

## Research Article



# Analysis of Farmers' Perception of the Accountability of Agricultural Extension Services in Oyo State, Nigeria

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**Abstract** | Participatory approaches to agricultural extension service delivery emphasize the need for accountability of extension to the end users. This study analysed farmers' perception of the accountability of agricultural extension services rendered in Oyo State, Nigeria. Structured interview schedule was used in eliciting information from 195 farmers in rural communities across the four agro-ecological zones in the study area using a two-stage random sampling technique. Data used for the study were analysed using descriptive statistics, Likert scale and the regression analysis. The study revealed that farmers perceived the level of accountability of extension to farmers in the study area as poor. Level of education, access to training and membership of farmer-groups negatively influenced accountability at  $p < 0.05$ . Based on the findings of the study, it is recommended that agricultural extension policies that will ensure accountability of extension to farmers should be put in place. Farmers should also be enlightened in order to create awareness as to their rights as clientele in the extension process.

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## Introduction

Accountability in extension is defined as the provision of a credible demonstration of achievements towards the stated and implied objectives of the extension organization as well as its subsequent legislations (Lutz and Swoboda, 1972). These objectives according to Swanson (2008), holistically go beyond technology transfer for major crop and livestock production systems to include goals for human capital development, in terms of enhancing the management and technical skills of farm households relating to production and postharvest handling of high-value crops, livestock and fisheries, sustainable natural resource management, family health and nutrition, leadership and organizational skills, in addition to social capital

development. The World Bank (2011) identified three accountability relationship levels among citizens, policy makers and service providers in public services. These relationships are; the policy makers-citizen relationship called "the citizen voice", the policy makers-service provider relationship called "the compact", and the service provider-citizen relationship called "the client power". Fiszbein (2005) emphasized the importance of getting the accountability relationships right by ensuring that they are all strengthened and that the three relationships reinforce each other.

Though issues of accountability in extension are as old as extension itself, recent reforms with focus on demand-driven, bottom-up approaches reiterate as well as introduce new dimensions to accountability in ex-

tion. Prior to the evolution of these reforms, emphasis has been on “the compact” (accountability relationship between the extension service providers and funding agencies/policy makers). This is likely attributable to the fact that the success of the compact relationship determined response of policy makers and funding bodies to request for funds for extension. The resultant effect was the subtle alienation of the subject of extension, the clientele and end users who are the only ones who can really observe the quality and effectiveness of extension. Incentives are therefore distorted and both extension field staff and line managers continue to have impact attribution problems. This is typical of the supply – driven nature of the public extension service delivery such as is obtainable in Nigeria.

The participatory extension methods which are rapidly gaining acceptance even under public extension systems advocates for the use of “the clients power” as a better measure of success in extension service delivery (Hall et al., 2000; Birner et al., 2006; Birner and Anderson, 2007; Kokate et al., 2009). Client power describes how citizens (farmers in the case of agricultural extension) can mount pressure on service providers to ensure that efficient services are delivered to them. African National Congress (1994) remarked that it is a way of empowering the clientele towards their self-development. It requires a citizenry that will hold officials to account without fear of reprisals. The Neuchatel group (2006) listed accountability of extension to farmers as a key element of success in the demand-driven approach to extension. The group further opined that accountability of extension to farmers involve farmers having a choice of extension service provider, giving input on all negotiations such as extension content, quality, teaching methods, etc. It also involves farmers’ appraisal of their service providers as well as proper avenues for seeking redress when services are unsatisfactory. The benefits of strengthening client power relationship include encouraging participation of farmers in the extension program hence the interest in farmers’ perception on the accountability of extension services to them. Service providers know that farmers have free choice of who their service providers are, and play an important role in their performance appraisal. The competition among service providers to satisfy farmers result in increased efficiency in service delivery and extension is more effective. It is also opined that accountability of extension to farmers is likely to enhance farmers’ willingness to pay for extension services (Ajayi, 2006).

However, the question raised in this study is whether or not, the organization of extension service delivery to farmers in Oyo state is such that farmers perceive extension as being accountable them. The observed dearth of empirical information on the level of accountability of extension to farmers in Nigeria and the possible effect of certain socio-economic characteristics of farmers on their perception of the level of accountability of extension services rendered to them are the thrust of this study.

## Methodology

### Study area

Oyo State is located in the South-western geopolitical zone of Nigeria. It comprises of 33 Local Government Areas which are subdivided into four agro ecological zones as follows; Oyo, Saki, Ogbomosho and Ibadan/ Ibarapa zones. The state covers 28, 454 square kilometers. It is bordered in the west by the Republic of Benin. With average daily temperature ranges from 19°C to 26°C (Agboola and Ojeleye, 2007), the vegetation of the state is mainly swamp forests with small areas of rain forests, and deciduous forest/savanna mosaic scattered in between. The agricultural sector forms the base of the overall development thrust of the state, with farming as the main occupation of the people in the area. Crops largely grown include maize, yam, cassava, cocoyam, melon, cowpea, and vegetables under mixed cropping practices. As obtainable in other states of the country, agricultural extension in Oyo State is public, largely free and administered by the Agricultural Development Project under the supervision of the state Ministry of Agriculture. The Fadama Project is a notable Special Agricultural Development Scheme (SADS) which publicized its use of the demand-driven approach to agricultural extension. Extension service delivery in the study area largely focuses on the group method hence the focus of the study on farmer groups. In addition to the ADP contact farmer groups, the Fadama project encouraged further emergence of farmer-groups as it focused on farmers in economic interest groups called Fadama User Groups (FUGs). The state has a total of about 326 registered crop-based farmer groups between the ADP and the Fadama Project.

### Sampling technique and sample size

A two stage random sampling technique was employed in the study. In the first stage, twenty percent of the crop-based farmer-groups were randomly select-

ed across the four agro-ecological zones in the state. The local Government areas covered by the study included Oyo West, Iseyin, Olorunsogo, Oorelope, Saki West, Ogo Oluwa, Oluwole, Ido, Lagelu and Ibarapa North. The focus on farmer-groups was necessitated by the fact that extension service delivery in the study area was largely targeted at farmers in groups hence the need to ensure representative sampling of farmer-groups. The second stage involved the random selection of three members from each of the selected farmer-groups. In all, 195 farmers were sampled from 65 crop-based farmer-groups in the state.

### Analysis of data

Primary data was obtained with the use of an interview schedule. The data were analysed using descriptive statistics and the multiple regression analysis. Frequency counts, percentages and means were used to describe the socio-economic characteristics of the respondents. A five point Likert scale was used to elicit information on the level of accountability of extension to the respondents. The respondents were required to indicate the extent to which they agree or disagree with carefully constructed statements which depicted their perception on the level of accountability of extension to them. The scale was graduated as follows:

Strongly agree=5, agree=4, indifferent=3, disagree=2 and strongly disagree=1

A mean score was obtained for each respondent and adopted as a measure of the level of accountability of extension (Likert, 1932; Diker et al., 2011).

The multiple regression analysis using the Ordinary Least Square method was employed to investigate the effect of selected socio-economic characteristics of the respondents on their perception of the level of accountability of extension to them. The choice of this model was based on its proven adequacy in situations where there is the need to predict the value of a variable (the dependent variable) based on the value of two or more other variables called the independent, regressor or predictor variables (Berger, 2003). According to Berger (2003), the regression model in its explicit form is given as:

$$Y_i = \beta_0 + \beta_1 X_{1i} + \beta_2 X_{2i} + \dots + \beta_p X_{pi} + e_i \dots \dots (1)$$

Where

$Y_i$  is the dependent variable

$\beta_0$  is the constant term

$\beta_1$  to  $\beta_p$  are coefficients relating to p explanatory vari-

ables of interest

$e_i$  is the error term.

### Measurement of variables

$Y$  = is the perceived level of accountability of extension to farmers measured by mean scores from a Likert scale

$X_1$  = Age of the respondents measured in years

$X_2$  = Gender measured as a dummy variable 1 for male, 0 for female

$X_3$  = Marital Status measured as a dummy variable 1 if married, 0 otherwise

$X_4$  = Total Income measured in naira as the addition of farm income, non-farm income and available income from other household members

$X_5$  = Highest Educational Attainment measured as a dummy variable 1 for the possession of formal education and 0 otherwise

$X_6$  = Land Tenure measured as a dummy variable 1 for owned, 0 otherwise

$X_7$  = Farm Size measured in hectares

$X_8$  = Farming Experience measured as number of years spent in farming

$X_9$  = Number of extension contact measured as the number of extension contact in the past 12 months

$X_{10}$  = membership of other farmers' groups Measured as a dummy variable 1 if yes, 0 otherwise.

$X_{11}$  = Access to farm credit in the past 12 months measured as a dummy variable, 1 if yes 0 otherwise

$X_{12}$  = Access to training in the past 12 months measured as a dummy variable, 1 if yes 0 otherwise

$U$  = Error term

## Results and Discussion

### Socio-economic characteristics

Table 1 presents the selected socio-economic characteristics of crop farmers in the study area. Results reveals that the modal age group of the respondents was 51-60 and the mean age was 52.15. The minimum age of 30 years may also be an indicator of less participation of youths in group activities or in farming in general. For the purpose of this study, divorced and widowed women were classified as unmarried. Majority of the respondents (94.9) were married. The mean of the respondents' annual income was ₦ 335, 520. As shown in Table 1, sixty one percent (61%) of the respondents had a form of education with most of them possessing a minimum of primary school education. Thirty nine percent (39%) as seen from the table had no formal education. Over 12 percent of the respondents had tertiary education. About 13 percent

**Table 1: Socio-economic characteristics of respondents**

Socio-economic Characteristics	Frequency	Percentage
<b>Age of Respondents</b>		
≤ 30	1	0.5
31-50	111	56.9
>50	83	42.6
<b>Marital Status</b>		
Married	185	94.9
Single/Widowed/Divorced	10	5.1
<b>Total Annual Income (N)</b>		
1-200,000	57	29.2
200,001-400,000	82	42.1
400,001-600,000	34	17.4
>600000	22	11.3
<b>Educational Level</b>		
No Formal Education	75	39.0
Adult	12	6.2
Primary	41	21.0
Quranic	4	2.1
Secondary	38	19.5
Tertiary	25	12.2
<b>Land Ownership pattern</b>		
Rented	147	75.4
Owned	48	24.6
<b>Farm Size</b>		
≤ 1.0	50	25.6
1.1-2.0	57	29.3
2.1-3.0	39	20.0
>3.0	49	25.1
<b>Farming Experience (Years)</b>		
1-20	50	25.6
21-40	63	32.3
41-60	52	26.7
>60	30	15.4
<b>No of Extension Contact</b>		
0	33	16.9
1-20	126	64.7
>20	36	18.4
<b>Membership of Other Farmer-groups</b>		
No	117	60.0
Yes	78	40.0
<b>Access to Credit</b>		
No	141	72.3
Yes	54	27.7
<b>Access to Training</b>		
No	87	44.6
Yes	108	55.4
<b>Gender</b>		

Female	31	15.9
Male	164	84.1

Source: Field survey, 2013

of the respondents had more than 4ha of farmland. However, the modal class of 1.1-2.0 hectares reveals the small holder status of the farmers. For the purpose of this study, owned land was taken to include farm-lands bought, inherited, and received as gifts. The table reveals that 75.4 percent of the respondents farmed on rented farmlands. More than 74 percent of the respondents had over 10 years of farming experience. The modal class was 11-20 and mean number of years of farming experience was 21.3. The level of extension contact that a farmer enjoys is expected to reflect in his skill, knowledge and attitude. Level of extension contact may also impact on the farmers' perception of extension and hence, his demand for same. About 17 percent of the respondents had not had any extension contact within the last one year of the survey. Forty percent (40%) of the respondents belonged to at least two farmer groups. Only 27.7 percent of the farmers had enjoyed farm credit over the last 12 month period. The farmers were also predominantly male (84.1%).

### Farmers' perception of the level of accountability of extension services

Table 2 presents the distribution of the respondents according to their mean scores from a total obtainable score of 5, generated from their scores on the Likert Scale applied. Results reveals the respondents perceived the level of accountability of extension in the study area as poor. Only 16.9 percent of the farmers perceived extension as being accountable to them. About half of the respondents agreed that extension

**Table 2: Distribution of respondents by mean scores on perceived level of accountability of agricultural extension services to farmers**

Levels of accountability	Frequency	Percentage
0-1	1	0.5
1.01-2	86	44.1
2.01-3	75	38.5
3.01-4	33	16.9
Total	195	100.0
Minimum	1.0	
Maximum	3.57	
Mean	2.34	
Std. Dev.	0.65	

Source: Field survey, 2013

**Table 3:** *Distribution of respondents on perceived level of accountability of extension services*

Statements	SA	A	U	D	SD	Response Average
My opinion is often sought in appointment of service providers	35(17.9)	46(23.6)	7(3.6)	70(35.9)	37(19.0)	2.9
My opinion is often sought in fixing time for extension visits	23(11.8)	65(33.3)	8(4.1)	67(34.4)	32(16.4)	2.9
My opinion is often sought in deciding the venue of meetings	21(10.8)	66(33.8)	6(3.1)	68(34.9)	34(17.4)	2.9
My opinion is sought on choice of extension teaching method.	0 (0.0)	2(1.0)	38(19.5)	98(50.3)	57(29.2)	1.9
My opinion is often sought in deciding the extension content	0 (0.0)	0(0.0)	9(3.4)	145(55.6)	107(41.0)	1.7
I provide extension service providers with after sales feedbacks	0 (0.0)	1(0.5)	34(17.4)	72(36.9)	88(45.1)	1.7
I participate in securing redress when extension service providers do not provide satisfactory services	3(1.6)	51(26.4)	33(17.1)	56(29.0)	50(25.9)	2.5

SA (strongly agree); A (agree); U (undecided); D (disagree) and SD (strongly disagree), Source: Field Survey, 2013

had not been accountable to them while 38.5 percent were indifferent. The overall mean score of 2.34 shows that on the average, the respondents did not perceive the agricultural extension services rendered to them as being accountable.

Table 3 shows that about half of the respondents agreed that they had input in the appointment of service providers, timing and venue of extension meetings. However, while none of the respondents agreed that their opinions were sought in deciding the content of their extension programmes, only one percent of the respondents agreed that they made contributions to decisions on the extension teaching methods employed by the service providers. Again, almost all the respondents did not agree that that they provided after sales feedbacks on extension services delivered to them.

**Determinants of farmers’ perception of accountability of agricultural extension services rendered in Oyo State**

The result of the regression analysis is presented in Table 4. Dependent variable in the regression model as seen in Table 4 was farmers’ perception of accountability of extension and the independent variables i.e the predictors were farmers’ age; marital status; total income; level of education; land ownership; farm size; farming experience, extension contact; membership of farmer-groups; access to credit and training.

The multiple regression model with twelve predictors produced  $R^2 = 0.205$ ,  $F(12, 181) = 3.883$ ,  $P < 0.01$ . Although the  $R^2$  value reports that the variables

**Table 4:** *Result of regression analysis to identify determinants of farmers’ perception of accountability of extension*

Variables	Unstandardized Coefficients		t	Sig.
	$\beta$	Std. Error		
(Constant)	14.068	2.918	4.821	0.00
Age	-0.042	0.045	-0.932	0.353
Marital status	2.349	1.565	1.501	0.135
Total income	-0.058	0.199	-0.292	0.770
Education	-0.36***	-0.125	-2.873	0.005
Land ownership	-0.085	0.724	-0.118	0.906
Farm size	-0.225	749	-0.300	0.765
Farming experience	0.004	0.036	.0102	0.919
No of extension contact	0.043	0.027	1.584	0.115
Membership of other groups	-0.46**	0.205	-2.252	0.026
Access to credit	0.510	0.767	0.665	0.507
Access to training	-1.97***	0.677	2.912	0.004
Gender	-0.701	0.863	-0.813	0.418
$R^2 = .205$				

$F(12, 181) = 3.883$ ,  $P < 0.01$ , \*\*\* 1%; \*\*5%

account for only about 20 percent of the observed variations in the farmers’ perception of accountability of extension, the presence of statistically significant predictors make it possible to draw conclusions from the result (Reisinger, 1997). Three variables; educational level, membership of other groups and access to training had significant weights and accounted for about 20 percent of the variations observed in the farmers

perception of the level of accountability of extension services rendered to farmers in Oyo State. This implies that from result of the regression analysis, the determinants of farmers' perception of accountability were educational level, membership of farmer-groups and access to training. Educational level and access to training negatively influenced perception at  $p < 0.01$  while membership of farmer-groups also negatively influenced perception but at  $p < 0.05$ . Sarker and Itohara (2009) also reported an inverse relationship between farmers' educational level and their perception of the effectiveness of extension services and extension workers. Invariably, the higher the three variables the lower the level of accountability of agricultural extension as perceived by the farmers. Education, membership of farmer groups, and training has all been linked to increased exposure, awareness and knowledge (Ojo et al., 2005; Abdoulaye et al., 2014). It is therefore possible that with increased awareness farmers are more knowledgeable about what to expect from extension service providers hence their poor assessment of the level of accountability of extension.

## Conclusions

The study concluded that the level of accountability of extension services as perceived by farmers in the study area is poor. Farmers' decisions were not considered in the planning of the extension programmes as against the idea of the demand driven approach to extension. Level of education and access to training inversely influenced perceived level of accountability at  $p < 0.01$  while membership of farmer-groups also inversely influenced same at  $p < 0.05$ . Based on the findings of the study, it is recommended that farmers should be educated about what their rights are as clientele in the extension process. Farmers should also be more involved in the evaluation of extension by way of giving feedbacks on services rendered. In addition, agricultural extension policies should be designed to ensure the accountability of agricultural extension to farmers.

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