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Assessing Roles of Local Leaders in Agricultural Information Dissemination in Owerri Agricultural Zone of Imo State Nigeria

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Abstract

The study assessed the roles of local leaders in agricultural information dissemination in Owerri Agricultural Zone of Imo State, Nigeria. The specific objectives include to examine the socio-economic characteristics of the local leaders, identify sources of agricultural information available to the local leaders, determine roles of local leaders to farmers and ascertain the extent of role performance satisfaction by the local leaders. Data were collected using questionnaire administered to 112 local leaders and analysed using simple statistical tool as frequency, percentages, mean. like type scale measuring instrument and multiple regression model were also used. The result of the study showed that most of the local leaders were males 85.76%). The study revealed that extension agents (X=2.71), friends and neighbours (X=2.68) were the major sources of agricultural information available to the local leaders. Majority (80.35%) of the respondents play the role of legitimizing extension development efforts. Most of the local leaders were satisfied with the roles they played having scored mean (X) of 2.0 and above in most of the criteria used in assessing them. The regression analysis result showed that age, educational level, experience, extension contact, occupation, social organization membership etc., were significant at 1%. Finally, the study recommended among others that extension agents should use educated local leaders and regularly train the local leaders through workshops, seminars etc. for them to perform their roles most effectively.

Keywords: Roles, Local Leaders, Agricultural Extension, Information Dissemination, Imo State.

1.0 Introduction

Agriculture remains an important economic sector in many developing countries. It is a source of growth and a potential source of investment opportunities for the private sector. Two-thirds of the world's agricultural value added is estimated to be created in developing countries (World Bank, 2008). Today famers are under unprecedented pressure because of low food production and the world population is closing in on seven billion, and it is projected to reach nine billion by 2050 (Towery and Werblow, 2010).

Nigeria, a sub-Saharan African country belongs to the few that have greatly retarded from their past glorious height in agriculture, down to a near zero scale of agricultural production.

Surely this neglect is a result of irresponsible and ill purposeful leadership (Matthew and Adegboye, 2008). Agriculture apart from being a source of food supply for the teeming population, it also serves as a foreign exchange earner as well as feeding our industries with the raw materials. In the light of the forgoing, agriculture is still a major source. It remains the corner stone of the Nigerian economy (Igboeli, 2000; Ugwu and Akubuiro 2007, Obinna, 2010)

In the past few years, it has become obvious that the demand for food in Nigeria has out stripped the supply. It is important therefore, that we explore measures that will enhance agricultural production and increase the achievement level of the technology/innovation to spread in our respective region of operation. This can be achieved through agricultural extension service. The introduction of agricultural extension services in Nigeria has tremendously improved the nation's agricultural practices and production. Mgbada (2010) defined agricultural extension as an informal educational system which assists rural people in improving farming methods and techniques and other agro-based occupation, increasing production and service efficiency, income and improving the socio-economic and educational levels of the rural dwellers.

Agricultural extension service achieves its goal of information dissemination through use of print and electronic media regarded as mass media. Mass media which is a means of information dissemination are spreading agricultural technologies to the farmers at a faster rate than personal contact (Khusuk and Memon, 2004). They opined that production and distribution of printed material helps farmers in the transfer of new information and technologies. The involvement of information dissemination to agricultural extension services enhances even development and brings wider coverage of new agricultural research findings meant to reach farmers. Similarly, local leaders are very important means of information dissemination.

A leader is one who goes first or have the authority to direct others. Leaders assume responsibilities for certain activities in extension agents' absence; help to organize local extension groups, assist directly in the spread of new ideas and practice by demonstrating them in their fields; and generally serve as a point of contact between the agent and the farmer. The principle of use of these local leaders is that they serve as loud speakers for extension for without their use, most of the planned programmes will not be achieved (Adereti and Ajayi, 2011). For agriculture to improve in our country there is a need to select local leaders, train, equip and use them in the different agricultural extension works. Local Leaders are those whose interest centre in the community and whose leadership rest on elaborate network of personal relationships (Ekong, 2003). The local leaders join voluntary organizations in order to make contacts, tend to hold political offices and if they are educated, tend to read the local newspapers and other printed materials which assist them in information gathering and dissemination (Williams, 1984).

No local extension worker can do the work of agricultural information dissemination effectively by himself, without assistance. It is on record that Agricultural Development Programme (ADP), an organization in Nigeria responsible for staffing of extension agents cannot attain a minimum ratio of one extension agent to 800-1000 farm families recommended by Food and Agricultural Organization (FAO). This means that Nigeria has not been able to produce one-tenth of the required extension agents (Akinnagbe, *et al*,

2014). Since it will take years to produce the large number of extension workers, the only reasonable answer to handling such a large number of farmers is to make use of local leaders. In order to utilize the local leaders, the extension agent should be able to identify leaders, develop and train them, make best use of them in the dissemination of agricultural extension information (Asiabaka, 2002).

However, there are challenges related to the use of local leaders in disseminating agricultural information as observed by Williams, Fenly and Williams (1984). First, the local leaders may give wrong interpretation of the program thus, bringing the credibility of the agent to question. They may introduce their own opinion, value and judgment to the programme and they may not be good teachers and will therefore not be effective in giving out the programme to the people. Local leaders may not be able to spend the required amount of time to receive adequate training that enables them to be effective in the programme. Local leaders' performances of these roles are usually faced with challenges such as doubts as to the extent of their satisfaction in playing these roles and socio-economic factors that influenced their effective performance of their roles. Hence, the need to assess the roles of local leaders in the dissemination of agricultural information in Owerri Agricultural Zone of Imo State, Nigeria. The specific objectives were to:

1. Examine the socio-economic characteristics of the local leaders.
2. Identify the sources of agricultural information to the local leaders
3. Determine roles of local leaders in information dissemination to the farmers
4. Ascertain the extent of satisfaction derived by the local leaders in the performance of these roles.

1. 1 Hypothesis of the study:

There is no significant relationship between the socio-economic characteristics of the local leaders and the roles of the local leaders in agricultural information dissemination.

2.0 Materials and Method

This study was carried out in Owerri Agricultural Zone of Imo State, Nigeria. The state is made up of eleven (11) local government areas namely; Owerri North, Owerri South, Owerri Municipal, Ngor Okpala, Mbaitoli, Ikeduru, Aboh Mbaise, Ezinihite Mbaise, Ahiazu Mbaise, Oguta and Ohaji/egbema. Multi stage sampling technique was used to select the sample. In the first stage, four (4) local government areas were selected from the Owerri Agricultural Zone namely; Mbaitoli, Oguta, Aboh Mbaise and Ngor Okpala. The second stage involved selection of four (4) communities from each of the four local government areas to give a total of sixteen (16) communities from the zone. Seven (7) local leaders were selected from each of the communities to give a total of one hundred and twelve (112) respondents. All selections were done using random sampling technique since similar characteristics existed in the area. The lists of the communities and the local leaders were collected from community development officers and the extension agents respectively working in various local government areas. Data were obtained using questionnaire administered to the 112 local leaders. Simple descriptive statistics such as mean, percentages, and frequency distribution were used to achieve objectives 1 and 3. Likert-type rating scale was used for

objectives 2 and 4. The Likert-type rating scale measuring instrument used to obtain mean is represented by the formula:

$$\bar{X} = \frac{\sum Fx}{N} \quad (1)$$

where $\bar{X}$ = mean score
$\sum$ = summation sign
F = frequency
N = no of respondents.
x = no of nominal value of each response category

.The different scale statement used were 'most available' 'available' and 'not available'; 'highly satisfied' 'satisfied' and 'not satisfied' for objectives 2 and 4 respectively.

The means of it scaling statement was found as:

$$\frac{3+2+1}{3} = \frac{6}{3} = 2.0$$

Therefore, 2.0, is the weighed means of the scaling statement.
Decision rule: Any mean value greater or equal to 2.0 is positive.
Any mean value less than 2.0 is negative.

Hypothesis

The hypothesis was analysed using ordinary least square (OLS) multiple regression model. Specified as

$$Y = F(X_1, X_2, X_3 \ldots X_9 + E) \quad (2)$$

Where Y = specific roles of the local leaders X_1, X_2, X_3… X_9 = socio-economic characteristics of the local leaders.

X_1 = Sex: Dummy variable 1 =male, 0= female
X_2 = Age (number of years): 0 = 20-30, 1=31-40, 2=41-50, 3=51-60, 4= 61 and above.
X_3 = Marital status: 0 = single, 1 = married, 2 = separated, 3 = divorced, 4 = widowed
X_4 = Educational level (in years): 0=No formal education, 1= 1-6, 2= 7-12, 3= 13-18, 4=19 and above.
X_5= household size (family members) 0= 1-5, 1= 6-10, 2=11-15
X_6 = Main occupation**:** 1=farming alone, 2= farming with other businesses.
X_7 = Experience as local leader (in years): 0=1-10, 2=11-20, 3=21-30, 4=31-40
X_8 = Contact With extension Agents (Every month): 1=Yes, 0 = No.
X_9= Social Organization membership: 0= no, 1=yes

In testing the hypothesis, four functional forms of the ordinary least squares multiple regression model; linear, semi-log, double log and exponential were fitted to the data to select the lead equation.. The lead equation was determined by applying both statistical and economic criteria such as having the highest value of coefficient of multiple determination (R^2), highest number of significant variables and conformity to *apriori* expectations. It was expected *apriori* that the coefficient of X_1, X_3 X_4, X_5, X_6,X_7, X_8, > 0, X_2, X_9 < 0

3.0 Results and Discussion.

3.1 Distribution of respondents according to socio-economic characteristics

Table 1 shows majority (85%) of the local leaders were males and 79.4% of them were between the ages of 41 and 60 years. This implies that that majority of the local leaders

were old time leaders. Tvvhe result also shows that 38.8% of the local leaders spent 7-12 years in school or had (WASC/GCE/TC 11) while 52.7% spent 13 years and above in school or attended tertiary institutions. This implies that majority of the local leaders were educated. Education is important because educated person can easily source information and adjust lifestyle. Most (77.6%) of the local leaders were married, 8.9% were widowed while only 4% were single. The result further indicated that 70.5% of the local leaders agreed that they had no contact with the extension agents every month while 29.5% claimed that they did have such contact. This is an indication of non-regular visitation by extension agents to the local leaders. Ekwe (2004) reported that regular visitation by extension agents helps to transfer improved knowledge and creates avenue for one to one interaction with the local leaders. Majority (58.9%) had local leadership experience of 11-30 years. All the local leaders agreed that they belonged to one social organization or the other. Nsabimana and Masobo (2013) agreed that social organizations are organized for promotion of special interest or to meet certain needs that cannot be achieved by an individual. It contributes to dissemination of new ideas practices and sourcing of loan. Most (59.9%) of the local leaders practised agriculture in addition to other businesses while 40.1% are engaged in farming alone. According to Ewuziem (2009), an entrepreneur that has diversified sources of income could cushion the effect of poor performance of a particular enterprise from one another; however; full time paid to a business venture could enable the entrepreneur to discover certain important issues rather than allowing his or her staff to do everything.

3.2. Sources of agricultural information available to the local leaders for dissemination

Table 2 shows that major sources of agricultural information available to the local leaders included extension agents, friends and neighbours, farmer co-operative organizations, radio farmer programmes and mobile phones with mean of X=2.7, X=2.7, X=2.4, X=2.0 and X=2.0 respectively. This agrees with who says that they are the major available sources to agricultural extension local leaders in Nigeria. Use of mobile phones, since its recent introduction in Nigeria, has become very effective in information dissemination (Nwachukwu, 2003). According to Salau, et al (2014), use of mobile phones in recent times, as a social communication network has proved to be a very effective means of interaction among all involved in farming business. Other sources of agricultural information like Ezes/Village heads, newspapers etc were not recognized as major available sources.

3.3. Roles played by local leaders in agricultural information dissemination

Table 3 shows most of the roles played by the local leaders in their efforts toward the achievement of effective agricultural extension information delivery. These roles include legitimizing extension efforts in reaching farmers (80.4%), assisting extension agents in informing farmers about availability of farm inputs like fertilizers, improved seeds (75.9%), encouraging local farmers participation in extension demonstration activities (81.3%), serving as contact farmers (85.7%), assisting in settlement of disputes among farmers (85.7%), advising farmers on needs for formation of cooperatives (69.6%). These roles played by local leaders agreed with those of Benor and Baxter (1984) and Mgbada, (2010).

Table 1. Distribution of local leaders according to socio-economic characteristics

Socio-economic characteristics	frequency	percentage	mean(x)
Sex			
Male	96	85.0	
Female	16	15.0	
Age			
20 – 30	5	4.5	
31 - 40	7	6.3	
41 – 50	54	48.2	49.0
51 – 60	35	31.2	
61 – and above	11	9.8	
Educational level (in years)			
0	2	1.8	
1 - 6	12	10.7	12.6
7 - 12	39	34.8	
13 - 18	47	42.0	
19 and above	12	10.7	
Marital Status			
Single	4	3.5	
Married	87	77.6	
Separated	7	6.2	
Divorced	4	3.4	
Widowed	10	8.9	
Extension Contact (monthly)			
Yes	33	29.5	
No	79	70.5	
Main Occupation			
Farming alone	45	40.1	
Farming and Other business	55	59.9	
Experience as Local Leader (years)			
1 – 10	42	37.5	
11 -20	52	46.4	11.4
21 – 30	14	12.5	
31 – Above	4	3.5	
Social Organization			
Yes	112	100.0	
No	0	0.0	
Household Size (no of people)			
1 – 5	30	26.7	
6 – 10	58	50.9	7.7
11 – 15	24	21.4	

Source: Field Survey, 2016.

Table 2. Distribution of local leaders according to the sources of agricultural information available. (Field Survey, 2016)

Sources of information available	Most Available (3)	Available (2)	Not Available (1)	Mean score $\bar{X}$	Remark
Extension agent	79	33	0	2.7	Available
Agricultural research institute	16	46	50	1.7	Not available
Agricultural shows	16	30	64	1.8	Not available
Fellow friends and neighbours	77	34	01	2.7	Available
Farmers' co-operative organization	62	37	14	2.4	Available
Village heads/Ezes	16	30	64	1.6	Not available
Television	21	34	57	1.7	Not Available
Radio farmer programme	30	52	8	2.0	Available
Newspaper	34	40	38	1.9	Not available
Posters	22	53	37	1.9	Not Available
Academic journals on agriculture	9	38	65	1.5	Not Available
Mobile phones	34	35	43	2.0	Available
E-mails	16	32	64	1.6	Not Available
Internets	10	30	72	1.5	Not Available

3.4. The extent of satisfaction by the local leaders in the performance of their roles.

Table 4 shows the extent the local leaders were satisfied with the performance of their roles. They agreed that they were satisfied in the performance of roles like legitimizing extension development efforts (X=2.2), serving as contact farmers (X=2.2), linking extension agents to farmers (X=2.1), advising farmers on formation of co-operative organizations (X=2.3), assisting agents in informing farmers on availability of farm inputs like fertilizers, improved seeds (X=2.2) and dispute settlements (X=2.5). Majority of the local leaders had mean score of 2.0 (X= 2.0) and above in most of the identified roles which implied that they were satisfied in the roles they played. According to Laogun, (2011), satisfaction in one's job or role encourages one to more action. Also satisfaction from one learning experience stimulates desire for learning in other fields. Roles like educating farmer on improved practices, taking farmers problems to research stations were not performed satisfactory by them. This implies that these were purely extension agents' roles.

Table 3: Distribution of local leaders according to their roles in agricultural information dissemination

Roles of Local Leaders	Frequency	Percentages (%)
Legitimizing extension development efforts.	90	80.4
Serving as contact farmers	96	85.7
Encouraging local farmers' participation in demonstrating activities.	91	81.3
Advising farmers on need for formation of co-operative organization.	78	69.6
Taking farmers problems to research stations	54	47.3
Dissemination of extension packages to farmers.	73	65.1
Linking extension agents to farmers.	70	62.5
Educating farmers on improved agricultural practices.	75	66.9
Informing farmers on when farm inputs are available.	85	75.9
Encourage farmers to have strong leadership.	73	56.3
Assuming responsibilities for certain activities in the absence of E.A.	71	63.5
Facilitating effective extension communication.	85	75.9
Play role of dispute settlement	96	85.7
Total	**112**	**100**

Source: field survey data, 2016

3.5 The relationship between socioeconomic characteristics of local leaders and their roles in agricultural information dissemination performance.

Table 5 shows the multiple regression result on the relationship between socio-economic characteristics of local leaders and their role performance in agricultural information dissemination. The double-log function met the criteria for the selection as lead equation, and was therefore selected for discussion and further analysis.

The table indicated that the value of coefficient of the multiple determination (R^2) was 0.716 which implied that about 72 percent of the variable was accounted by the joint action of independent variables included in the multiple regression models. The test of significance of R^2 produced F-value of 28.428 which was significant at 1% level indicating that the model

gave a good fit to the data. The coefficient of sex (X_1), age (X_2), marital statues (X_3), level of education (X_4), occupation (X_6), work experience (X_7), extension contact (X_8) and social organization (X_9) were significant at 1% level of probability which implies that these variables are important socio-economic factor influencing performance of roles of local leaders in information dissemination. This result is supported by the findings of Ifanyi-Obi (2010), Onwumere, and Nmesirionye, (2011) showing that they are important socio-economic factors affecting local leaders roles in information dissemination.

Table 4: Distribution of local leaders according the extent of satisfaction of performance of their roles.

Roles of Local Leaders	highly satisfied (3)	satisfied (2)	not satisfied (1)	mean score X	remark
Legitimizing to extension development efforts satisfied	51	74	24	2.2	
Serves as contact farmer	37	62	13	2.2	satisfied
Encourages local farmers Participation	48	41	23	2.0	satisfied
Dissemination of extension packages to farmers	40	39	33	2.1	satisfied
Linking extension agents to farmers	42	35	35	2.1	satisfied
Taking farmers problems to research stations	34	28	50	1.9	not satisfied
Educating farmers on improved agricultural practices	40	31	31	1.9	not satisfied
Advising farmers on formation of cooperative	46	55	11	2.3	satisfied
Informing farmers on when farm inputs are available	42	49	21	2.2	satisfied
Encouraging farmers to have strong Leadership	45	42	25	2.17	satisfied
Assuming responsibilities for in the activities absence of EA	45	36	31	2.13	satisfied
Facilitating effective extension Communication	55	33	24	2.3	satisfied
Play role in dispute settlement	75	2 1	5	2.5	satisfied

Source: field survey data, 2016

Table 5: Regression result on relationship between socio-economic characteristics of local leaders and their roles performance in agricultural information dissemination.
Source: field survey, 2016

Variable	Linear function	Semi-log function	Double-log function	Exponential function
X_1 (Sex)	17.4308	1.8614	0.0882	0.0096
	(3.4295)**	(1.5364)	(4.289)**	(-1.1795)**
X_2 (Age)	-12.0806	-3.8861	-0.0743	-0.0074
	(-2.9232) **	(-1.2744)	(-3.4398) **	(-2.6429) **
X_3 (M/status)	10.8861	2.9217	0.0395	0.0073
	(1.1628)	(3.3491) **	(1.2421)	(2.6071) **
X_4 (Education)	19.2214	3.9012	0.0749	0.0066
	(1.0654)	(1.2427)	(3.2851) **	(3.1429) **
X_5 (Household size)	-13.094	-1.4466	0.0826	-0.0096 (-1.1795)
	(-1.0913)	(-1.1288)	(1.1521)	
X_6 (Occupation)	-11.0389	-3.4413	-0.0389	-0.0037
	(-1.0925)	(-1.1073)	(-3.7767) **	(-1.3214)
X_7 (Experience)	14.3667	3.8179	0.0689	0.0068
	(2.3542) **	(1.2803)	(3.0352) **	(3.5789) **
X_8(Extension	17.09813	1.6604	0.0824	0.0091
contact)	(1.0601)	(2.3333) *	(3.9426) **	(1.0964)
X_9(Social Org.)	13.361	4.3913	0.0552	0.0083
	(-1.1229)	(-1.4146)	(-3.3206)**	(1.1691)
Constant	221.0942	114.1687	104.0541	93.1164
R^2	0.4839	0.4022	0.7164	0.5826
F. value	10.5425	7.5744	28.4286	15.8272
n	**112**	**112**	**112**	**112**

***** = mean significant at 5% (0.05) level
****** = mean significant at 1% (0.01) level

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4.0. Conclusion and Recommendations

Most local leaders in the study area belonged to one social organization or the other and obtained their agricultural information from different sources. Extension agents were assisted by local leaders in legitimizing their extension efforts in their communities. Despite constraints that affected the effective performance of the roles of the local leaders, most of them were satisfied with the roles they played. Sex, age, education, occupation, experience, extension contact and membership of social organizations were significant socio-economic factors that affected the roles they played in agricultural information dissemination in the study area. The study therefore recommended that more extension contacts with the local leaders be encouraged, extension agents should be encouraged to use more of educated local leaders as well as encourage then to belong to one or other social organizations. Males and young energetic local leaders should be encouraged. Finally there should be need for constant training for local leaders through seminars, conferences etc to update their knowledge in leadership development.

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