (20.1)
H.	22 (68.8)	4 (12.5)	2 (6.3)	53 (77.9)	5(7.4)	10(14.7)
I.	20 (62.5)	5 (15.6)	2 (6.3)	54 (79.4)	5 (7.4)	9 (13.2)
J.	26 (81.3)	2 (6.3)	4 (12.5)	53 (77.9)	5 (7.4)	10 (14.7)
K.	26 (81.3)	5 (15.6)	5 (15.6)	60 (88.2)	1 (1.5)	7 (10.3)
L.	26 (81.3)	3 (9.4)	2 (6.3)	58 (85.3)	2 (2.9)	8 (11.8)
Total	310(969.1)	30(125.2)	34(106.3)	641 (942.5)	43(63.3)	134(196.1)
%Total	80.8	10.4	8.8	78.5	5.3	16.3

Table 5 shows that 83.2% of extension agents agreed with extension contribution to food crop production while 16. 5% does not agreed with extension contribution to food crop production by saying No. In the same vein 82.7% of farmers agreed with what extension agents contributed to food crop production by saying Yes while 17.3% of farmers does not agreed with extension agents contribution by saying No. This implies that through information dissemination and support, extension agents contribute immensely to improve food crop production in the study area. This is supported by Singh and Grover (2013) who opined that the responsibility of extension agents is to disseminate best practices and innovations thereby increasing farmers' productivity

Table 5: Distribution of respondents by what is being contributed by extension agents
Note A= Information
    B= Training
    C= Provision of inputs
    D= Participation in the activities
    E= Purchase of needed materials
    F= Evaluation of benefits
    G= Adaptation of innovation to local situation

Variable	Extension Agents		Farmers	
	Yes	No	Yes	No
	F (%)	F (%)	F (%)	F (%)
A.	32(100.0)	0(0.0)	61 (89.7)	7 (10.3)
B.	32(100.0)	0(0.0)	61 (89.7)	7 (10.3)
C.	32(100.0)	0(0.0)	67 (98.5)	1 (1.5)
D.	26(81.3)	6(18.7)	52 (76.5)	16(23.5)
E.	19(59.4)	13 (40.6)	51 (75.0)	17(25)
F.	22(68.8)	10 (31.2)	43 (63.2)	25 (36.8)
G.	24(75.0)	8 (25.0)	59 (86.8)	9 (13.2)
Total	187(584.5)	37(115.5)	394(579.4)	82 (120.6)
% Total	83.5	16.5	82.7	17.3

From table 6, it can be deduced that majority of the respondent (extension agents) 92.5% agreed with the outcome of extension contribution by saying Yes with more products from farm and increased in knowledge about cultural practices having the highest percentage 100% with favourable environment between extension/researcher/farmer having the least percentage 81.3%. In the same vein, majority of farmers 90.0% agreed with the outcome result of extension contribution by saying Yes while 10% which is minority disagree with the result outcome by saying No .
All the farmers (100%) agreed that they do have more products from farm as a result of extension contribution to their production.

Table 6: Distribution of respondents by result/ outcome of extension agents contributions
Note:
    A. = Increased in knowledge about cultural practices
    B. = decreased dependency level
    C. = increased standard of living
    D. = Favourable / conducive environment between extension/researcher /farmer
    E. = more product from farm

Variables	Extension	Agents	Farmers	
	Yes	No	Yes	No
	F (%)	F (%)	F (%)	F (%)
A.	32 (100.0)	0(0.0)	59(86.8)	9(13.2)
B.	27 (84.4)	5 (15.6)	56(82.4)	12(17.6)
C.	31 (96.9)	1 (3.1)	61(89.7)	7(10.3)
D.	26(81.3)	6(18.7)	62(91.2)	6(8.8)
E.	32(100.0)	0(0.0)	68(100.0)	0(0.0)
Total	148(462.6)	12(37.4)	306(450.1)	34(49.9)
%Total	92.5	7.5	90.0	10.0

Results in table7showed that age, educational attainment and sex (r=0.2517, 0.2967, 0.3669, p< 0.005 respectively) of the respondents were statistically significant. This implies that gender is an important constituent of sustainable agricultural development. Farmers with some level of education and relatively older in age were more aware of extension services and likely to adopt innovation quickly, owing to their higher skill acquisition and understanding of the economic advantages offered by innovations with less fear of risk. These findings are in line with those of Daramola and Aturamu (2005) who noted that contact with extension agents as well as formal education exposes the farmers to the availability and technical know-how of innovations and increases their desire to acquire them.

Table 7: Correlation analysis of effectiveness of information dissemination to farmers and their demographic characteristics

Variables	Rcal	df	Rtab	Remarks at 0.05
Age	0.2517	66	0.248	significant
Educational attainment	0.2967	66	0.248	significant
Sex	0.3669	66	0.248	significant

Table 8 showed that tcal < t tab, therefore, we reject the Null hypothesis, There is significant difference before and after extension agent involvement , this shows that extension services constitute the most powerful important information transfer system throughout the world as they bring about positive outcome in the production of farmers.

Table 8: T-test for paired samples for difference in kg Per output before and after extension agent involvement.

Variables	tcal	df t-tab	Remark at 0.05
Maize	-22.73	67 2.66	significant different
Cassava	-11.31	67 2.66	significant different
Yam	-5.90	67 2.66	significant different
Cocoyam	-4.79	67 2.66	significant different
Rice	-3.07	672.66	significant different

CONCLUSION AND RECOMMENDATIONS

Based on the findings of this study it can be concluded that a well throughout extension services can partly compensate for the often lamented shortage of food crop production and innovation lying unused provided that one is on a position to work effectively and communicate a message in various ways, to evaluate feedback and then to take action accordingly. Extension service is an important process of social change for improving food crop farmer's knowledge, attitudes and behavioural practices with regard to adopting productivity, enhancing innovations for guaranteed food security in Ogun State. Many of the

respondents are male, in their productive ages, have formal education with great experience in food crop production, they have positive attitude towards adoption of innovations. The farmers have access to extension agents, majority of farmers testify positively to the contribution of extension services towards food crop production in Ogun State.

In view of the conclusions of this study, the following recommendations are made.

1.   Extension personnel should be re-oriented towards and trained on preparation, selection, organisation and use of extension teaching method, and combination of these methods in such a way that agricultural information are processed in a clear, simple and cohesive form that could be understood by the farmers

2.   It is imperative that government ensure proper and greater financial allocations to extension services towards smooth contribution of extension services to food crop production.

3.   Workshops and seminars should be organized by extension agents for farmers using method and result demonstrations to promote the capacity building of farmers.

4.   Government should see to the welfare of extension staff by providing them with motorcycles, cars and on-8the job training for improved capacity building and job satisfaction.

REFERENCES

Anderson J.R and Feder G. (2007): Agricultural Extension in R.E Everson and P.Pingali (Eds), Handbook of Agricultural Economics, vol 3, Agricultural Development: Framers, Farm Production and Farm Markets. Amsterdam, The Netherlands. Pp, 2342-2378.

Central Bank of Nigeria (2006): Annual Statistical Bulletin on Food Security, vol. 17, Lagos, Nigeria.

Daramola, A.G and Aturamu O.A. (2005): Agroforestry Policy options for Nigeria: A Stimulation study, *Journal of Food, Agriculture and Environment* . 3(1) PP120-124

Haggblade, S and Hazell, P.B. R (2010): Success in African Agriculture: Lessons for the Future(IFPRI issue Brief NO 63), Washington, DC

Hailemichael, T (2013): Evaluating the impact of Agricultural Extension Programmes in Sub-Saharan Africa: Challenges and Prospects, *African Evaluation Journal* pp1-9

Gundu A (1985): Agricultural Information Diffusion to Smallholders in Kenya. An Unpublished Master's dissertation submitted at the Loughborough University of Technology, UK

Rivera, W.M and Alex G. (2003): Pluralism, Emergent Priorities and the Central Role of Government in Extension Reform IN Extension and Rural Development: International Case studies and Emerging Trends, World Bank, Washington DC.

Sanusi, R.A, Badejo C.A and Yusuf B.O (2006): Measuring Household Food Insecurity in Selected Local Lagos and Ibadan, Nigeria.