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EFFECTIVENESS OF COMMUNICATION METHODS OF COMMUNITY - BASED NATURAL RESOURCES MANAGEMENT PROGRAMME IN ONDO STATE, NIGERIA

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Abstract

*Community-Based Natural Resources Management Programme (CBNRMP) is a development effort that uses different adaptable communication methods to empowering the local people in deriving their livelihood from natural resources in a sustainable way. How effective these communication methods remain unanswered? This study examined the effectiveness of communication methods used by Community - Based Natural Resources Management Programme (CBNRMP) in Ondo State, Nigeria. A total of 216 respondents were selected for the study using multistage sampling technique. Data were analysed with frequency count, percentages, mean, and standard deviation while inferences were made with correlation analysis. The results showed that 88.4 percent of the respondents were married with the mean age of 32.52 ± 12.93 years and mean household size was 7.44 ± 2.05 persons. Friends and neighbour (mean = 3.59), contact farmers (mean = 3.42) and Group meetings (*mean *= 3.07) were the most available communication methods to the respondents while Group meetings (mean = 3.63) and friends and neighbour (mean = 3.46) were the most accessible communication methods to the respondents. Group meetings scored highest (*3.50*) in facilitating feedback and were found to be the most effective methods used in the programme in disseminating agricultural information. Correlation analysis shows that at p ≤ 0.01, there were significant relationship between effectiveness of communication methods and availability (r = 0.337) and accessibility (r = 0.196). The study concluded that the most effective communication method was group meeting. It is therefore recommended that relevant stakeholders who desire to convey a development service delivery in rural areas should ensure use of group meetings based on it characteristics of availability, accessibility and feedback mechanism.*

Key words**:** *Community-Based Natural Resource Management Programme, effectiveness, communication methods, socio-economic characteristics*

INTRODUCTION

In order to improve the quality of life of the rural dweller and help the community to conserve as well as enjoy the resources, the World Bank promoted a new initiative known as International Fund for Agricultural Development (IFAD)-Niger Delta Development Commission (NDDC) also referred to as the Community-Based Natural Resource Management Programme (CBNRMP) in conjunction with the Federal Republic of Nigeria. The programme is a response to a request by the Federal Government for assistance to alleviate rural poverty in the Niger Delta Region (Abia, Akwa Ibom, Bayelsa, Cross Rivers, Edo, Delta, Imo, Ondo and Rivers States) [8]. According to [18], CBNRMP is an approach under which communities become responsible for managing natural resources (forests, land, water, biodiversity) within a designated area. Community-based natural resources management programme was launched and took off in Nigeria on 6th July 2005 and scheduled for completion on 30th September, 2013 but it was extended till September, 2015 in response to the request of the Federal Government of Nigeria (FGN).

Ondo State CBNRMP was established in July, 2006 and implemented using Community Driven Development Approach whereby the participating Local Government Councils (LGCs) and the benefiting Communities with technical support from the FGN/NDDC, the State, NGOs and CBOs supported initiatives

identified and developed by the rural community, with active participation of women, youth and other vulnerable groups. According to [9], the programme encourages the rural poor to participate in development activities and the objective of the programme was to reduce tensions and conflict by improving employment opportunities for young people and channelling their energies into the development of sustainable livelihoods and natural resource management activities. However, a lot of development programmes have been organised in order to improve the quality of life and standard of living of rural dwellers by successive governments in Nigeria using rural development approach. Among such programmes are the Agricultural Development Programme (ADP) 1974, Operation Feed the Nation (OFN) 1976, Green Revolution (GR) 1979, Directorate of Food, Roads and Rural Infrastructure (DFFRI) 1986, FADAMA I, 1993, National Economic Empowerment for Development Strategy (NEEDS) 2004, among others. But, the findings of [3] revealed that some rural communities still appear to be underdeveloped despite the development efforts made by successive government with their collaboration with international donor agencies to ensure development of rural areas. According to [12], information is regarded as one of the most valuable resource in agriculture and rural development programmes. However, Nigerian farmers have not felt the impact of agricultural innovations because they do not have access to required information that could boost their productivity [7]. Therefore, the information aspects and communication method used by any development programme is germane to its success, and for the beneficiaries to understand what the programme is set to do and for them to see it as their own, there must be effective communication between the implementers and beneficiaries of the programme. In the submission of [16], the effectiveness of communication methods is measured by their ability to change a static situation into a dynamic one. [5] reported that interpersonal contact methods (e.g. farm visits, method and result demonstrations, group meetings) were mostly employed and found more effective than the mass media methods (e.g. radio, television, village instructional board) in disseminating improved agricultural technologies to farmers in Lagos State, Nigeria. The Community-Based Natural Resources Management Programme (CBNRMP) is a development effort that used different communication methods to empower the local people in Ondo State in deriving their livelihood from natural resources in a sustainable way. How effective these communication methods were remain unanswered, hence this study.

It specifically described the personal and socio-economic characteristics of respondents; identified the communication methods used in CBNRMP in the study area; determined the characteristics of the communication method used, examined the effectiveness of communication methods used by the programme and determined the relationship that exist between socio-economic characteristics of the beneficiaries and effectiveness of communication methods.

MATERIALS AND METHODS

The study was conducted between May and December 2017 in Ondo State, Nigeria. The State lies between latitudes 6°00' and 8°45'North and longitudes 5°30' and 6° East in Southwest Nigeria [11].

Ondo State occupies a landmass of about 15,000 Square kilometres with a population 4,011,407 people [14]. Multistage sampling procedure was used to select respondents for the study. The programme covered nine Local Government Areas (LGAs) within the two agricultural zones such as (Ilaje, Ese-Odo, Irele, Okitipupa, Odigbo, Ile-Oluji, Ondo East, Ifedore and Idanre). Proportionate sampling procedure was used to select 70 percent of the total number of LGAs that participated in CBNRMP to give six LGAs in all. Then all the three communities which participated in the programme in each selected LGAs were chosen to give a total of 18 communities. At the final stage, 12 respondents were selected from each selected

communities through snow- ball sampling technique, giving a sample size of 216 respondents. Three indicators were used to measure the characteristics of the communication methods as used by [4]. They were: availability, accessibility and mode of feedback of the communication methods.

The mean score and the standard deviation was used to group the effectiveness of the communication methods used by the respondents into three categorised as highly effectiveness, moderate effectiveness and low effectiveness. Effectiveness score of between mean score plus one standard deviation and above were ranked high, those with score between mean score minus one standard deviation and below were ranked low and those scores between highly effective and low levels were ranked moderate. Pre-tested and validated interview schedule was used to elicit relevant quantitative data on socio economic characteristics of the respondents, communication methods, characteristics and effectiveness of the communication methods from the respondents. Data were analysed using frequency counts, percentages, mean and standard deviation to summarised the data while Product Pearson moment correlation were used to draw inference on the hypothesis.

RESULTS AND DISCUSSIONS

Personal and socio-economic Characteristics of Respondents

Results in Table 1 show that 52.8 percent of the respondents were between the ages of 35 – 49 years and 25.5 per cent were between 50 – 64 years. Mean age of respondents was 32.52 ± 12.93 years. These results indicate that larger proportions of the respondents were in their active age of productivity. The implication is that the respondents would actively participate in the development programme that is aimed at improving their standard of living. Most (88.4%) of the respondents were married, 5.6 per cent were single, while very view (3.7% and 2.3%) were divorced and widowed respectively.

Table 1. Distribution of respondents by personal and socio-economic characteristics

Variables	Frequency (f)	Percentage (%)	n=216
Age (years)			
20 – 34	31	14.4	
35 – 49	114	52.8	Mean = 32.52
50 – 64	55	25.5	SD = 12.93
65 and above	16	7.3	
Marital status			
Married	191	88.4	
Single	12	5.6	
Divorced	8	3.7	
Widowed	5	2.3	
Household size			
below 6	113	52.3	Mean = 7.44
6 – 12	81	37.3	SD = 2.05
Above 12	22	10.2	
Major occupation			
Farming	170	78.7	
Trading	21	9.7	
Artisan	10	4.6	
Civil service	15	7	
Annual income			
200,000 and below	48	22.2	Mean = 726,698.81
200,001-400,000	38	17.6	SD = 194354.67
400,001-600,000	23	10.6	
above 600,000	66	30.6	
undisclosed	41	19	

Source**:** Field survey, 2017

The mean household size was 7.44 ± 2.05 which shows they had moderate household size which could give them more time to participate fully in community development programme activities. Larger proportion (78.7%) of the respondents were farmers, 9.7 percent were traders, 4.6 percent were artisans and 7 percent were civil servants. This finding agrees with the submission of [1] that 83.3 per cent of CBNRMP participant in Ondo State were farmers by occupation. The implication is that rural dwellers are multi -tasked individuals and likely to be very busy and time conscious. In order to gain their attention and commitment to development activities or introduce innovation to them, good communication methods that will enhance

quick understanding should be employed. Mean annual income earned by the respondents was ₦726,698.81 ± 194,354.67. This value represented the annual income of the respondents on their farm activities altogether and translated to ₦60,558.23 monthly. This finding is contrary to the report of [15] which established that the mean annual income of farmers that participated in the same programme (CBNRMP) in Abia and Cross River States were ₦201, 441.00 and ₦198, 650.00 respectively. This implies that the participant of CBNRMP in Ondo State earned more income that encourages farming activities in the study areas.

Identification of communication methods

Results in Table 2 reveal that friends and neighbours (75.9%) and contact farmers (66.7%) were the most prominent individual methods of communication used by the programme in the study area. The result agrees with the assertion of [6] that majority of the farmer that participated in CBNRMP in Ondo State heard about the programme through friends and neighbours. This might be as a result of the settlement pattern of the people that is nucleated in nature or the lack of extension services to the people in the study area which predisposes them to scavenge for agricultural information from every available means.

Furthermore, results in Table 2 show that group meetings (73.1%) and workshop (53.6%) were the most prominent group methods of communication utilized as information source about the programme. The result indicated that many of the respondents identified more than one group methods of communication as sources of information about the programme It can be inferred that the programme made used of different group methods of communication to disseminate agricultural information based on the goal of the programme for better understanding by the participants.

Moreover, result in Table 2 show that a little above average (56.5%) of the respondents identified bulletin as part of the mass media communication method used in the course of the programme. This is a deviation from the finding of [10] who submitted that few (5%) of the respondents in his study area indicates print media as method of communication and majority (87%) indicate radio as method of communication. The occurrence of bulletin as the most identify mass media used in the study area might be as a result of literate level of the respondents.

Table 2. Percentage distribution of the identified communication methods used

Identified communication methods	**Freq**	**%**
***Individual Methods**		
Friend and Neighbour	164	75.9
Contact farmer	144	66.7
Farm visit	74	34.3
Mobile phone	58	26.9
Home visit	40	18.5
***Group Methods**		
Group meeting	158	73.1
Workshop	118	53.6
Seminar	114	52.8
Conference	50	23.1
Mass media		
Bulletin	122	56.5
Slide	68	31.5
Not applicable	26	12

*Multiple responses

Source: Computed from field survey, 2017

Characteristic of the communication methods

Characteristics of the communication methods that were investigated in this study were availability, accessibility and the mode of feedback of the communication methods. Results in Table 3 reveal that friend and neighbour were the most available communication methods to the respondents with a score 3.59. This was followed by contact farmers ($\overline{x}$ = 3.42) and group meetings ($\overline{x}$ = 3.07). This finding agreed with that of [17] who asserted that friends and neighbours constituted the most available individual method of communication. This might due to the pattern of their settle which is nucleated in nature and can predispose the farmers to a face to face interaction among themselves. Also, the results in Table 4 show that the most accessible communication methods to the

respondents were group meetings ($\overline{x}$ = 3.63) and friends and neighbours ($\overline{x}$ =3.46). Each scored above 3.50 out of the maximum scores of four. This implies these communication methods were always readily available at the disposal of the respondents. Furthermore, results in Table 5 reveal that the respondents indicated 'open expression of acceptance' as feedback to the message received through Workshop ($\overline{x}$ = 3.10), Farm visit ($\overline{x}$ = 2.99) and group meeting ($\overline{x}$ = 2.81). Each of these scored above the grand mean of 2.45. The findings indicate that workshop, farm visit and group meeting as methods of communication scored highest in facilitating feedback and this help to determine the attention, comprehension and acceptance of the sender's message by the receiver.

Table 3. Distribution of the availability of communication methods to the Respondents (n =216)

Communication Methods	**NA Freq (%)**	**RA Freq (%)**	**OA Freq (%)**	**AA Freq (%)**	**Mean Score**	**Rank**
Individual method						
Friend/Neighbour	—	10(4.6)	69(31.9)	137(63.4)	3.59	1
Contact farmers	—	23(10.6)	72(33.3)	119(55.1)	3.42	2
Farm visit	14(6.5)	48(22.2)	14.6(67)	8(3.7)	2.69	7
Mobile phone	47(22)	61(28)	61(28)	47(22)	2.50	8
Home visit	61(28)	110(51)	44(20.4)	1(0.5)	1.93	11
Group methods						
Group meeting	8(3.7)	7(3.2)	162(75)	39(18.1)	3.07	3
Workshop	23(10.6	15(6.9)	125(58)	53(24.5)	2.96	4
Seminar	24(11)	32(14.8)	151(70)	9(4.2)	2.71	6
Conference	28(13)	10(5.0)	178(82)	0(0)	2.25	10
Mass media methods						
Bulletin	23(10.6	61(28.2)	64(29.6)	68(31.5)	2.82	5
Slide	65(30)	33(15.3)	118(55)	0(0)	2.29	9

NA = Not available, RA = rarely available, OA = occasionally available, AA = Always available
Source: Field survey, 2017

Table 4. Distribution of the accessibility of communication methods to the respondents (n= 216)

Communication methods	**NA Freq(%)**	**LA Freq(%)**	**MA Freq(%)**	**HA Freq(%)**	**Mean score**	**Rank**
***Individual methods**						
Friend and Neighbour	1(0.5)	20(9.3)	68(31.4)	127(58.9)	3.46	2
Contact farmers	1(0.5)	44(20.3)	81(37.5)	90(41.7)	3.20	4
Farm visit	23(10.6)	53(24.5)	68(31.5)	72(33.3)	2.88	6
Mobile phone	64(29.6)	83(38.4)	49(22.7)	20(9.3)	2.12	9
Home visit	99(45.8)	65(30.2)	48(22.2)	4(1.9)	1.44	10
***Group methods**						
Group meeting	—	4(1.8)	71(32.9)	141(65.3)	3.63	1
Workshop	12(5.6)	12(5.6)	131(60.6)	61(28.2)	3.12	5
Seminar	11(5.1)	65(30.1)	103(47.7)	37(17.1)	2.77	7
Conference	119(55.1)	40(18.5)	28(13.0)	29(13.4)	1.42	10
Mass media methods						
Bulletin	4(1.9)	28(13.0)	89(41.2)	95(44.0)	3.27	3
Slide	16(7.4)	78(36.1)	104(48.2)	18(8.3)	2.57	8

NA = Not accessible, LA = Less accessible, MA = moderately accessible, HA = highly accessible.
Source: Field survey, 2017.

Field observation from the study shows that majority of the communication methods used by CBNRMP aid feedback and this might contribute to their effectiveness as communication methods.

Table 5. Distribution of the respondents according to the mode of feedback of the communication methods

Communication methods	Sym. Freq(%)	CUM Freq(%)	OER Freq(%)	OEA Freq(%)	Mean	Rank
Individual methods						
Farm visit	18(8.0)	82(38.0)	—	116(54)	2.99	2
Contact farmer	59(27.3)	78(36.1)	4(1.9)	75(34.7)	2.44	4
Home visit	48(22.2)	111(51)	10(4.6)	47(21.8)	2.26	6
Mobile Phone	80(37.0)	74(34.3)	14(6.5)	48(22.2)	2.14	8
Friend and neighbour	85(39.4)	90(41.7)	21(9.7)	20(9.3)	1.89	9
Group method						
Workshop	10(4.6)	82(38.0)	—	124(57.4)	3.10	1
Group meeting	31(14.4)	73(33.8)	18(8.3)	94(43.5)	2.81	3
Conference	63(29.2)	82(38.0)	15(6.9)	56(25.9)	2.30	5
Seminar	83(38.4)	73(33.8)	—	60(27.8)	2.17	7

Grand mean = 2.45, Sym = Symbolic, OER = open expression of rejection, CUM = clear understand the message, OEA = Open expression of acceptance.
Source**:** Survey from field 2017.

Effectiveness of communication methods

Results in Table 6 show the mean score of the frequency of use of each communication methods by the respondents, the number of messages received and the number of messages that had feedback through each communication source. Group meetings ($\overline{x}$ = 3.50) as method of communication was frequently used by the respondents to communicate on the agricultural benefit of the programme. Friend and neighbour ($\overline{x}$ = 3.22), workshop ($\overline{x}$ = 2.88), seminar ($\overline{x}$ = 2.81) among others were occasionally used by the respondents. Others include bulletin ($\overline{x}$ = 1.81), slide ($\overline{x}$ = 1.77), and mobile phone ($\overline{x}$ = 1.68) were rarely used by the respondents. Each of these methods scores below 2.50 out of the maximum score of four. Overall results indicate that group meetings as methods of communication were mostly used by the respondents to receive agricultural information and this might facilitate its effectiveness. The inference is that farmers prefer communication methods which facilitated face to face interaction between themselves and the message source to other methods that do not allow for free interpersonal discussion. Furthermore, results in Table 5 reveal that majority (87% and 70%) of the respondents received 23 and 22 messages through friends and neighbours and contact farmers respectively, many (67% and 59.7%) of the respondents received 25 and 22 messages through group meetings and workshop respectively. About 48 percent of the respondents received 12 messages through bulletin, 46.3 percent received 20 messages through seminars, and 23.1 percent received 8 messages through mobile phones while 26.8 percent of the respondents received 16 messages through conferences as methods of communication. The overall results indicated that the largest numbers of the messages received by the respondents were through group methods of communication. This implies that group methods of communication were effective in the course of the programme. This is line with the submission of [13], that group methods of communication were found to be the most effective methods in disseminating agro-forestry technologies in Uganda. Moreover, results in Table 5 reveal that many (56% and 49%) of the respondents sent 20 and 21 messages as feedback to the source through group meetings and workshop respectively; 43.9 percent and 42.5 percent of the respondents sent 18 and 15 messages as feedback to the source through contact farmers and seminars. Many (40.2%) of the respondents sent 13 messages as messages to the source through farm visit while 21.2 percent and 13.8 percent of the respondents sent 8 and 14 messages as feedbacks to the source through mobile phones and conferences respectively. The overall results indicate that group methods were more

effective because they were mostly utilize by the respondents to communicate information back to the programme officers. The findings contradicted that of [2] that mass media was effective in dissemination of agricultural technologies among farmers in Kaduna North Local Government Area, Nigeria.

Table 6. Distribution of respondents according to most frequently used communication methods

Communication method	Mean Freq of use	No of messages received	No of message with feedback
Individual methods			
Friend & Neighbour	3.22	23 (92)	-
Contact farmer	2.51	22 (88)	18 (72)
Farm visit	2.48	13 (52)	13 (52)
Mobile phone	1.68	8 (32)	8 (32)
Home visit	1.66	-	-
Group methods			
Group meeting	3.50	25 (100)	20 (80)
Workshop	2.88	22 (88)	21 (84)
Seminar	2.81	20 (80)	15 (60)
Conference	1.50	16 (64)	14 (56)
Mass media			
Bulletin	1.80	12 (48)	-
Slide	1.77	-	-

Source: Field survey, 2017

Further analysis in Figure 1 reveal the level of effectiveness of the communication methods used in disseminating agricultural messages to the farmers in study area. The total mean score and standard deviation obtained from the entire variable treated under objective three were subjected to further analysis which groups the effectiveness of the communication method in to three levels of highly effective, moderately effective and lowly effective. About 17 per cent of the respondents indicated a high level of effectiveness, two - third (66.7%) of the respondents indicated moderate level of effectiveness and 16.7 per cent of the respondents indicated high level of effectiveness of the communication methods used in the programme.

The overall results indicated that communication methods used by CBNRMP were on the moderate level of effectiveness. This might be as a result of some problem encountered in the utilization of the communication methods such as long distance to place of meeting, poor mobile network and wide communication gap between group members and the leaders.

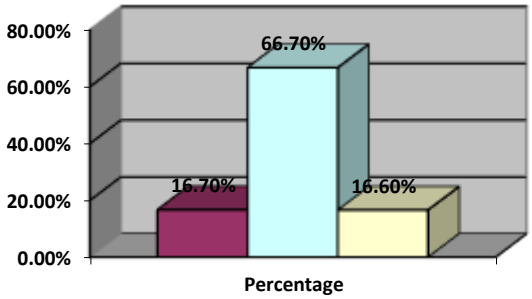

Fig. 1. Distribution of the respondents by **level of** effectiveness of the communication method.
Source: Field Survey, 2017.

Correlation analysis between effectiveness of communication methods and the Characteristics of the communication methods

The results in Table 7 reveal that at 99 per cent confidence level, availability (r = 0.337), accessibility (r = 0.196) of the communication methods had positive and significant relationship with the effectiveness of the communication methods. Results further show that at 99 per cent at confidence level, there was negative and significant relationship between aiding feedback of the communication methods (r = -0.432) and the effectiveness of the communication methods. This implies that the higher the availability and accessibility of the communication methods, the higher their effectiveness. With respect to aiding of feedback of the communication methods, the more the communication methods allow for feedback, the lesser their effectiveness. The contribution of availability of communication methods, accessibility of communication methods and aiding of feedback of the methods were 11.4 percent (r^2 = 0.1135), 3.84 percent (r^2 = 0.0384) and 18.7 percent (r^2 = 0.1877) to the effectiveness of communication methods.

Table 7. Correlation analysis between effectiveness of communication methods and the characteristics of the communication methods

Characteristics of communication methods	r	r^2	p-value
Availability of the communication methods	0.337**	0.1136	0.000
Accessibility of the communication methods	0.196**	0.0384	0.004
Aiding of feedback of the methods	0.432**	0.1866	0.000

**Significant at p≤ 0.01; *Significant at p≤ 0.05
Source: Computed from field survey 2017

CONCLUSIONS

Majority of the respondents were married and had farming as their major occupation. Group meeting and friend and neighbour were the most available and accessible communication methods to the respondents. Workshop, farm visit and group meeting as methods of communication were major means of facilitating feedback. Group methods of communication were found to be the most effective methods used in the programme in disseminating agricultural information and the communication methods were on moderate level of effectiveness. Policy makers, donor agencies, government and non-government organizations who desire to convey a development service delivery in rural areas should ensure the selection of appropriate communication methods such as group meetings among others to reach rural dweller for better participation in development programme.

REFERENCES

[1]Adisa, B. O., 2013, Assessing the Contribution of Community-based Natural Resource Management Programme to Environmental Sustainability in Ondo State, Nigeria. African Journal of Environmental Science and Technology 7(10), pp. 932-937.

[2]Ariyo**,** O**.** C**.,** Ariyo, M. O., Okelola, O. E., Aasa, O. S., Awotide, O. G., Aaron, A. J., Oni, O. B., 2013, Assessment of the Role of Ma**ss** Media in the Dissemination of Agricultural Technologies among Farmers in Kaduna North Local Government Area of Kaduna State, Nigeria. Journal of Biology, Agriculture and Healthcare. 3. 19-28.

[3]Dauda, R. O. S., 2002, Rural Poverty in Nigeria. Characteristics, Dimensions and Trend: Nigerian Journal of Rural Sociology 4 (1): 17 – 20.

[4]Farinde, A. J. 1991, "Effectiveness of the Extension Teaching Methods Used in Disseminating Improved Agricultural Technologies in Lagos State". Unpublished M. Phil. Thesis, Obafemi Awolowo University, Ile-Ife, pp232

[5]Farinde, A. J., Jibowo, A. A., 1994, Effectiveness of extension teaching methods for disseminating improved agricultural technologies in Lagos State, Nigeria. Journal of Agriculture, Science and Technolog 4(1): 1-9.

[6]Fayeun, T. M., 2013, Impact of Community-Based Natural Resources Management Programme on the socio economic development of Ondo State, Nigeria. Unpublished B. Agric. project. Department of Agricultural Extension and Rural Sociology. Obafemi Awolowo University, Ile – Ife.

[7]Ibrahim, A. A., Mustapha, S. B., Mamza, B. T., 2014, Assessment of Lake Chad Research Institute "Adopted Schools" for Dissemination of Improved Agricultural Technologies in Borno State and Department of Agricultural Extension Services, University of Maiduguri, Nigeria, International Journal of Research in Agriculture and Food Sciences 2, (5). http://www.ijsk.org/ijrafs.html, Accessed on 6th May, 2016.

[8]International Fund for Agricultural Development (IFAD), 2001, The Challenge of Ending Rural Poverty. Oxford: Rural Poverty Report. Oxford University Press.

[9]International Fund for Agricultural Development (IFAD), 2011, Rural Poverty in Nigeria. http://www.ruralpovertyportal.org, Accessed on 10th August, 2016.

[10]Miriam, M., Omoregie, I., Uzendu P. O., 2013, Contributions of Mass Media to the Development of Agricultural Extension in Ika North East L.G.A of Delta State. Department of Agricultural Economics and Extension, Enugu State University of Science and Technology (ESUT) Enugu, Nigeria. Academic Journal of Plant Sciences 6 (3): 127-133.

[11]Mogaji, K. A., Aboyeji, O. S., Omosuyi, G. O., 2011, Mapping of lineaments for groundwater targeting in the basement complex region of Ondo State, Nigeria, using remote sensing and geographic information system (GIS) techniques. International Journal of Water Resources and Environmental Engineering 3(7), pp. 150-160.

[12]Morrow, K., Nielsen, F., Wettasinha, C., 2002, Changing Information flows. LEISA 18(2) 4 - 5.

[13]Mukadasi, B., Mohamed, B., Willey, B., Peter, N., 2009, Individual and Group Extension Methods: Perspectives from Vi-Agroforestry Project in Masaka district, central Uganda. Faculty of Forestry and Nature Conservation, Makerere University Box 7062 Kampala, Uganda.

[14]National Population Commission (NPC) 2006, National Population and Housing Census. N.P.C Abuja.

[15]Nwaobiala, C. U., Ogbonna, M. O., Egbutah, E. U., 2014, Assessing Levels of Participation among Farmers in IFAD/FGN/NDDC/Community-Based Natural Resource Management Programme in Abia and Cross River States, Nigeria. Discourse Journal of Agriculture and Food Sciences 2(5): 136-141, www.resjournals.org/JAFS, Accessed on 2nd July, 2017.

[16]Okunade, E. O., 2007, Effectiveness of Extension Teaching Methods in Acquiring Knowledge, Skill and Attitude by Women Farmers in Osun State. European Journal of Social Sciences 4(2): 22-30.

[17]Oto, J. O., Shimayohol, D., 2011**,** Extension communication channels' usage and preference by farmers in Benue State, Nigeria. Journal of Agricultural Extension and Rural Development Vol. 3(5):88-94.

[18]World Bank, 2012, Evaluation of Community Based Projects in Sub Saharan Africa. The World Bank Observer, Washington D. C. USA.