Grassroots Development and Dividend of Democracy

PROCEEDINGS

of the

26th ANNUAL NATIONAL Congress

of the

RURAL SOCIOLOGICAL ASSOCIATION OF NIGERIA (RuSAN)

held at

Michael Okpara University of Agriculture Umudike

Between

16 and 19 October, 2017

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GENERAL INFORMATION

The Nigerian Rural Sociological Association (NRSA) was formed on January 7, 1981. Its inaugural congress was held from November 7 to 11, 1983 with the theme "Agriculture and Social Development in Nigeria".

NRSA is a broad-based professional association with membership cutting across universities, agricultural research institutes and other agricultural/rural development agencies both from the public and private sectors. Membership is open to all professionals who are interested in advancing the development of the rural folks.

This volume is the proceeding of the 25th Annual National Congress held at Federal University,, Oye-Ekiti, Ekiti state between 9 and 16 October 2016. The plenary papers contained herein were peer reviewed before publication.

The association gratefully acknowledges the moral and financial contributions of many organisations and individuals to the success of the congress.

CALL FOR ABSTRACT FOR THE 2018 ANNUAL NATIONAL CONGRESS OF THE RURAL SOCIOLOGICAL ASSOCIATION OF NIGERIA

ANNOUNCEMENT AND CALL FOR ABSTRACTS
for the
27th ANNUAL NATIONAL CONGRESS OF THE
RURAL SOCIOLOGICAL ASSOCIATION OF NIGERIA
(Zaria 2018)

THEME: RURAL SOCIAL INTERVENTIONS AND DEVELOPMENT IN NIGERIA

Rural development intervention is not new as a tool to protect and move rural households out of shock, stress, risk and lack of command over basic needs of life in most African countries, especially Nigeria. Both Government and Non-Governmental organisations in Nigeria had implemented in the last few years social fortification projects and programmes in rural areas in order to improve rural households standard of living. These include Community and Social Development Programmes (CSDP), Rural Access and Mobility Project (RAMP), Youth Empowerment and Social Support Operation (YESSO), State Employment and Expenditure for Result (SEEFOR) Project, Nigeria Erosion and Watershed Management Project (NEWMAP), Growth Enhancement Scheme (GES), Fadama III Project, National Cash Transfer, School Feeding Programme and many others to socially fortify rural folks in Nigeria. Most of the interventions are supposed to use bottom–up approach, bring poor and pro-poor out of poverty, socially inclusive, empower youth, ensure food security, provide infrastructural facilities that ensures sustainability of livelihood, waste management, reduce land degradation and fragmentation, and most importantly reduce past errors of inclusion and exclusion.
Evidence-based studies at micro levels and discuss around what the interventions achieved in short term (output), achievements that are relate to project goal (outcome) and long term consequences (impact) between various stakeholders can improve delivery, benefit and sustainability of rural social protection interventions in the country. Therefore, 2018 RuSAN Congress will be addressing Rural Social Fortification and Development in Nigeria under the following sub-themes:

1. Community Engagement and Development
2. Poverty and Vulnerability
3. Gender, Youth Empowerment and Entrepreneurship
4. Food Security and Livelihood
5. Infrastructures and Sustainability
6. Health, Environment and Climate Change
7. Sharp Practices, Advocacy and Policy trends
8. Improved Natural Resources Management and Clashes Mitigation

Participation in the 27th Annual National Congress will require the following steps:

1. Log onto the conference website http://conference.rusan.org.ng
2. Register at the website (http://rusan.org.ng/register). If you are returning, having been previously registered on the website, you need to log-in (http://rusan.org.ng/conferences/login)
3. Upload your abstract file, which should be in Microsoft word and not more than 300 words via these steps:
    a. Copy and paste the title of the abstract
    b. Indicate the field of the research
    c. Add, at least, three key words
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    f. Indicate conflict of interest in the research work, if there are
    g. Upload the abstract file
    h. Agree with the terms and condition of the submission by checking the box
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4. The abstract will be reviewed and a decision will be taken on the abstract. There would be an email address to convey the decision to the correspondent authors email address
5. You will be required to go ahead and do the payments for the conference and paper registrations on the platform. You can use your credit/debit card to do the payments. The payment will be confirmed as

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6. Go ahead and prepare your PowerPoint slides for the presentation and send it to rusancongress@gmail.com and copy rusan.congress2018@gmail.com
7. You will register your paper at the editorial desk at the conference venue
8. After the presentation at the congress, you are expected to return to the conference webpage, log-in and upload abridged version of the full paper (not more than 5 pages). This will be used as your manuscript in the conference proceedings. **Please Note that** this will be applicable to accepted, paid for and presented papers at the congress.

IMPORTANT DATES

Deadlines

• Submission of abstracts	31 July 2018
• Submission of PowerPoint files	30 September 2018
• Submission of manuscripts for conference proceedings	Two weeks after the conference

For authors who may want their manuscript in the association's journal, the Nigerian Journal of Rural Sociology, the manuscript must be submitted at the journal's website http://rusan.org.ng/journal. Such manuscript that can be submitted for a congress journal must have been accepted, paid for and presented papers at the congress. At submission, the receipt of the payment will be accepted in lieu of payment for reviewers/processing fee.

FEES

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Content

ANALYSIS OF COMMUNITY MEMBERS' PARTICIPATION IN NDDC DEVELOPMENT PROJECTS IN MBO, LOCAL GOVERNMENT AREA OFAKWA IBOM STATE, NIGERIA

Etuk, U. R., Ekerete, B. I. and Okoro, G. I.

ABSTRACT

The study examined community members' participation in NDDC development projects in Mbo, Local Government Area of AKS.A two-stage sampling procedure was used to select one hundred and eight (108) respondents for the study. Data were collected and analysed using frequencies, percentages, mean and factor analyses. Findings from the study show that only selected number of respondents benefitted from project/programmes executed by NDDC in the study area. Level of involvement of the respondents in the NDDC project reveals that majority of the respondents were not involved in the project as indicated in the overall mean score of 2.21 which is below the mean cut off point of 2.50. Most NDDC projects executed were dysfunctional as respondents affirmed that pipe-borne water project (84.3%), Plumbing (80.6%), Micro-credit scheme (67.6%), Mobile health care (68.5%) and Scholarship for post graduate studies (72.2%) were dysfunctional. There was low level of involvement of people in the project development of NDDC as indicated in the average mean score of 2.21 which is below the mean cut off point of 2.50. In other to determine the dimensions of factors inhibiting respondents from involving in the project, a set of seventeen (17) factors variables were subjected to factor analyses. These operations produced major dimensions or factors namely: Recipients lack of ownership and contractor related problem, conflict and unstable environment, improper project monitoring, inadequate maintenance and appropriateness and these four factors which altogether accounted for 71.15% of total variance in the seventeen (17) original variables were regarded as composite factors affecting beneficiaries' involvement in NDDC project in the study area. It is therefore recommended that proper consultation of benefiting member before and after project execution will build ownership of the project on the part of the recipients and the propensity to involve actively.

Keywords: Participation, rural infrastructure, projects availability and functionality

INTRODUCTION

Infrastructural facilitates accelerate agricultural and socio economic development in the rural areas (Owei, 2003), thus providing rural infrastructure services to meet the demand of rural household, businesses and other users. The provision of rural infrastructure has formed a contemporary development discourse. This is because the success of rural areas is anchored on the adequacy of rural infrastructure which will aid in the reduction of poverty, unemployment and inequality in the rural areas. According to Niger Delta Development Commission (2004), agricultural sector is less productive and unattractive to young persons in rural areas of Niger Delta Region. Aster (2009) linked this problem to lack of rural infrastructure. In order to reverse the negative trend of agriculture in the Niger Delta region, the NDDC initiated the development of the master plan for the region. Rural infrastructure is one of the agenda in the plan. Rural infrastructural projects of NDDC are based on community driven development approach, which places beneficiaries on the driver seat.

Generally, it is necessary to get community support for NDDC infrastructural development projects. Experience from past development programmes shows that active participation of target groups is one of the key factors and determinants of effectiveness of interventions in realizing the set objectives.

Since Nigeria become independent in 1960, the Federal Government of Nigeria has been making conscious efforts aimed at ameliorating the problems of the Niger Delta region. Such efforts includes the establishment of the Niger Delta Basin Development Board (NDDB) in 1961, Niger Delta Basin Development Authority in 1976, Oil Mineral Producing Area Development Commission (OMPADEC). The failure of OMPADEC to solve the problem of the Niger- Delta Region necessitated the establishment of Niger Delta Development Commission by the federal Government of Nigeria in 2000. According to Ekanem (2012) some Niger Delta people are criticizing the NDDC that much has not been done to ameliorate the problems of the regions and also movement for the emancipation of the Niger Delta (MEND) criticized the commission on the grounds of inappropriate projects allocation and misappropriation of resources allocated to the development of the Niger Delta Region. Ekanem (2012) further maintained that the effect of NDDC is yet to be felt by the people of the Niger Delta Region.

Mbo, Local Government Area is one of the areas where oil facilities are located in AKS and one of the beneficiaries of NDDC programs, yet thearea is characterized by low infrastructural facilities.It is against is background that this study examined the level of participation in NDDC development projects in Mbo, Local Government Area of AKS .Thus, this study will address the following questions:

1. What are the types of NDDC projects available and their functionality in the study area?

2. What are the beneficiaries' levels of involvementin the project?
3. What are the constraints affecting beneficiaries involvement in the project?

METHODOLOGY

The study was carried out in Mbo Local Government Area, Akwa Ibom State, Nigeria. It is one of the core oil producing Local Government Areas in the state. Mbo Local Government Area (L.G.A.) is located in south eastern part of Nigeria and bounded to the north axis by UrueOffong/Oruko Local Government Area; to the south axis by Atlantic Ocean and Cameron; to the East by UdungUko Local government Area and to the west by EsitEket and Ibiono Local Government Area. It occupies a land mass of 365 square kilometres and has a population of 121,110 (National Population Commission 2006).

A two stage sampling technique was used in selecting respondents for the study. In the first stage purposive sampling was applied to select eighteen (18) communities based on the presence or availability of NDDC projects. In the second stage, random sampling techniques was used to select six (6) respondents in each of the eighteen (18) communities to give a total of one hundred and eight (108) respondents for the study.

Data were analysed using frequencies, percentages, mean and factor analyses.

RESULTS AND DISCUSSION

NDDC projects availability and functionality

Table 1 presents a list of projects and programmes carried out by NDDC in the study area was obtained by the researcher from NDDC office and was provided to the respondents to affirm which of the projects were actually available and still functional in the study area.

Infrastructural projects: Results reveal that respondents are affirming that only building of community hall (70%) and construction of drainage (70.4%)were available and functional in the study area. On the other hand, respondents affirmed that pipe-borne water project (84.3%), electrification project (61.1%), road construction project (71.1%) and class room construction project (66.7%) were not functional in the study area. The implication is that these areas are deprived and neglected in that they have access to essential services such as pipe bore water, electricity, road etc.

Skills development projects: Majority of the respondents affirmed that welding/fabrication (74.1%), fashion designing (68.5%), computer training (85.2%) as well as electronic maintenance (85.2%)were the most available skill development projects provided by NDDC. In terms of functionality, welding/fabrication (70.4%), computer operation (58.3%) and electronic maintenance (61.1%) were the most functional projects in the study area. The functionality of these projects may be due to the interest of the people of this area to work in oil companies because most of the trained youths may have a chance of being employed directly or indirectly in the oil sector.

Agricultural projects: Findings reveal that livestock production (75.9%), fisheries (75.0%) and crop production (71.3%) projects were available and still functional with a functionality percentage of 57.4% for livestock production, 62.0% for fisheries and 63.9% for crop production while micro

Table 1: Distribution of the respondents based on type of NDDC projects availability and functionally in the study area

NDDC Infrastructural projects	Yes	No	Functional	Non functional
Pipe-borne water project	17 (15.7)	91 (84.3)	15 (13.9)	93 (86.1)
Electrification project	42 (38.9)	66 (61.1)	26 (24.1)	82 (75.9)
Road Construction project	31 (28.7)	77 (71.3)	31 (28.7)	77 (71.3)
Class Room Construction project	36 (33.3)	72 (66.7)	28 (25.9)	80 (74.1)
Building of markets	81 (75.0)	27 (25.0)	51 (47.2)	57 (52.8)
Building of community hall	76 (70.4)	32 (29.6)	62 (57.4)	46 (42.6)
Construction drainage	76 (70.4)	32 (29.6)	56 (51.9)	52 (48.1)
Skill Development Projects				
Welding/fabrication	80 (74.1)	28 (25.9)	76 (70.4)	32 (29.6)
Hair dressing	74 (68.5)	34 (31.5)	45 (41.7)	63 (58.3)
Fashion and design	88 (81.5)	20 (18.5)	47 (43.5)	61 (56.5)
Plumbing	42 (38.89)	66 (61.11)	21 (19.4)	87 (80.6)
Computer operation	92 (85.2)	16 (14.8)	63 (58.3)	45 (41.7)
Electric installation	51 (47.2)	57 (52.8)	33 (30.6)	75 (69.4)
Electronic maintenance	92 (85.2)	16 (14.8)	66 (61.1)	42 (38.9)
Agricultural Development Project				
Livestock production	82 (75.9)	26 (24.1)	62 (57.4)	46 (42.6)
Fisheries	81 (75.0)	27 (25.0)	67 (62.0)	41 (38.0)
Crop production	77 (71.3)	31 (28.7)	69 (63.9)	39 (36.1)

NDDC Infrastructural projects	Yes	No	Functional	Non functional
Micro-credit scheme	63 (58.3)	45 (41.7)	35 (32.4)	73 (67.6)
Health Projects				
Free medical services	25 (23.1)	83 (76.9)	39 (36.1	69 (63.9)
Mobile health care	57 (52.8)	51 (47.2)	34 (31.5)	74 (68.5)
Education Projects				
Scholarship (senior secondary school level)	68 (63.0)	40 (37.0)	66 (61.1)	42 (38.9)
Scholarship for undergraduate	73 (67.6)	35 (32.4)	63 (58.3)	45 (41.7)
Scholarship for post graduate studies	37 (34.26)	71 (65.74)	30 (27.78)	78 (72.2)

Source: Field Survey, 2016

Note: Values in bracket represent percentages while those outside the bracket represent frequencies.

Credit scheme had a low percent of 58.3% with a non-functionality of 67.6%. This is because collateral security is required, which impede farmers in the area from getting loans. This is line with Ezeokeke *et al.* (2012) who states that investment in technology, poor organization of farmers as well as lack of capital and adequate techniques for greater productivity.

Health Projects: According to respondents, free medical services (23.1%) and mobile health care services (52.8%) which were only available in some parts of the area were no longer functional with a non-functionality percentage of 63.9% for free medical and 68.5% for mobile health care.

Educational projects: The study revealed the respondents as affirming that scholarship programmes for secondary (63.0%) and undergraduate (67.6%) levels of education provided by NDDC in the study area and are still functional with a functionality percentage of 61.1% for senior secondary scholarship and 35% for undergraduate scholarship. They indicated that they had benefited from secondary schools and under graduate scholarship offered by NDDC. However, findings have revealed that these scholarships were not easily available to post graduate students as reflected in low percentages of 34.26% with a non-functionality of 72.2%. It could be deduced that most of the project executed by NDDC were not functioning. This may be traceable to the fact that most projects executed were not completed.

Analysis on level of involvement in the implementation of NDDC projects among the respondents

Table 2 below gives insight into the extent to which residents in the study area were involved in the implementation of the various programmes and projects provided by NDDC in the study area. Item 1 on Table 2 reveals that only 14.8% of the respondents were very highly involved in the identification of project needs in the study area, 17.6% participated highly, majority (52.8%) were lowly involved while 14.8% of the respondents very lowly involved in the identification of project needs. Item 2 on Table 2 shows that no respondent was very highly involved in the planning for implementation of projects in the study area, 44.4% participated highly, 33.3% were lowly involved while 22.2% of the respondents were very lowly involved in the planning for implementation of projects. The table reveals that 44.4% of the respondents were very highly involved in the choice of project site, 25.9% were highly involved, 44.4% were lowly involved and 18.5% were very lowly involved in the choice of project site in the study area.

With regards to implementation of projects, 11.1% of the respondents were very highly involved, 28.7% were highly involved, 34.3% were lowly involved and 25.9% were very lowly involved. The table also revealed that only 7.4% of the respondents were very highly involved in project supervision, 18.5% were highly involved, majority (38.9%) were lowly involved and 35.2% of the respondents were very lowly involved in project supervision. Adeniyi(2008) had observed that the concept of community development should be seen as a process by which the efforts of people themselves are united with those of government authorities to improve the economic and social conditions of the community; integrate these communities into the life of the nation; and enable them contribute usefully to national progress. Apantaku (2000) reminded that United Nations recognized that in community development or farmers group, two elements are important to the process of development. These are: (i) That people/farmers participate in efforts to improve their level of living with greater reliance on their own initiatives and (ii) That provision of assistance should be in ways that encourage self-help initiatives and mutual help.

However, in order to really establish the extent to which respondents in the study area were involved in the various programmes and projects provided by NDDC, the mean scores of the responses were also calculated (Table 2). Any statement that has a mean score of 2.5 and above was regarded as high extent of involvement of that particular implementation stage and vice versa if mean score is below 2.5, since the maximum response score for each item was 4 and minimum

was 1. As revealed on Table 2, there was no implementation stage that had mean response of 2.5. It is therefore logical to conclude that residents in the study area were not highly involved by NDDC in the implementation stages of the projects and programmes provided.

Table 2: Distribution of the respondents based on level of involvement in the implementation of NDDC projects

To what extent were you involved in the implementation of the following NDDC projects in your area	Very High	High	Low	Very Low	Mean
Identification of project needs	16 (14.8)	19 (17.6)	57 (52.8)	16 (14.8)	2.32
Planning for implementation	0 (0.0)	48 (44.4)	36 (33.3)	24 (22.2)	2.22
Decision making process	0 (0.0)	29 (26.9)	47 (43.5)	32 (29.6)	1.97
Mobilization of resources	4 (3.7)	45 (41.7)	39 (36.1)	20 (18.5)	2.30
Choice of project site	48 (44.4)	28 (25.9)	20 (18.5)	12 (11.1)	2.29
Implementation of projects	12 (11.1)	31 (28.7)	48 (34.3)	28 (25.9)	2.25
Project monitoring	16 (14.8)	32 (29.6)	30 (27.8)	30 (27.8)	2.31
Commitment of material resource	0 (0.0)	39 (36.1)	53 (49.1)	16 (14.8)	2.21
Project supervision	8 (7.4)	20 (18.5)	42 (38.9)	38 (35.2)	1.98
Ability to volunteer ideas/information	12 (11.1)	31 (28.7)	42 (38.9)	23 (21.3)	2.29

Average mean 2.21

Source: Field survey, 2016.

Note: Values inside the brackets represents percentages while those in front of the brackets represent frequency

Summary statistics of level of involvement of respondents in NDDC project

Result from Table 3 reveals that 14.8 % of the respondents had low level of involvement in NDDC projects, while 53.7% had a very low level of involvement. 26.8% had a high level of involvement while 6.84 had a very high level of involvement in NDDC project. The implication is that majority of the respondent were not highly involved in NDDC projects in the study area.

Table 3: Summary Statistics of Level of Involvement of Respondents in NDDC Project.

Level of involvement range	Interpretation	Frequency	Percentages
0.00 – 1.59	Very low	16	14.8
1.60 - 2.49	Low	58	53.7
2.50 – 3.49	High	29	26.8
3.50 - 4.00	Very high	7	6.48

Inhibiting factors to Beneficiaries Involvement in NDDC Projects using Factor Analysis

Major Dimensions of Inhibiting Factors to Beneficiaries Involvement towards NDDC Development Project using Factor Analysis

From Table 4, factor analysis produce with verimax rotation applied to the data yielded a four-dimensional solution. The communalities, which can be regarded as indicators of the importance of variable in the analysis were generally high (above 50), this shows that the variables selected for this study were appropriate and relevant. The four factors which altogether accounted for 71.15% of total variance in the seventeen (17) original variables may be regarded as composite factors affecting beneficiaries' involvement in NDDC project in the study area. The major dimensions were named as follows:

Factor 1: Recipients' lack of ownership and contactors related problems

Factor 1accounted for 33.14% of the total variance and is without doubt, the most important factor. Of the seventeen (17), variables in the analysis, seven (7) of them including 1, 2, 3, 4, 7, 13 and 15 loaded positively and significant on this factor. They include variables that associate with contractor related problems (.892), inadequate funding (.766), kill and divided syndrome (.729), lack of project ownership by recipient communities (.880), non-prioritization of projects before execution of projects before execution (.880), lack of community involvement (.860) and use of sub-standard material and equipment (.787) because of this the factor was named recipients lack of ownership and contractors related problems.

Factor 2: Conflict and instable environment factor

Factor 2 accounted for 18.31% of total the variance. Associated with it were five variables which loaded positively and significantly. These variables were leadership tussles (.786), power structure within the benefiting community (.645), community leadership structure (.672), vandalism of project (.729), lack of cooperation from

beneficiaries (.638), communal conflicts (.791) because these variables tend to define the unfriendly environment in the study area, as such it was named conflict and unstable environment.

Factor 3: Improper project monitoring

Factor 3 was predominantly dominated by variables lack of project and programme monitoring (.906) and social vices such as kidnapping (.791). Hence it was named improper project monitoring. It account for the total variance in the original data set.

Factor 4: Inadequate maintenance and appropriateness of project

Factor 4, the last factor was found to load highly on two variables named lack of maintenance andlack of project appropriateness. This factor was named inadequate maintenance and appropriateness of project. It accounted for only (8.99%) of total variation.

Table 4: Rotated Component Matrix on Dimensions of Inhibiting Factors to Beneficiaries Involvement towards NDDC Development Project

Items	Fac 1	Fac2	Fac3	Fac 4	CEI
Contractors related problems	.892				.801
Inadequate funding	.766				.814
Kill and divide syndrome	.729				.724
Lack of project ownership by recipient communities	.894				.843
Leadership tussles		.785			.912
Power structure within the benefitting communities		.640		.534	.779
Non-prioritization of projects before execution	.880				.816
Vandalism of project		.729			.740
Community leadership structure		.672			.907
Lack of project maintenance				.828	.743
Lack of project appropriateness				.733	.913
Lack of project and programme monitoring			.906		.881
Lack of community involvement	.860				.700
Lack of cooperation from beneficiaries		.638			.694
Use of sub-standard material and equipment	.787				.711
Social vices such as kidnapping			.665		.915
Communal conflicts		.794			.840
Eigen value	2.682	2.578	2.477	2.228	
Percentage(%) of variation	33.14	18.31	9.710	8.990	
Cumulative percentage (%)	33.14	52.45	62.160	71.15	

a. **Note: CEI = Communality Extraction Index**
b. **Fac = Factors**

CONCLUSION

The study concluded that majority of the community members were not involved in NDDC the project. Most of the projects executed were not functioning. There was low level of involvement of people in the project development of NDDC. In other to determine the dimensions of factors inhibiting respondents from involving in the project, a set of seventeen (17) factor variables were subjected to factor analysis. These operations produced major dimensions or factors which are named. The factors are named as: Recipients lack of ownership and contractor related problem, conflict and unstable environment, improper project monitoring, inadequate maintenance and appropriateness. It is therefore recommended that proper consultation of benefiting member before and after project execution will build ownership of the project on the part of the recipients and the propensity to involve actively.

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ANALYSIS OF FOOD SECURITY STATUS OF FARM FAMILIES IN EMOHUA LOCAL GOVERNMENT AREA OF RIVERS STATE

Nlerum, F. E.

ABSTRACT

This study determined the food security status of farm families in Emohua Local Government Area of Rivers State, Nigeria as evidence of the dividend of democracy. The sample size of the study was 104 head of farm families who constituted the respondents. Respondents were selected through a multi-stage field survey of stratified and random sampling techniques. Data were elicited with the interview schedule and analyzed with percentage and mean of a five point Likert-type scale. Result shows that the food security status of the farm families in the area was 2.93, which was less than the cut-off (decision) mean of 3.00. This indicates that the farm families were food insecure. The major factors which affected the food security status of the families were insufficient fund for cultivation with the mean of 2.42, insufficient planting materials with the mean of 2.74, unavailability of improved planting materials with the mean of 2.78 and poor extension service contact with the mean of 2.83. The major indicators which showed the farm families were food insecure were that the respondents showed disagree responses on: children never skipped meals up to three times or more in one month (2.90), children were never hungry (2.83) and adults never skipped meals because of insufficient food (2.77). In order to enhance the food security status of the farm families, the study recommends provision of sufficient fund for cultivation, enhanced extension contact, enough and improved planting materials.

Keywords: Food security status; Farm families; Dividend of democracy

INTRODUCTION

There has been a growing emphasis on the need to diversify the economy of Nigeria from crude oil and gas resources to agricultural production as one of the dividends of democracy to rural dwellers. If this will take place, the farmer is the focal person on whose trust the agricultural diversification process would be centered. For farmers to become the pivot on which the agricultural diversification process will depend, they need to be food secure in order to muster the energy which is required for productive agricultural activities. The question now is, what is the food security status of our current farmers who are expected to be the drivers of the agricultural diversification quest in the country. This question is important because for farmers to anchor the agricultural economy of the nation, they should reasonably be food secured as evidence that they are beneficiaries in the current dividend of democracy in Nigeria. The reason for this is because productivity in agricultural activities requires well nourished and healthy persons.

Food security is explained to mean a situation where all people at all times have both physical and economic access to sufficient food to meet their dietary needs for productive and healthy life (Frank *et al*, 1999) and Power (2008).Farm families are said to be food secured when they have enough food in quantity and quality at all times to meet their dietary needs in order to enhance a healthy life condition to support their farm production activities. Some key concepts used to explain household food security are food availability, food utilization and food access. Food availability concept is brought about when there is enough food in quantity and quality in a consistent basis to all the farm family members of a given farming community. Food access is achieved when all the families in a given location have enough resources to maintain the essential food commodities for a nutritive diet. Access to food depends on the farm families available income, distribution of the available income within the family and the prices of food commodities in the environment.

Food utilization on the other hand describes a situation where all members of the farm family are biologically making use of available food commodities in such a way that the full dietary components of food such as carbohydrate, protein, fat, mineral, vitamin and water are incorporated, in their daily food consumption.

Multitude of indicators which are used for food security analysis exist, and include food production output, income, total expenditure, food expenditures, calorie consumption, nutritional status, etc. The variables on which the food security status of farm families in this study was analysed, as used by Giary, *et al*(2000) included the fact that the families: were not worried because household food would run out, food bought always last, could afford to eat balanced meals, adults do not cut meals, adult never skipped meals, etc.

Some factors, are known to influence the food security status of farm families in any geographical location. These factors include, but not limited to high yield of farm products, sufficient fund for farm production activities, good prices of farm outputs, availability of good planting materials and appropriate fertilisers, etc. Abu and Soom(2016) enumerate some constraints to household food security in Benue State, Nigeria as poor access to credit, infertility of agricultural soil, unfavourable weather and climatic conditions, poverty, food storage and processing problems, crisis and war.

The benefits of the study of the analysis of food security status of farming families are, it enhances sustained economic growth, it is

significant to human health, rural to urban migration is reduced, everybody has enough food to eat, it emphasis food as basic human right, enough food is locally produced, there is the control over what people eat and people are no more at the mercy of others, since they grow their food.

The research problem therefore of this study was, what is the food security status of the farm families in the study area. In order to tackle this research problem, the objectives of the study determined the: current food security status of the respondents and factors influencing the food security status.

METHODOLOGY

The study was carried out in Emohua Local Government Area (EMOLGA) of Rivers State, Nigeria. Emohua Local Government Area is located within the South-South axis of the Niger-Delta region of Nigeria. The LGA lies between latitude $4^0$53'0"N $6^0$52' 0'E and longitude 4.88333^0N 6.86667^0E. It has an area of 83 square kilometers and population of 201, 901 people as at the 2006 national census. The area has boundaries with Ikwerre, Abua/Odual, Ahoada East, Ogba/Egbema/Ndoni, Obio/Akpor and Asari-toru LGAs. Administratively, Rives State has 23 LGAs of which Emohua Local Government Area is one. Its headquarters is at Emohua.The LGA consist basically of five clans, namely, Rundele, Ibaa, Odeu, Emohua and Elele –Alimini.

The Emohua people are predominately farmers. The types of crops grown in the area include, yam, cassava, cocoyam, oil palm, coconut, ground nut and different type of vegetables. The vegetables grown in the area includes: okra, melon, pepper, fluted pumpkin, water leaf, cucumber, watermelon, tomato, etc.

The population of the study comprised all the farm families in area. By farm families, we mean all households involved in agricultural production as full or part-time farming. Stratified and random sampling techniques were used in selecting 104 heads of farm families from the five clans of the study area. Firstly, the stratified sample was used in dividing the study area into clans and later into villages. Secondly, the random sampling method was used in selecting two villages from each clan to make a total of 10. Random sampling was also employed in selecting 10 farm families from nine villages and 14 from one of the villages. This was how the sample size of 104 respondents was derived.

Data collection was elicited with the administration of questionnaire to respondents in the study area. The primary data consisted of both qualitative and quantitative data which were collected at the level of the households from the ten villages. One of the researchers did the administration and collection of the questionnaire.

The data collected from the field were analyzed and interpreted through the use of percentage and mean statistics. A five point Likert - type rating scale with option strongly agreed (4), agreed (3), disagreed (2) and strongly disagreed (1) was used in determining the food security status of the respondents. A cut-off (decision) mean of 3.00 was derived and used for the analysis. Means measuring 3.00 and above were interpreted as acceptable results, while those of Less than 3.00 were interpreted as unacceptable results.

The status of food security of the respondents was then derived by a summation of all means from the various variables and divided by the number of variables under consideration (in this case 18). The grand mean was used in operationalizing the food security status of the farm families of the study area.

RESULTS AND DISCUSSION

Food security status of farmers

The current food security status of the farm families was 2.93 less than 3.000 which was the decision mean (Table1). This food security status shows that the farm families in the study area are currently food insecure. The result implies that the dividend of democracy in food security is yet to be appreciated among the farm families of this study area.

Table 1: Mean distribution of current food security indicators and status of farm families

Indicator Guide	Total Score	Mean (n=104)	Decision
Not worried that household food would run out.	337	3.24	Agree
Food bought always last.	361	3.47	Agree
Could afford to eat balanced meals.	261	2.51	Disagree
Adults do no cut meals.	276	2.65	Disagree
Adults never skipped meals.	288	2.77	Disagree
You ate enough always.	366	3.52	Agree
You were hungry, but had enough food to eat.	240	2.31	Disagree
You gained weight because family food was enough.	304	2.92	Disagree
Adults never starved for a whole day.	355	3.41	Agree
Adults starved for a whole day for or more times	287	2.76	Disagree

Indicator Guide	Total Score	Mean (n=104)	Decision
in a month.			
Different kinds of high–cost food were available for children.	273	2.63	Disagree
Fed children balanced meals always.	280	2.69	Disagree
Children ate enough food.	275	2.64	Disagree
Never cut size of children's meals.	315	3.03	Agree
Children never skipped meals up to three times or more in one month.	346	3.33	Agree
Children were never hungry.	302	2.90	Disagree
Children never skipped meals.	294	2.83	Disagree
Children always ate for a whole day.	316	3.04	Agree
Total		**52.65**	
Grand Mean Status		**2.93**	

Source: Field Survey (2016)
Decision Mean = 3.00

The result in Table 1 indicates that 18 variables were analysed with the food security indicator guide of the United States Department of Agriculture as used by Gary *et al* (2000). The farm families were food secure in seven indicators, representing 39% and food insecure in eleven indicators, representing 61%. This result connotes that a higher proportion of the families were affected by the problem of food insecurity. This finding agreed with the earlier studies of Rahim *et al* (2011) in Iran and Babatunde *et al* (2017)in North Central, Nigeria where the households with food insecurity problems represented 60% and 64% respectively.

Further findings in Table 1 shows that the major indicator which confirmed the low food security status of the farm families were that the respondents showed disagreed responses in suchindicator guides as you gained weight because family food was enough (2.92), children never skipped meals up to three times or more in one month (2.90), children were never hungry (2.83), adult never skilled meals because of insufficient food (2.77) and you could afford to eat balanced meals (2.51). However, the respondents showed agreed responses in such indicators as: you ate enough food always (3.52), food bought always last (3.47) and adults never starved for a whole day (3.41).

Factors influencing food security among farm families

Results in Table 2 shows that out of the thirteen factors studies, nine influenced the food security of the studied farm families. The major influencing factors were, high yield of farm products (4.22), production outputs enhanced income (3.94), flooding of farms was not a problem (3.89) and cost of farm inputs were affordable (3.79). The result findings shows that the major influencing factors of the food security status of the farm families was that, there were high yields of farm products (4.22), which were grown in the area. This assertion is correct since the local Government Area has earlier be referred to as the food basket of Rivers State.

The common arable crops which are grown in the area includes yam, Cassava, maize, vegetables and cocoyam. The second factor which influenced the food security status of the respondents with a mean of 3.94 was that production outputs enhanced income. This implies that farm activities in the area supported the income of the farm families. This result agrees with the assertion that food security enhances the economic growth of any given area.

The results also however showed that the major factor militating against the food security status of the farm families was insufficient fund for cultivation with a mean of 2.42. This finding implies that the respondents lacked adequate finances to cultivate their farms in such a manner that will bring about enough harvest to tackle the food insecurity condition of the families. This problem was followed by the fact that planting materials were not enough with a mean of 2.74. The respondents also disagreed with the fact that extension contact was good with a mean of 2.83. This finding shows that there was a poor contact between the farm families and agricultural extension personnel in the area. This connotes that the respondents lacked the good benefits which are associated with contacts of extension workers in their farm production activities.

Table 2: Mean distribution of factors influencing food security status of farm families

S/No	Factors	Total Score	Mean (n=104)	Decision
1	High yield of farm products.	439	4.22	Agree
2	Availability sufficient fund for cultivation.	252	2.42	Disagree
3	Production outputs enhanced income.	410	3.94	Agree
4	Planting materials were enough.	285	2.78	Disagree
5	Improve variety of seeds were available.	289		Disagree
6	Appropriate fertilisers were available.	330	3.17	Agree
7	Costs of farm inputs were affordable.	394	3.79	Agree
8	Extension service contact was good.	294	2.83	Disagree
9.	Enough market for farm outputs.	349	3.36	Agree
10	Good farm gate prices.	367	3.53	Agree
11	Storage was not a problem.	319	3.07	Agree
12.	Flooding of farms was not a problem.	405	3.89	Agree
13.	Disease and pest problems were under control	367	3.53	Agree

Source: Field Survey (2016)
Decision Mean = 3.00

CONCLUSION AND RECOMMENDATIONS

The study has shown that the food security status of the farm families in Emohua Local Government Area of Rivers State, Nigeria was low, indicating that the families were food insecure. This means that the dividend of democracy as it affects food security of farm families is yet to be well appreciated. This implies that the area currently cannot be relied upon to anchor an effective agricultural diversification process. The factors which affected the food security status of the farm families were insufficient fund for agricultural cultivation, insufficient planting materials and insufficient agricultural extension service in the area. In order to achieve a sustainable food security status of the farm families in the area, the study recommends the provision of sufficient fund for cultivation, sufficient and improved planting materials and appropriate agricultural extension services.

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ANALYSIS OF LABOUR SUPPLY ON OIL PALM PPRODUCTION IN OKITIPUPA LOCAL GOVERNMENT AREA OF ONDO STATE, NIGERIA

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ABSTRACT

The study assessed labour influence on oil palm production in Okitipupa Local Government Area of Ondo state. Specifically it examined the socio-economic characteristics of farmers, determined the man-hour labour used for production activities in oil palm and palm oil production, determined the influence of labour supply on oil palm production in the study Area. The study also determined other factors that influence the supply of labour in oil palm production. Five towns in Okitipupa Local Government Area were randomly selected, namely; Ilutitun-Oshoro, Ikoya, Iju-Odo, Ayeka and Okitipupa. Twelve farmers were selected at random from each of the two wards selected in each of the five towns; meaning that 24 farmers were interviewed per town to give a sample size of 120 farmers. Multiple regression was applied to determine the influence of labour usage on oil palm and palm oil production. Three functional forms of regression models were used namely: Linear, semi-log and Cobb Douglass functions. The majority of the respondents are in the range of 41-50 years. The mean age was 37 years and 71.7% of them were male. About 18% of the respondents use family labour in carrying out farm activities, 78.3% use hired and family labour while 3.4 % make use of hired labour only on the farm. Out of the three functional forms; Cobb Douglas functional form was selected as the lead equation, it has R^2 of 0.44. Labour usage has a coefficient of 0.055 and is statistically significant. Level of experience has a negative coefficient of -0.123 while educational level has a coefficient of 0.07. It was recommended that credit facilities should be made available to the farmers to enable them pay for hired labour.

Keywords: Labour- supply, oil palm, production, Cobb-Douglass, and income

INTRODUCTION

Agriculture in the context of the nation's economy is tied with the various sectors and is essential for generating broad based growth necessary for development. Agriculture is fundamental for the sustenance of life and is also the bed rock of economic development. It functions in the provision of adequate and nutritious food for human development and raw materials for industries. The agriculture of most countries are mainly supported by the rural areas often driven by the grassroot people, as such the development of the grassroots is a prerequisite for development of agriculture. Labour supply in any agricultural system can be easily available and in adequate quantity if there is enabling environment. The democratic environment definitely favours supply of labour, therefore adequate supply of labour can be regarded as dividends of democratic governance. In spite of the great roles played by agriculture in the economy of any nation; it cannot play these roles if there is absence or inadequate supply of labour. The supply of labour is very crucial in Nigerian agriculture where farmers are largely dependent on the use of local farm implements which are energy sapping. These crude implements not only frustrate farmers but create unnecessary expenses and slow down the farming processes (Abutu, 2014).

The production of oil palm and palm oil can only succeed when there is timely and adequate supply of labour in the production line. It is an enterprise that requires high level of labour because of its many production stages and several by-products which can be further processed into different final products. The situation is more worrisome with smallholder farmers who lacked adequate capital to finance their farm operations and this has inhibited them from realizing optimum income. Labour supply has been identified as one of the most important input in oil palm and palm oil production in Nigeria. The wages of hired labour make up the largest single item of expenditure on most farms (Upton, 1997).

The supply of labour in the oil palm enterprise has been faced with many challenges which has either make the cost of production increased or has made production process difficult and delayed beyond the expected turnaround time. This labour issue cuts across all other food and tree crops in Nigeria. According to Odeleye (2015) "Of all the production inputs in a rain fed farming economy, human labour is now becoming crucial and limiting". In Nigeria, farm labour supply especially for planting, weeding and harvesting still constitutes serious bottlenecks. The crucial importance of labour in oil palm and palm oil production is not limited to smallholder farmers alone but also affects commercial farms. The output of oil palm is affected by several factors which is imperative to research. In view of this, it is necessary to conduct research and ascertain the socio-economic characteristics of the farmers, determine the factors that influence the output of oil palm, determine the man-hour labour requirement for production in oil palm and palm oil production activities and determine the influence of labour usage on oil palm and palm oil production in the study area.

METHODOLOGY

Study Area

The study was carried out in Okitipupa Local Government Area of Ondo state, Nigeria. The present Okitipupa local government came into being after splitting Ikale local government into

Irele and Okitipupa local governments in 1991. The old Okitipupa division was split into Okitipupa, Irele, Ilaje, and Ese-odo Local Government Areas. Okitipupa Local Government Area (LGA) is one of the 18 LGAs in Ondo State. It lies between 50^0 45″ and 80^0 15″North of the Equator and 4°35″ and 4°50″ E longitude within the tropical rainforest zone of Nigeria. It covers a total land area of 636 sq. km and has an estimated population of 233,565 people. An isohyperthermic soil temperature regime prevail in the area with total annual rainfall often exceeding 2000 mm, while the soil temperature has a narrow range of 27 to 28°C (Esu*et al.*, 2014). It is bounded in the East by Irele local government while to its west lies part of Odigbo Local Government and the Atlantic Ocean. To its North lies Odigbo Local Government while it is bounded in the South by Ilaje Local Government. The inhabitant of the local government area are mainly Yoruba of Ikale ethnic group. Yoruba language is widely spoken. The area is mainly an agrarian in nature; planting cash and food crops. The local government has many towns and villages. Okitipupa is the capital and seat of the Local government headquarters while other town include Ode-Aye, Ikoya, Ilu-titun, Iju-odo, Igbotako, Erinje, Igbodigo, Ayeka, Erekiti, Iju-oke, Igodan, Okunmo, Omotosho, Ayetoro, Wakajaiye, and mile 49.

Sampling Procedure and Size

Okitipupa LGA was purposively selected from the 18 LGA in the state because of the high prevalence of oil palm farms in the area..From the list of the rural communities in Okitipupa local government area, five communities were randomly chosen. The selected communities are; Ilutitun-Oshoro, Ikoya, Iju-odo, Ayeka and Okitipupa. Twenty four farmers were selected systematically from list of oil palm farmers in each of the five communities to give a sample size of 120 farmers.

Data Collection Method

Primary data were used in the study, the primary data were obtained through the use of well-structured questionnaire administered to the respondents. The questionnaire was designed according to the objectives of the study. Relevant literature were obtained from textbooks, journals, internet and other relevant published materials.

Data analysis

The analytical tools used in this study were descriptive statistics and multiple regression analysis. The descriptive statistics used were frequency distribution, percentages and mean. The multiple regression technique was applied using three functional forms namely; linear, semi-log and Cobb- Douglas. The best of fit was selected after considering the levels of estimated error, magnitude of R^2, number and signs of estimated regression coefficients. The functional forms are stated as follows;

I. Linear function
$Y= a+b_1X_1 + b_2X_2 +b_3X_3 + b_4X_4+b_5X_5+U$

II. Double Log Function
$\ln Y= a+b_1\ln X_1 +b_2 \ln X_2 + b_3 \ln X3 + b4\ln X_3 +b_5\ln X_5+U$

III. Semi Log Function
$Y= a+b1\text{Log } X1 +b2 \text{ Log } X2 +b3 \text{ Log } X3 +b4\log X_4 +b_5\log X_5 +U$

Where
Y= Labour supply
X_1= Annual labour Usage (in man days)
X_2= Level of Experience
X_3= Education level
X_4= Age
X_5= Farm Size
U= Error term

RESULTS AND DISCUSSION

Socio-economic Characteristics of the Respondents

Age distribution of respondents

Table 1 shows that 41.7% of the respondents were between the ages of 41-50 years. This represents the highest proportion of the respondents. This is followed by the respondents in the age category of 31-40 years which accounted for 28.4 % of the farmers. This contradicts the finding of Alfred *et al.* (2014) where the farmers in the age range of 31-40 years were only 4.4 %. This is closely followed by respondents in the age category of 21-30 years which accounted for 26.7 %. The age category of 51-60 and 61 and above both has 1.7% respondents each. The average age of the farmers was 37 years. This average age indicates that these farmers are in the prime of productive age.

Table 1: Age Distribution of Respondents

Years	Frequencies	Percentages
21-30	32	26.7
31-40	34	28.4
41-50	50	41.7
51-60	2	1.7
61 and above	2	1.7
Total	**120**	**100 Mean= 37**

Source: Field Survey, 2016

Gender distribution of the respondents

Table 2 shows that 71.7% of the respondents were male, only 28.3% of them were females. It shows that majority of the oil palm farmers are male. Women mostly are involved as marketers, traders and processors of the palm products. The ownership of land is vested on men in Africa; this could be a factor that made it difficult for women to own oil palm plantation. Most women farmers are usually involved in food crop production compared to oil palm which is a cash crop. This is consistent with the findings of Raufu*et al.* (2015) in their study of Perceived effect of Climate change on Cocoa Production in South-Western Nigeria where it was discovered that 70.0% of the farmers were male.

Table 2 Gender Distribution of Respondents

Gender	Frequency	Percentage
Male	86	71.7
Female	34	28.3
Total	**120**	**100.0**

Source: Field Survey, 2016

Distribution of the respondents' marital status

Table 3 shows that 68.3% of the respondents were married, 28.3% of the respondents were single and 1.7% of the respondents were divorced and also widowed. This implies that majority of the oil palm farmers in Okitipupa LGA were married. Being married by most of the farmers could be attributed to the fact that in African society any person that is unmarried after a certain age would be regarded as a deviant from the culturally acceptable way of life. Being married will also assist in the supply of family labour in the oil palm enterprise.

Table 3 Distribution of Respondents' Marital Status

Marital Status	Frequency	Percentage
Married	41	68.3
Single	71	28.3
Divorced	1	1.7
Widow	1	1.7
Total	**60**	**100.00**

Source: Field Survey, 2016

Distribution of respondents by household size

Table 4 shows that 61.7% of the respondents interviewed have household size of 6-10 while 35% of the respondents' household is in the category of 1-5 members. About 3% are in the category of household size of 11 members and above. This shows that majority of the farmers sampled have a medium household size with only 6-10 members. The average household size of 7 people shows that the farmers have a medium sized family. This trend possibly could result from the fact that most of the farmers are married and need family labour to assist in their work. This contradicts the findings of Fasina and Odefadehan (2014) in which the average household size of respondents was 5 in a study of the use of mobile phone by farmers in Ondo state Nigeria.

Table 4 Distribution of Respondents by Household Size

Household size	Frequency	Percentage
1-5	42	35.0
6-10	74	61.7
11 and above	4	3.3
Total	**60**	**100.0**

Mean= 7.0

Source: Field Survey, 2016

Distribution of the respondents according to educational level

Table 5 shows that greater percentage of the respondents (56.7%) had secondary school education, 21.6% of the respondents attained tertiary education level, 17.5% of the respondents had primary school education, and 4.2% of the respondent had no formal education. Therefore it can be deduced that a good number of farmers in the area were literate. This hopefully will enhance the rate of acceptance of technological innovation and as such encourage extension agents to introduce new techniques. According to Nmadu*et al.* (2015) adoption models indicated that sex and level of education of the farmer affected the adoption decisions of cocoa farmers in Ondo state.

Table 5 Distribution of the Respondent According to Educational Level

Education	Frequency	Percentage
No formal education	5	4.2
Primary education	21	17.5
Secondary education	68	56.7
Tertiary education	26	21.6
Total	**120**	**100.0**

Source: Field Survey, 2016

Distribution of farmers by their farming experience

Table 6 shows that 70% of the farmers had 11-20 years of farming experience, 25% of the farmers had 1-10 year of farming experience, 3.4% of the farmers had 21-30 year experience and 1.6% of the farmers had 31-40 years of experience. The farmers' average farming experience was 13 years. This shows that these farmers are not new in the cultivation of oil palm. This result is similar to the findings of Ajieh, P.C (2013), where the average farming experience in years of oil palm farmers in Ondo state was 14 years.

Table 6 Distribution of farmers by their farming experience

Experience in year	Frequency	Percentage
1-10	30	25.0
11-20	84	70.0
21-30	4	3.4
31-40	2	1.6
Total	**120**	**100.0**

Mean= 13.0
Source: Field Survey, 2016

Distribution of the Respondents According to Farm Size

Table 7 shows that 57.0% of the respondents own between 11-20 acres of farm land, 20.0% of the respondents own 1-10 acres of plantation, 18.0% of the respondents had 21-30 acres of farmland, while 5% of the respondents had above 30 acres of farm land. The average farmland size of about 16 acres shows that oil palm farming is practised on large land area compared to food crops arable farming. It can be said that it is beyond subsistence form but commercial in nature. This shows that these farmers have farms that are above the average national farm size for small holder farmers in the country.

Table 7 Distribution of the Respondents According to Farm Size

Farm size (acres)	Frequency	Percentage
1-10	24	20.0
11-20	68	57.0
21-30	22	18.0
Above 30	6	5.0
Total	**120**	**100.0**

Mean= 15.8
Source: Field Survey, 2016

Sources of labour used by the respondents

Table 8 shows that majority (78.3%) of the respondents use both hired and family labour for their farming, 18.3% of the respondent use family labour for their farming activities, while 3.4% make use of hired labour only. This implies that majority of the farmers interviewed use hired labour on their farm. Family labour is however used to complement the hired labour available in order to meet the labour supply needed on the farm.

Table 8 Distribution of the Sources of labour Used by the Respondents

Type of labour	Frequency	Percentage
Hired labour only	4	3.4
Hired and family labour	94	78.3
Family labour	22	18.3
Total	**120**	**100.0**

Source: Field Survey, 2012

Distance of farm to home

Table 9 shows that 75% of the respondent stay between 11-20 kilometres to their farms and 23.3% of the respondent stay within distance of 1-10 kilometres from the farm while 1.7% stay above 20 kilometres away from the farm. The average distance of about 13km to the farms shows that farmers will need a form of mobility i.e motorcycle in order to be effective. Trekking such a distance to and fro will amount to loss of time and energy that could be channelled to productive activities on the oil farm.

Table 9: Distribution of the respondents according to distance of farm to their homes

Distance (km)	Frequency	Percentage
1-10	28	23.3
11-20	90	75.0
Above 20	2	1.7
Total	**120**	**100.0**

Mean = 12.8
Source: Field Survey, 2016

Problems encountered in oil palm farming

Table 10 shows that majority (96.7%) of the respondents were facing inadequate funds in hiring labour, 73.3% of the respondent claimed that weather change is a problem, 81.7% respondent were confronted with inadequate infrastructure, unfavourable market and price instability each , 70.0% of the respondent regarded unfavourable government policies as a challenge.

Table 10: Distribution of the Respondents by Problem Encountered in Oil Palm Production

Problem encounter in hiring labour	Frequency	Percentage
Inadequate funding	58	96.7*
Weather change	44	73.3
Inadequate infrastructure	49	81.7
Unfavourable extension service	36	60.0
Unfavourable market and price stability	49	81.7
Unfavourable government policies	42	70.0

***multiple responses**
Source: Field Survey, 2016

Labour requirement for the production of oil palm and palm oil production

The activities involved in oil palm production include; land clearing, planting of seedling, fertiliser application and harvesting while those in palm oil production are; fermentation, boiling, pounding/digesting, and matching/clarification of oil palm fruits and skimming of palm oil. Table 11 shows that an average of 430 Man-days of family labour were used for land clearing while an average of 714 Man-days of hired labour were used for the same purpose ,an average 148 Man-days of family labour were used for planting of seedlings while average of 626 Man-days of hired labour were used for the same purpose. An average of 61 Man-days of family labour were used for fertiliser application, while average of 346 Man-days of hired labour were used for the same purpose; an average of 519 man-days of family labour were used for harvesting, while an average of 3268 man-days of hired labour were used for the same purpose

In Table 11, an average 170 man-days of family labour is used for fermentation, while an average of 211 man-days of hired labour is used for the same purpose. An average of 151 man-days of family labour is used for boiling of oil palm fruits while an average of 1228 man-days of hired labour was used for the same purpose. An average of 181 man-days of family labour were used for pounding of oil palm fruits while an average of 1839 man-days of hired labour were used for the same purpose. An average of 43 man-days of family labour were used for matching and skimming, while an average of 132 man-days of hired labour were used for the same purpose.

Table 11: Labour requirement for the production activities in oil palm and palm oil production

Activities	Family labour (Man-Days)	Hired Labour (Man Days)
Land clearing	430	714
Planting	148	626
Fertiliser application	61	346

Activities	Family labour (Man-Days)	Hired Labour (Man Days)
Harvesting	519	3268
Fermentation	170	211
Boiling of oil palm fruits	151	1228
Pounding of palm fruits (Digesting)	181	1839
Matching, mixing with warm water (Clarification) and skimming	43	132

Source: Field Survey, 2016

Effect of labour usage on oil palm and palm oil production in the study area

The R^2 of Cob-Douglas functional form was 0.44 showing that the variation in the explanatory variable has combined effect of 44 percent on the variation of the dependent variable. Hence Cob-Douglas functional form was selected as the lead equation.

$Y = 2.16 = 0.055\text{Log } X_1 - 0.123\text{Log}X_2 + 0.070\text{Log}X_3 - 0.441\text{Log}X_4 + 0.112\text{Log}X_5$

(6.943) (0.001) (-0.939) (0.206)
(0.816) (0.025)

$R^2 = 0.44$; F-value = 14.486

The estimated regression function were evaluated in terms of the statistical significance of R^2 as indicated by F-value, the significance of the coefficients as given by the t-values, the sign of the coefficients, and the magnitude of the standard error. However, based on the statistical and economic criteria, the Cobb- Douglas form was selected as the lead equation for having the largest coefficient of multiple determination (R^2) as shown in Table 12.

The coefficient of multiple determination (R^2) indicate that 44% of the variability in output of oil palm and palm oil production is explained by the independent variables (labour usage, level of experience, education level, Age and Farm size). According to Table 12, the labour usage in man days (X_1) in the study area has a coefficients of 0.055 as shown in the table 12 and is statistically significant at 5%. This is in line with our a priori expectation that labour use would be significant with labour supply on the farm. Every unit increase in labour usage will increase labour supply by 5.5%. Farm size is significant at 10% with coefficient of 0.112. This reveals that a unit increase in the land under cultivation will lead to 11 percent increase in labour supply.

The level of experience of palm oil producers in the study area has a negative coefficient of -0.123 and is not statistically significant; this shows that the higher the experience the lower the supply of labour. Likewise the age of the respondents has a negative coefficient but not statistically significant. The negative coefficient of the experience of the farmers is contrary to our *apriori* expectation and such could be attributed to reluctance of labourers to work with the farmers who have been oil palm farmers for longer years. Hired labourers may be willing to work with younger and newer farmers whom they think might pay better wages than the experienced farmers.

Table 12: Regression result of the influence of labour and other variables on oil palm and palm oil production

Functional forms Variables	**Linear Coefficient/t Value**	**Semi Coefficient/t Value**	**Cob-Douglas Coefficient/t Value**
Constant	2918.210	-8616.607	2.161
	(0.905)	(-1.479)	(6.943)
Labour usage (in man yays)	9.191	2743.613	0.055*
	(5.754)	(3.919)	(0.001)
Years of experience	-45.619	-209.928	-0.123
	(0.489)	(-0.197)	(-0.939)
Education level	698.217	1907.543	0.070
	(0.756)	(0.688)	(0.206)
Age	-1.325	-0.568	-0.441
	(2.711)	(2.135)	(0.816)
Farm Size	0.968	0.322	0.112**
	(1.942)	(2.215)	(0.025)
R^2	0.383	0.226	0.441
Adjusted R^2	0.350	0.182	0.407
F-value	11.610	5.458	14.486

Source: Field Survey, 2016

N=120
* Significant at 5%, **Significant at 10%

CONCLUSION AND RECOMMENDATION

Conclusively, the study reveals that the main source of labour in oil palm and palm oil production is hired labour. Labour and farm size are important determinants in the output of oil palm. The experience of the farmers has a negative effect on the supply of labour of the palm oil and oil palm production. It is recommended that farmers should come together to form cooperative societies in order to benefit from credit facilities. This will make funds to pay for hired labour easily available. In addition policies that will make it easy for women to own land should be enacted.

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ANALYSIS OF SPATIAL DISTRIBUTION AND LIVELIHOOD STRATEGIES OF MIGRANT TENANT FARMERS IN EKITI STATE, NIGERIA

Adebo, G. M. and Obe, A.

ABSTRACT

The study was carried out to assess the spatial distribution and livelihood strategies of migrant tenant farmers in Ekiti Nigeria. A well-structured questionnaire was employed to elicit information from 200 respondents randomly selected from 20 settlements occupied by migrant tenant farmers in Ekiti state. The data collected were analyzed using descriptive statistics. The results of the findings show that the mean age of the respondents was 44.6 years. Most (70%) of them were married but with low levels of education. Seventy-eight percent of the households were male-headed with a mean household size of 8.2 persons. Over 80% of them have been farming for more than ten years. Most of them are *Ebiras* who migrated from Kogi state. The spatial distribution of the migrant tenant farmers shows that a majority (91.82%) of the respondents' practices nucleated settlement pattern, with 178 average numbers of houses per settlement. They settled at the borders and thoroughfares that linked the state capital with other neighbouring towns or villages. Most (78.8%) of their houses were built with mud blocks with tethered roofs. Though over 65percent of them have mobile phones, the space occupied by the migrant tenant farmers was relatively small and their communication patterns were mainly interpersonal. Half of the settlements had primary schools, five percent had secondary schools, 10 percent had health centres, churches and filling stations respectively, 40 percent had markets while 20 percent had mosques and .pipe borne water respectively, and 15 percent had electricity. The spatial characteristics depict rural settings as they lack access to social and productive resources necessary to improve their livelihoods. The livelihood strategies of the migrant tenant farmers revolved around farming. A majority (70%) of them was involved in yam production, 45percent engaged in processing palm oil and *Gaari* respectively, 35percent plant vegetables, 60percent produced cassava, 20 percent supplied farm labour while 20percent were traders. All the settlements have unorganized markets, usually patronized for cheap sources of food items by travellers within and outside the state. The major needs of the migrant tenant farmers vary and were numerous. The most important needs of the migrant farmers was health facilities (mean=2.95). Others include access to credit facilities (mean=2.75), educational facilities and (mean=2.70) and access to improved varieties of crops, fertiliser, pesticides (mean=2.60)

Keywords: Productivity, Neglect, Livelihood strategies, Migrant tenant farmers, Spatial Distribution.

INTRODUCTION

Migration according to Amrith (2014) has been an important part of human experience throughout history and continues to play an important role in shaping the populations of cities, states, and regions. The literature on migration in developing countries is extensive and transcends demography, geography, economics, and sociology. Migration (human) is the movement of people from one place in the world to another for the purpose of taking up permanent or semi-permanent residence, usually across a political boundary (Shina, 2005). The economic motivations for migration were a combination of the desire to escape oppressive economic conditions in the south and the promise of greater prosperity in the north. Since their Emancipation from slavery, southern rural blacks had suffered in a plantation economy that offered little chance of advancement. While a few blacks were lucky enough to purchase land, most were sharecroppers, tenant farmers, or farm labours, barely subsiding from year to year. When World War I created a huge demand for workers in northern factories, many southern blacks took this opportunity to leave the oppressive economic conditions in the south. In additional to migrating for job opportunities, blacks also moved north in order to escape the oppressive conditions of the south. Some of the main social factors for migration included lynching, an unfair legal system, inequality in education, and denial of suffrage (Shina, 2005)There is the push and pull factors of migration. The push factors occurs as a result of difficulties such as a food shortage, war, flood, etc. while the Pull Factors place is due to a desire for better things such as desirable such as a nicer climate, better food supply, freedom, etc. Migration could be intercontinental (between continents), intra-continental (between countries on a given continent) and interregional (within countries). Emphasis has been laid on one of the most significant migration patterns has been rural to urban. Migration could be external or internal. There are four types of internal migration:

i. Rural-Urban migration.
ii. Urban-Urban migration.
iii. Urban-Rural migration.
iv. Rural-Rural migration.

All the forms of migration are important (Amin, 1974) estimated that in early 1950, about 1500 people in Nigeria moved per year to the Middle Belt from the crowded areas of the North and South for agricultural work and colonization. These people moved to develop opportunities in less advanced area than their own and they were mainly farmers and traders. Udo (2012) identified sources of migrants for rural-rural migration in Nigeria as follows:

- Densely populated but impoverished areas of Orlu, Azoka, Eastem Owerri (Imo and Anambra).
- Densely populated areas of Abak. lkot-Ekpenc, Uyo, Eastern Ibibio, Ikono (Akwa Ibom State).
- Sokoto home districts
- Southern TIV land (Benue State).
- Kano/Katsina Region
- The Ebira (Kogi State).

One of the important issues in migration is that of the migrant tenant farmers. Tenant farming according to Encyclopedia Britanica (2014), is an agricultural system in which landowners contribute their land and a measure of operating capital and management while tenants contribute their labour with various amount of and management. The returns may be shared in the form of product, cash or in a combination of both. The migrant Tenant Farmers can be classified as follows:

- Those who cultivate farmland released to them for at least one crop year
- Sharecroppers who work on existing mature farm on agreed terms/ conditions of sharing proceeds.

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- Those who cultivate farmland released to them for at least one crop year
- Sharecroppers who work on existing mature farm on agreed terms/ conditions of sharing proceeds. These are usually cash crops e.g. cocoa, kola nut etc.
- Those who obtain a lease to harvest defined area of palm forest for specific periods.
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- Those who obtain a lease to harvest defined area of palm forest for specific periods.
- Those who work on pledge or pawn

Farm tenancy is very common in southwestern Nigeria, but conditions vary greatly, with some arrangements being favourable to the tenant and others being quite insecure. The terms of the agreement are usually verbal and often imprecisely phrased; and, the amount of tribute paid per hectare is variable and depends largely on the nature of the relationship between landlord and tenant, and is payable either in cash or in kind. The security of the tenant is variable and dependent on the relationship with the landlord, who is under no compulsion to continue the arrangement. For "strangers," therefore, being a farm tenant is full of risks.

Migrant tenant farmers in Ekiti state contributes significantly to the economic development of the State. For instance, yam, pepper and vegetable production in most parts of Ekiti state is dominated by the migrant tenant farmers.

Most of the studies on rural-rural migration have concentrated on the socio-economic characteristics of migrant tenant farmers with little attention to the spatial characteristics. The importance of the spatial characteristics is of great importance because all socio-economic activities depend on the use of space. Information thrives on the socio-economic aspect of migrant Tenant farmers especially in nine states (Udo, 2012). There is the dearth of information on the spatial characteristics of migrant tenant farmers in Ekiti State. There is a need to find out certain things about the migrant tenant farmers in Ekiti state. Some of the questions that came to mind are: who are these migrant farmers? What are their socio-economic characteristics? Where do they settle? What type of house are they living? What are the various infrastructures they have access to? Which school(s) do their children attend? What are their livelihood activities? What are the interventions necessary to improve their livelihood? The aim of the study is to access the spatial characteristics and livelihood strategies of the migrant tenant farmers in Ekiti State. The specific objectives of the study include:

- To ascertain the socio-economic characteristics of the migrant tenant farmers
- Ascertain the Spatial distribution of the migrant tenant farmers
- Access the infrastructures available in their settlement in terms of Schools, electricity, pipe borne water and health centers
- examine the livelihood activities of the migrant tenant farmers
- investigate the needs of the migrant tenant farmers

METHODOLOGY

This study was carried out in Ekiti State, Nigeria. All the migrant tenant farmers in Ekiti State constitute the population for the study. A multi-stage random sampling technique was used in selecting the respondents for the study. There were sixty settlements around Ado-Ekiti. The settlements were located at the boundaries of Ado Ekiti. ut of the sixty settlements, twenty were purposively selected for the study. These are Ado-

Iworoko road; Housing-Afao road; Ijan- Ikare/ Polytechnic road; Ilawe road and Igirigiri. From each boundary, four settlements were randomly chosen and from each settlement ten respondents were randomly chosen and utilized for the study, thus making a total of 200 respondents.

A structured interview schedule was used in collecting data from the respondents. This was supported by stock taken of the infrastructures in each settlement. The Architectural survey of all the settlements was carried to document the coordinates as well as spatial features. Data collected were analyzed using frequency counts and percentages, while bar chart and pie charts were used in presenting the results.

RESULTS AND DISCUSSION

Socioeconomic characteristics

Data in Table 1 shows that 15 percent of the respondents were below the age of 30 years, 20.0 percent were within the age range of 30-40years, 35 percent fell within the age range of 41-50 years, 16.0 percent were within 50-60 years of age while 14.0 percent were above 60 years. The migrant tenant farmers in Ekiti state cut across all age groups. However, their mean age was 44.6 years. This indicates that most of them are still young and are within their productive years. About 63 percent were male gender while 37.5 percent belong to the female gender. Data on marital status shows different categories with 5.0 percent of them never married nor cohabiting, 70.0 percent currently married, 7.5 percent cohabiting, 2.5 percent separated/divorced while 15.0 percent were widowed. It could be said that most of the migrant tenant farmers were married. Also, 4.0 percent had 1-3 household members, 45 percent had 4-6 persons, 42.5 percent had between 7-9 household members while 8.5 percent had above 9 household sizes. The mean household size was 8.2. It indicates that most of the tenant farmers had large household sizes. This is far from the report of the Nigeria Demographic and Health Survey (2008) that Households in Nigeria consist of an average of 4.4 people. About 78 percent of the households were male-headed, while 23 percent were female-headed. It could be deduced that a higher percentage of the family is being headed by the male. However, a good proportion being headed by a female is worth noting. According to IFAD(1999) Development initiatives have often tried to direct resources and services to Female-headed households on the assumption that they were poorer than households headed by men (MHHs) and less able to improve their situation without special help. IFAD affirmed that poverty assessments show that the reality is more complex. Female-headed households tend to suffer more than male-headed household in getting production resources such as land and credit facilities.

Educational indicators reveal a high percentage (33.0%) with no formal education at all, 20 percent could not complete primary school, 22.5 percent completed primary school, 12.5 percent completed junior secondary school, 10 percent completed secondary school while 2.5 percent completed tertiary education. It shows that most of the respondents have a low level of education. The low educational level might affect their ability to access productive resources, necessary to improve their standards of living. More than 80 percent of them were farmers while 15 percent were traders. Apart from these two occupations, there was no other occupation engaged in by migrant tenant farmers in Ekiti state. Over eighty percent of them have been farming for over ten years. The migrant tenant farmers could be said to have a wide range of experiences, this might have positive effects on their productivity.

Table 1: Socioeconomic characteristics of the respondents

Variables	Frequency (200)	Percentages
Age (in years)		
< 30	30	15.0
31-40	40	20.0
41-50	70	35.0
51-60	32	16.0
>60	28	14.0
Sex		
Male	125	62.5
Female	75	37.5
Marital status		
Never married (and not cohabiting)	10	5.0
Currently married	140	70.0
Cohabiting	15	7.5
Separated/Divorced	05	2.5
Widowed	30	15
Household size		
1-3	08	4.0

Variables	Frequency (200)	Percentages
4-6	85	42.5
7-9	90	45.0
> 9	17	8.5
Household head		
Male-headed Household	155	77.5
Female-headed household	45	22.5
Highest level of Education		
No formal education	66	33.0
Less than primary school	40	20.0
Primary school completed	45	22.5
Junior secondary school completed	24	12.0
Senior secondary school completed	20	10.0
Tertiary education completed	05	2.5
Primary occupation		
Farming	170	85.0
Trading	30	15.0
Years of farming experiences		
<5 years	10	5.0
5-10 years	15	7.5
11-15 years	108	54.0
16-20 years	21	10.5
>20 years	46	23.0

Spatial distribution of migrant tenant farmers

Data in Table 2 shows the settlement patterns of the migrant tenant farmers. Going by the locations, their settlement patterns follow the location of Ekiti state. They settled along the boundaries and roads linking Ekiti state. These boundaries were categorized into five groups. The first category was the Ado-Iworoko road. This is located at the N07.732900, E005.226260 coordinates. Within this category, four settlements were considered. These are the Aba-Ika (N07.732900 E005.226260), Aba Olora (N07.702630, E005.261070),, Irasa (N07.698340, E005.255630) and Ilokun (N07.676650, E005.243440) 2. The Aba Ika and Ilora had 33 and 10 houses respectively. All of the buildings were built with muds and were not plastered with thatch roofs. The Irasa and Ilokun settlements consist of 90 and 52 houses respectively. The buildings were made of a mixture of mud and cementwith thatch and Zinc roofs, however, a large number of them were mud houses with thatch roofs.

The second category was the housing-Afao road. This is located at the N07.67347^0 axis. There of the settlement buildings in this axis was made of both cement and mud. These are the Igbaye (N07.673470 E005.292670), Uso 1 (N07.668330, E005.278010)and Aboro(N07.599710, E005.309300) settlements. They have 32, 28 and 25 houses respectively. Only the Aaye settlement buildings were made with muds with thatch or Zinc roofsand consist of only 16 buildings.

The third category was the Ijan/poly road. This is located at the (N07.610700, E005.257580) coordinates. Of all the settlements in this axis, Ureje had the largest inhabitants (300), more developed than all others while the buildings were both mud and cement blocks with Zinc roofs.

The fourth category was the Ilawe road, located within the N07.616200 E005.135780 coordinates. Also at this axis, Odo settlement had the largest inhabitants of 300 persons; buildings were a mixture of mud and cement blockswith thatch or Zinc roofs. All others, Aba Corner, Aba CAC and Orunro had very few inhabitants. The last category was the Igigirigiri group. This is located at the (N07.550580, E005.293900)coordinates. All the houses under this category almost have the same population and a mixture of block and mud with thatch and Zinc roofs. The table shows that the migrant tenant farmers settle at all then boundaries and roads that link Ado Ekiti with other neighbouring towns or villages. This might result in their quest for access to land for farming as well as the possibility of selling products to travelers along their axis. This is evident with the presence of un-organized market in each of the settlements. The settlement patterns might also positively affect their market access for easy mobilization of their farm products to Ado main market as well as outside the state. Also, the space occupied by the migrant tenant farmers was relatively small when compared to the urban settlements that could occupy over 50 miles radius. This will also influence their experiences and spatial interdependence. Due to the small space occupied by the tenant farmers, interpersonal communication was predominately utilized among them. It's worth noting that a good number of them possess mobile phones.

The estimated population is derived from the average household size of 8.2 persons per household revealed in Table 1. Almost all the settlements have less than500 inhabitants except Ureje, Aba Odo, and Igigigiri and Irasa settlements. It was obvious that most of the migrants were not living in luxury as floor space per capita was relatively small (2.5m2) The spatial characteristics of the settlements could be said to be mainly rural. This follows the description of Bealer *et al* (1965) as quoted by Ekong (2003) that rural referred to areas with low population density, small size; relative isolation, where one major economic activity was agricultural production, and where the people were relatively homogenous in their values, attitudes, and behavior. Rural settlements in Nigeria lack access to social and productive resources necessary to improve their standards of living. This greatly dictates the vicious cycle of poverty and the subsequent low standard living among migrant tenant farmers. According to Iwuchukwu, Agwu and Igbokwe (2008) a majority (44.0%) of the Igbomigrant farmers found among Odolu/Igalamela people of Kogi State of Nigeriawere living in thatched mud house, 22% were living in hut, 21% in mud house with zinc while 16% were living in concrete house with Zinc.

Table 2: Spatial distribution of Migrant Tenant Farmers

Categories	No of houses	Estimate population	Type of buildings	Uses of buildings	Latitude	Longitude
Ado - Iworoko						
Aba –ika	33	270	Mud with thatched roofs	Residence	N07.73290^0	E005.22626^0
Aba olora	10	82	Mud, thatch and zinc roofs	Residence	N07.70263^0	E005.26107^0
Isegere (irasa)	90	738	Mud & cement with thatch roofs	Residence	N07.69834^0	E005.25563^0
Ilokun 2	52	426	Mud & cement thatch and zinc roofs	Residence	N07.67665^0	E005.24344^0
Housing – Afao Road						
Igbaye	32	262	Mud & cement thatch and zinc roofs	Residence	N07.67347^0	E005.29267^0
Aaaye	16	131	Mud & cement thatch and zinc roofs	Residence	N07.67900^0	E005.29243^0
Uso 1	28	229	Mud &cement	Residence	N07.59971^0	E005.30930^0
Aboro	25	205	Mud &cement	Residence	N07.66833^0	E005.27801^0
Ijan Poly Road						
Ureje	300	2460	Mud & cement with Zinc roofs	Residence	N07.61070^0	E005.25758^0
Aba mango	5	41	Mud and thatched roofs	Residence	N07.61117^0	E005.26329^0
Igimakango	150	1200	Mud & cement with thatch and Zinc roofs	Residence	N07.61117^0	E005.26329^0
Aba oyinbo	12	98	Mud	Residence	N07.61100^0	E005.26107^0
Aba emirin	21	172	Mud & cement with thatch and Zinc roofs	Residence	N07.61777^0	E005.27629^0
Ilawe Road						
Odo	300	2460	Mud & cement with thatch and Zinc roofs	Residence	N07.61620^0	E005.13578^0
Aba corner	7	57	Mud with thatch roofs	Residence	N07.59972^0	E005.30928^0
Iyin Road						
Odo uro / odoro	6	49	Mud and thatch roofs	Residence	N07.67372^0	E005.19411^0

Igirigiri						
Ideje / aba gara	35	287	Mud & cement with thatch and Zinc roofs	Residence	N07.55058^0	E005.29390^0
Igirigiri camp	70	574	Mud & cement with thatch and Zinc roofs	Residence	N07.55433^0	E005.26155^0
Ikomute	20	229	Mud & cement with thatch and Zinc roofs	Residence	N07.56343^0	E005.25869^0
Jimokogun	35	287	Mud & cement with thatch and Zinc roofs	Residence	N07. 58000^0	E005.26851^0

Distribution of infrastructures within the settlements

Data in Figure 1 shows the distribution of infrastructures within the settlements. Half (50%) of the settlements had primary schools, five percent had secondary schools, 10 percent had health centres, churches and filling stations respectively, 40 percent had markets while 20 percent had mosques and .pipe borne water respectively, while 15 percent had electricity

It could be said most of the settlements of the migrant tenant farmers in Ekiti state are deficient of infrastructures that could improve their standard of living. This will also affect the growth and development of their children.

Primary school was the most prominent infrastructure in the settlements. Though 40 percent indicated that they have markets, none of the markets are organized. A few of them have locked up shops, while others took place under sheds and trees. The settlements with pipe borne waters are those that benefitted from the governmental and none governmental water projects.

Lack of/ inadequate infrastructural facilities in the settlement of migrant tenant farmers might have a negative effect upon them as well as the farm family. For instance lack of electricity might prevent the farmers from access to timely information that could transform their farm productivity. This increases the poverty level of the rural populace. Inadequate / lack of access to pipe borne water could predispose farmers and their family members to water-borne diseases. Lack of/ inadequate secondary schools might result in tracking long distances by children to nearby schools for education. This might also discourage them from attending schools. The few churches and mosques in the area might be influenced by the religious inclination of the people in the settlement.

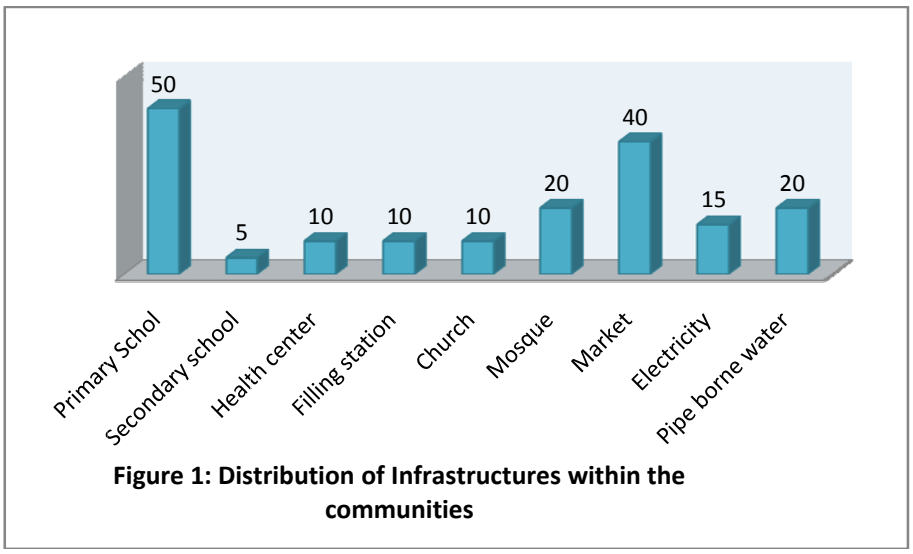

Figure 1: Distribution of Infrastructures within the communities

Livelihood activities of migrant tenant farmers

Data in Figure 2 shows that 70 percent of the migrant tenant farmers were involved in yam production, 45 percent engaged in processing palm oil, 35 percent plant vegetables, 60 percent produced cassava, 45per cent engaged in *gaari* processing, 20 percent supplied farm labour while 20 percent were traders. It could be said that the livelihood activities of the migrant tenant farmers revolve round farming. This is in line with the

assertion of Ekong (2003) that most of the rural-rural migrants are farmers, farm workers, sharecroppers in cocoa, rubber, palm oil/ palm wine while self-employed migrant work as food farmers. Also,Afolabi (2007) stated that the important food crops produced by individual households of migration farmers in Nigeria include yam millet rice and maize while the cash crops produced include cocoa, oil palm and rubber. Yam and cassava were mostly produced by the migrant tenant farmers. This is in line with the findings of Iwuchukwu, Agwu and. Igbokwe (2008) who affirmed that migrant farmers produce mainly root crops as their major crops. According to Olaniyan, Manyony, and Oyewole(2001), root and tuber crops are among the most important group of staple foods and are the largest source of calorie for the Nigerian population. More so, the cultural food of Ekiti state is pounded yam, hence the prominence of yam cultivation might be informed by the need to meet the cultural needs and market demands of their host state.

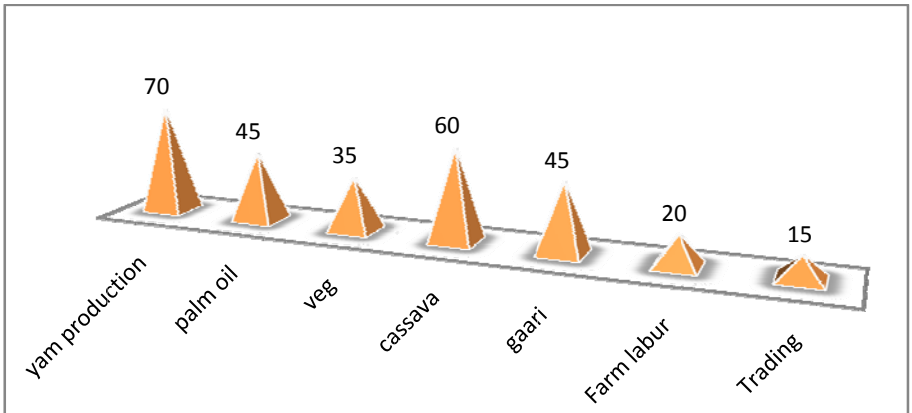

Figure 2: Livelihood activities of migrant tenant farmers

The needs of the migrant tenant farmers

The needs of the migrant tenant farmers was investigated and rated on a 3-point Likert scale of Very important, Important and Not important and was rated as 3, 2 and 1 respectively. An mean greater than 2 is considered an important need. Going by the mean, it could be affirmed that all the variables are very important to the respondents. However, while ranking the needs, health facilities was ranked first, access to credit facilities occupied the second position, followed by educational facilities. Access to improved varieties of crops, fertiliser, pesticides occupied the fourth position while the need of pipe borne water ranked fifth. At the sixth and seventh positions were the need for electricity supply and access roads.

It could be affirmed that the most important need of the migrant tenant farmers is health facilities. This is necessary because health is wealth. A health person is a wealthy one. Without good health, it would be impossible to carry out their farming activities. Access to credit facilities is germane for enhanced farm size and productivity. Credit facilities according to Akinnagbe and Uchechukwu (2014) are important for improvement of quality and quantity of farm products to increase farmer's income. Also, Apata, Samuel and Adeola (2009) affirmed that credit facilities have a strong positive influence on adaptation to climate change by farmers. The need for educational facilities which ranked third might result from their quest for the education of their children. Dudafai (2013) stressed the need of education for farmers to assist them in keeping farm records. He stressed that most farmers in Nigeria do not keep farm records due to their low literacy level. Yusuf Maigida Abdulrahman (2016) stressed the manifestation of the social responsibility of the government in providing nomadic education for the Nigerian nomads to meet their needs. Such responsibility should be extended to the other migrant farmers that are not nomads

Investigate the needs of the migrant tenant farmers

Variable	Very important	Important	Not important	Total	Mean	
Access to improved varieties of crops,	360	160	1	520	2.6	4th

fertiliser, pesticides						
Electricity supply	300	176	12	488	2.44	6th
pipe borne water	360	120	20	500	2.5	5th
Health facilities	570	20	0	590	2.95	1st
access to credit facilities	450	100	0	550	2.75	2nd
Roads	240	200	20	460	2.3	7th
Educational facilities	420	120	0	540	2.7	3rd

SUMMARY, CONCLUSION AND RECOMMENDATIONS

The study was carried out to investigate the spatial distribution and Livelihood Strategies of Migrant Tenant Farmers in Ekiti State, Nigeria. A total of two hundred migrant tenant farmers were randomly selected from twenty out of sixty locations where the migrant tenant farmers were located in Ado- Ekiti. Thestudy evolves the use of interview schedule, supported by stock taken of the infrastructures in each settlement. The Architectural survey of all the settlements was carried to document the coordinates as well as spatial features. Data collected were analyzed using frequency counts and percentages, while bar chart and pie charts were used in presenting the results.The findings shows that most of the migrant tenant farmers were still young and very active, mostly married with a mean household size of 8.2 members. They have low educational background, and derived their livelihood from farming activities. Most of them have been farming for over ten years.

The spatial distribution shows that they are located along the major roads leading to the capital city of Ekiti state, with unorganized markets at each settlement. They occupy very small spaces, with houses made up mostly of muds with a few combined with cement. Also the amenities available in each settlement depict a complete rural settlement. They produce mostly yam, cassava and vegetables and supplied labour to most farms in their environment. Despite their location and involvement in food production, they lack access to productive resources and health facilities that could improve their livelihood.

CONCLUSION

The study concludes that there are many migrant tenant farmers in Ekiti state, settled mostly in the suburbs of the capital city. The spatial characteristics depict pure rural societies, lacking access to amenities that could improve their livelihoods. Their needs include health facilities, access to credit facilities, educational facilities and improved varieties of crops, fertiliser, pesticides.

RECOMMENDATION

The study recommends that the intervention of both government and non-governmental Organizations as well as the private individual interventions in providing basic amenities that could improve the livelihoods of the migrant tenant farmers. Efforts should be made t educate the migrant tenant farmers on family planning to control the household sizes of the younger generation and reduce poverty in the communities.

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ASPECTS OF BLACKSMITHING TRADITION IN KATSINA STATE, NIGERIA

Abah, M. J.

ABSTRACT

This study examined blacksmithing tradition as a means of rural livelihood in parts of Katsina State in Northern Nigeria. Five (5) communities from five (5) local governments were studied. Five (5) blacksmiths (one from each community) were selected using snowball technique. Oral interview using checklist was used in collecting relevant information for this study. Result showed that blacksmiths were all males with fifty (50) years average age; average of 11 members family sizes, and a combination of blacksmithing and farming as major occupation (90%). The smithing process follows the traditional method of material procurement, melting and shaping/forming of implements. The major implements produced are generally used for farming, food processing, hunting, artistic and construction works. Blacksmithing is sustainable and has been a means of livelihood to smithers and traders in iron implements as well as an improvement in other economic activities including farming and wood carving. Two major challenging factors that can lead to the extinction of blacksmithing in the study area were identified to be apathy of younger generations in the practice and the emergence of modern iron implements. It was concluded that blacksmithing is an important means of livelihood and a boost to rural economy. It was therefore recommended that the youth should be encouraged onto the practice in order to ensure continuity in the area.

Keywords: Blacksmithing, iron smelting, rural livelihood, rural economy.

INTRODUCTION

Blacksmithing can be described as the art of fashioning iron implements from metal. Virtually every society across the globe has developed the making and using of iron implements for one purpose or the other. “Most people in Africa moved directly from making and using stone and bone tools to making and using iron ones” (Connah, 2004, pp.51-56). The knowledge of blacksmithing was developed as advancement and a complementary part of iron smelting. Iron smelting is a form of extractive metallurgy undertaken to produce a base metal from its ore (Ross, 2002). Smelters often produce wrought or bloom (Spongy iron) which is usually shaped into usable tools and weapons by blacksmiths. “Without the blacksmith, parts for the advancement of technology would never have been created” (Blacksmithing History, 1.”1978).

Iron working (Iron smelting and forging technologies) began with the Iron Age, when primitive man first began making tools from iron (Blacksmithing History, 1”.1998). The origin of iron working is strongly debated among scholars. Earlier result traced the origin of iron working to the present Syria in the 1500B.C. (Blacksmithing History, 1”.1978) and a more recent result showed that it has been in existence in West Africa among the Nok culture of Nigeria as early as the sixth Century B.C. (Ross, 2002). Nevertheless, iron working existed and still exist among people in rural communities such as the Mande people of Guinea and Mali, the people of Dahomey (Present Benin Republic), Hausa and Yoruba peoples of Nigeria Amongst others (Ross, 2007)(Abubakar, 2008) and (Odofin and Mangut, 2008).

Despite the debate on the origin of iron working, the introduction of iron is of great significance in the socio-economic lives of people in rural communities as it provides a more efficient, cheaper and durable tools and weapons for Agricultural and non-agricultural activities. Ross (2002) noted that, in the period from 1400 to 1600, iron technology appeared to have been one of the series of fundamental social assets that facilitated the growth of significant centralized kingdoms in the Western Sudan and along the Guinea coast of West Africa. The fabrication of iron tools and weapons allowed for extensive and systematized agriculture, efficient hunting and successful warfare necessary to sustain large urban centers. Iron is fundamental to the rise of several important kingdoms and a means of identity to many societies such as the Yoruba kingdoms in Nigeria (Ross, 2002). Blacksmiths played very important diverse roles in rural communities as they were not only local tool makers and “engineers”, they were sometimes called upon to act as Dentists, Doctors, Undertakers, Veterinary surgeons and Horse dealers (Blacksmithing History 1”1978).

The art of blacksmithing is therefore an important means of rural livelihood and a tool that facilitates improvement in the rural economy of a society. Rural livelihood can be defined as “The capabilities, assets, and activities that rural people require for a means of living”. (Oxford dictionary, 2017). Rural economy can be seen as the management or condition of the economic affairs of a rural region including farm and non-farm industry (Oxford dictionary, 2017).

As important as iron working is to local communities and the nation at large, it is confronted by several challenges. Such challenges include slow adaptation due to its lucrative and tediousness of operation as well as weak cultural conservatism in the face of modernity. Such is the case of iron working in Katsina state of Northern Nigeria.

Grassroots Development and Dividends of Democracy through Blacksmithing in Katsina

There is need for the government of Nigeria to transform blacksmithing in Katsina State

so as to affect positively,the lives of the agricultural and rural dwellers of the area. This will give them a sense of belonging and a voice to speak for their country. It will also make the people proactive in matters of nation building. "Democratic governments and legitimate systems all over the world concerns, center around providing welfare and basic necessities that will make life easier and prepare its citizens for the challenges of nation building" (Chaji, 2016 pp 5-17).

Democracy is about people and development; its dividend should be pioneering meaningful/significant changes that may bring about positive change in the lives of rural people. The foundation of any sustainable development of an area is usually laid upon the local knowledge of the people and the material resources available in such area. Providing vocational activities for a tangible part of the rural populace in Katsina will not only increase production for local consumption but large scale production for export. Diversified and productive rural livelihood activities including blacksmithing can help alleviate rural poverty. After all, one dividend of democracy is poverty alleviation and rural poverty alleviation programme is one that identifies rural problem and then target solution towards such problems.

Objectives of the study

The specific objectives of this study were to:

i. describe the socio-economic characteristics of the blacksmiths
ii. assess the production/smithing process of iron implements;
iii. identify the major implements produced and their uses; and
iv. identify the perceived challenges of blacksmithing in the study area.

METHODOLOGY

This was a qualitative research conducted with the use of oral interview and observation as methods in data collection. Five local governments were conveniently selected based on proximity and easy access.Five communities (one from each local government) were also selected based on the availability of existing blacksmiths in those areas. The respondents comprised five blacksmiths were purposively selected based on their long term experience in blacksmithing. They were one each, from the five communities of Karfi (Malunfashi L. G. A), Yaribori(Kafur L. G. A.), Rimaye (Kankia L. G. A.), Wurmer (Kurfi L. G. A.) and Radda (Charanchi L. G. A.) respectively, all in Katsina State. They were interviewed at different times in their respective workshops.

Katsina is located about 260 kilometers (160 miles) east of the city of Sokoto and 135 kilometers (84 miles) north-west of Kano, close to the border with Niger. Katsina is located between latitude 12.99 and longitude 7.60 at 519 meters above sea level. Average temperature range is between 30.8 degree centigrade in April and 21.2 degree centigrade in January. Katsina province lies in the densely populated sudan zone of Nigeria. The current population of Katsina using the annual growth rate of 2.5% of the 2006 census (5792578) is 7385536. The state is composed of undulating plain which generally rise gently from 360mrters in the north-west around Daura to 600 meters around Funtua in the south-west.

Map of Nigeria showing Katsina State

RESULTS AND DISCUSSION

Socioeconomic characteristics of the blacksmiths

Result revealed the socio-economic characteristics of the respondents as followed:

Sex - they were all males

Age - they aged 50 and above

Educational qualification - they had no formal education

Major occupation - farming took 80% of their activities especially in raining season

Association - nil

Family size - average of 11 members (range of 10-13)

Source of information - co-blacksmiths, traders and consumers of iron implements

Work experience- they have been in the art since they became of age. Blacksmithing in Katsina is an age-long hereditary technology; a tradition being passed on from one generation to another.

This information shows that there is gender bias in blacksmithing in Katsina and those involved in the art were elderly. This means that younger generations probably do not have interest in the art. This implies that the art may go into extinction if proper action is not taken to ensure its continuity. Also, the lack of former education on the parts of blacksmiths could be the reason for their inability to mobilize themselves in order to seek for government support to improve blacksmithing in the area. Furthermore, blacksmithing was discovered to be a vocational livelihood activity in Katsina as farming took the highest percentage as their major occupation in the area. The art of blacksmithing is however helpful and sustainable since it assists the blacksmiths in maintaining large family sizes.

The origin of blacksmithing in Katsina

Blacksmithing in Katsina is an age-long hereditary technology; a tradition being passed on from one generation to another. The raw material used in the manufacture of iron implements is exclusively metals which come as scraps as the people no longer extract iron directly from ore in the area; the initial iron workers in the area extracted iron directly from ore in the past.

The production/smithing process of iron implements

The production process of an iron implement called Gizago (Small hoe) takes the following steps:

1. The intended size of the implement is marked out on a metal scrap.
2. The scrap is then heated in the fire ember for about 5 minute.
3. The measured part is then detached from the unwanted part.
4. The detached part is then heated continually, placed on the anvil and shaped.

Hafting process of implements with handle includes:

1. A suitable handle is selected depending on the kind of tool, a pick is then placed in the furnace to be heated for some minutes (5-10min) after which it is lifted and immediately used to perforate the handle.
2. The sharp end of the iron implement is then hafted systematically through the hole created on the handle. In some cases it is the iron object itself that is perforated and then the handle is fixed onto the object.

This process indicates that the people of this area are knowledgeable in the production of iron implements in their local setting. It means that an effort to improve this activity in the area will be successful and the Gross Domestic Product of Nigeria will also be improved.

The production process of a small hoe-like implement known as Gizago was observed as follows:

The intended shape and size of the implement is marked out on a scrap

The scrap is then heated in the fire ember

The implement is detached out of a scrap

The implement is then shaped

A suitable wooden handle being marked out

Trimming of the handle

Further shaping of the implement

Sharpening the flat edge

The implement is being hafted onto a wooden handle

The implement is being hafted onto a wooden handle

Side view of the end product [A Small hoe (Gizago)]

Front view of the end product

Major implements produced and their uses

Some end products of the blacksmith include:

- Hoes (*Garma* in Hausa) - For making ridges. Other varieties of the hoe include:
  (i) *Patenya* in Hausa (small & thin hoe) - for weeding.
  (ii) *Gizago* (small but thicker hoe) – mainly used for carving and chopping.
- Axes (*Gatere* in Hausa) - mainly used for splitting and chopping.
- Cutlasses (*Ada* in Hausa) - mainly used for clearing and butchering
- Rakes - Also for clearing
- Sickles – mainly used for harvesting rice.
- Arrows and spear heads - for hunting mainly.
- Knives – mainly used for food preparation.
- Diggers - for digging and chopping
- Shovels – used in packing sand and other related materials.

These objects are used in activities such as farming (planting and harvesting of agricultural produce especially rice), hunting/butchering of animals, construction works amongst others.

This indicates that blacksmithing in the area has diverse importance as its products are a boost to other livelihood activities. Iron implements have helped in boosting agricultural activities, architecture, artistic works and other activities that the people engage in as they tame the environment for their survival. Though there is an advanced way of doing some of these activities such as mechanized farming, but majority of the population cannot afford it; the local farm implements e relatively cheaper than the modern ones. The by-product of blacksmithing is also used in the treatment of ailments such as snake bite. The blacksmiths also perform the job of dentists in the area. The price of the implements ranges from as low as ₦200 to as high as ₦2500 depending on the type, size and quality.

Iron implements in Katsina

Iron implements in Katsina

Perceived effects of modernity on blacksmithing in katsina

Modernism has brought about, apathy of younger generations in the craft of blacksmithing in Katsina State. Modernity came along with vocations such as battery charging, volcanising, hair cutting, construction works (architecture) amongst others and has provided most youths with some daily paid revenue in the area. This has in turn led to the loss of interest in local blacksmithing on the part of the youths. This may eventually bring an end to the art of blacksmithing in the area. On the other hand, the tediousness of blacksmithing compared with the modern vocations is a factor that discourages the youths a great deal.

Modernity also led to the emergence of foreign iron implements in the area. This brought about; low patronage of local iron products by users and as such, discourages even the elderly ones in the local industry (blacksmithing).

Despite the problems posed on blacksmithing tradition by the advent of modernity in Katsina, it has however provided the basic raw material in form of iron scraps in blacksmithing in the area.

Major challenges of Blacksmiths in Katsina

- Lack of fund
- Need to improve production process of iron implements
- Lack of apprentice
- Low patronage

CONCLUSION

Iron working has a long history in the rural life of the people in Katsina. Blacksmiths in the study area specialize majorly in the production of simple farming and construction tools and weapons using local methods of manufacture. Iron implements have been used extensively as tools in farming and non-farming activities within and outside Katsina metropolis. The art of blacksmithing offered a great support to sustainable livelihood as well as socio-economic and political sustainability in the study area. This self-help capacity of the rural people is however being stocked due to the vagaries of modernism.

RECOMMENDATIONS

Mechanised method of forming iron implements should be introduced to the people in the area by development agents. The provision of machines that can give oxygen to the fire ember will save the blacksmiths the stress of bellowing manually. Also, a machine can replace the manual form of beating/shaping iron objects. This will encourage younger generations to develop interest in the art of blacksmithing in the area. This is important as modern jobs and the act of idleness are less sustainable and destructive to the individual in particular and the society as a whole. Famers and non-farmers who use iron implements should also cultivate the habit of using local farm tools as those tools are more efficient and will leading to increased productivity which will in turn bring about improvement in their livelihood and their rural economy. Increasing use of modern (not necessarily advanced) tools will increase cost and to a large extent, lead to less efficiency in production and less improvement in the livelihoods of the rural producers.

The art of blacksmithing should be strengthened by the agricultural and rural development agency through their programmes so that existing and potential blacksmiths in the study area will be encouraged and become more active partners in the development process in the area.

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ASSESSMENT OF FOOD SECURITY AMONG FARM HOUSEHOLDS IN AGRARIAN COMMUNITIES OF OLUYOLE AREA OYO STATE

Aromolaran, A. K., Alarima, I. C., Dare – Akerele, O., Soetan, J., and Alao, O. A.

ABSTRACT

This study assessed food security status among farm households in Oluyole, area of Oyo state. Multi-stage sampling technique was used to select 120 farmers. Data were collected with the aid of interview guide and analyzed using frequency counts, percentages, mean and Logistic regression analysis. The result revealed that 60.8% of the farmers were male, 33.3% had secondary school education and their mean age was 51 years with mean household size of 6 persons. Findings revealed that 86.7% of the households were food insecure while only 13.3% were food secure. The factors responsible for food insecurity in the households were unavailability of locally produced food (mean=2.77), changes in price of food items (mean=2.22) and household income (mean=2.56). Result of hypothesis testing revealed that there is significant relationship between sex (B=-1.765, $p<0.05$), years of farming (B=-0.121, $p<0.05$), household income (B=0.012, $p<0.05$) and food security in the rural households. Based on the findings, it was therefore concluded that most of the farming households were food insecure and their socio-economic status were strongly related to their food security status. It is recommended that agricultural agencies and other key actors in democracy should provide enabling environment, supporting policies and resources for adequate food production, food supply at affordable prices among farm households at the grassroots to achieve improved socio-economic status and food security.

Keywords: Food insecurity, Farm households, Food availability and Accessibility

INTRODUCTION

Democracy as a system of government is now becoming noticeable in Africa. Nigeria is one of the countries that practices democratic system. (Madu *et al*, 2015). In an ideal democratic system, it is expected that government would be responsive to the yearnings and aspirations of the masses which in most cases are the needs that have to do with the living conditions and welfare of the citizenry. In order for the masses to benefit from the dividends of democracy, the government at all levels must work with other stakeholders to bring about grassroots development and transportation. If the democracy will be meaningful at the rural level where many of the masses live,considerable attention must be given to bringing development to such areas. This is affirmed by Otaki (2005)who stated that about seventy per cent (70%) of the population of Nigeria and other developing countries live in rural areas.One of the global problem that is locally affecting the grassroots in the rural areas and agrarian communities of Nigeria is the problem of food insecurity that emanate from the peoples' poverty status. Grassroots development and rural transformation will go a long way to enhance livelihoods of the people thereby improving their living conditions. Better living conditions, improved welfare, good infrastructure and amenities, as well as poverty eradications are the dividends of democracy promised by most government but it is important that the rural citizenry overcome food insecurity, if they will have to stay out of poverty.

Food security remains one of the global developmental challenges (Frimpong *et al* 2013). The problems of hunger and food insecurity have global dimensions and are likely to persist and even increase dramatically in some regions, unless urgent, determined and concerted action is taken, given the anticipated increase in the world's population and the stress on natural resources (FAO 1996). Food security is a condition in which all people at all times, have physical, social and economic access to sufficient, safe and nutritious food which meets their dietary needs and food preferences for an active and healthy life(FAO, 2007). According to Oni *et al*(2011) food security is the availability of food throughout the year to sustain household protein, energy and other nutritional requirement. Hart (2009) pointed out that most definition of food security include the phrase "at all times" and as such does not distinguish between different durations and intensities of food insecurity.A household is considered food secured when it has access to be food needed for a healthy life for all its members (adequate in terms of quality and culturally acceptable) and when it is not at risk of losing such success (Alaja *et al* 2011).The world's population can be divided into three groups considering food security status the first and the largest group comprises of those who are sure of having enough to eat to enable them to live an active and healthy life are said to be food secure, the second group comprises those who are vulnerable to changing economic conditions and thus may not always have enough to eat; their food security is at risk, in the third group are the absolutely poor, those who frequently consume less than the amount needed for healthy living; they are said to be food deficient (Joachin, 1991).

However, Nigeria attained self- sufficient in food production and a net explorer of food to other regions of the continent in the 1950s and 1960s. The fall in food production has resulted to increase in food importation to clear the excess demand over supply of food in the country. Stamoulis *et al* (2004) opines that the persistence

of hunger in the developing world means that ensuring adequate and nutritious food for the population will remain the principal challenge facing policy makers in many developing countries in the years to come. World Bank (2012) estimates the population of Nigerian to above 160 million people, the largest in Africa almost accounting for 47% of West Africa's total population. As the population increases, the country's demand for food increases, while the ability to produce food diminishes because pressures from the growing population in form of desertification, climate change and erosion are also impacting on the already diminishing resources and further threatening food production. The problem of food insecurity especially during the hungry period among rural households in Nigeria is long standing (Obamiro *et al*., 2005). The level of food insecurity has continued to rise steadily since the 1980s. It rose from about 18% in 1986 to about 41% in 2004. The national per capital growth in the production of major food items in Nigeria has not been sufficient to satisfy the demand for an increasing population, several reports shows a consistent increase in the production of staple food in the country especially between 1999 and 2005, but there is still an observable gap between food demand and food supply (Sanusi *et al*., 2006).

Despite all the various agricultural programme and project set up by the government in the country in order to reduce the rate at which food insecurity grow in the country, many of the populace are still not food secured. The programs such as Agricultural Development Project (ADP); Operation Feed the Nation(OFN); Green Revolution (GR) in the 70s; Directorate of Food, Road and Rural Infrastructure,(DFRRI) in the 80s; National Agriculture Land Development Authority,(NALDA) in 90s, and a lot of them in the millennium which include National Fadama Development Project,(NFDP); Nigeria Agricultural Cooperative and Rural Development Bank,(NACRDB); National Agricultural Development Fund (NADF); National Special Programme on Food Security(NSPFS); Commodity Marketing and Development Companies(CMDC), Presidential Initiatives on selected crops, 7 Points Agenda with emphasis on Food Security had contributed to food supply and availability in the nation. Still, thereare so many people in Nigeria living in hunger. According to FAO (2011) households' food insecurity, under nutrition and micro nutrient deficiencies are found throughout Nigeria. Azubike(2012) also reported that over 53 million people in Nigeria are hungry, which is about 30 percent of the country's total population. The food security situation in Nigeria and the environs is drastically deteriorating, the scope of the crisis is deepening and 7.1 million people are now severely food insecure across four countries: Cameroon, Chad, Niger and Nigeria. (FAO, February 2017).

Based on the aforementioned, it is imperative to assess the food security situation in most agrarian communities. In order to determine the situation in the study area, the study specifically determine and characterize the food security status, assess factors responsible for food insecurity and describe the socio-economic characteristics of the respondents. This study hypothesized that there is no significant relationship between socio-economic characteristics and the food security status of the respondents.

METHODOLOGY

Study Area

This study was carried out in Oluyole area of Oyo State in the southwestern geopolitical zone of Nigeria, It has an area of 629 km² and a population of 202,725 (NPC, 2007). It shares boundaries with Ibadan South West, Ibadan South East, Ona Ara Local Government and Ido Local Government Area. The area has dry and wet seasons with relatively high humidity. The vegetation pattern is rainforest. The agricultural land in the area is used by the people for farming activities, Onigambari forest reserve is located in the area and it is also a source of livelihoods for the rural people in the agrarian communities in the study area.

Sampling procedure and data collection

A multistage sampling technique was used to select 120 respondents for the study. The selection procedure was as follows: random selection of one zone out of the four zones in Oyo State Agricultural Development Program, random selection of three blocks in the selected zone. Simple random sampling was used to select two agricultural cells to make six cells while two rural communities were selected from the cells to make twelve rural communities. Simple random sampling was used to choose ten farmers from the selected rural communities to give a total of 120 farming households.

Measurement of variables

The factors responsible for food insecurity in the households was measured at ordinal level on 3 point rating scale formant of major factors (3), minor factors (2), not a factors (1). The household food security status was measured using the USDA approach for the analysis of farm household food security at ordinal level on three point rating scale formant of often true, sometimes true and never true. For these questions both often true and sometimes true are considered as affirmative responses because they indicate that the condition occurred at some time during the year and are coded as 1 while never true as 0. The maximum obtainable score was 16 while the minimum

obtainable score was 0. The maximum and minimum obtainable score were added together to a resultant score. The resultant score was divided by 2 to get an average score of 8. Any households that has a score below the average score was categorized as household of food security and any households that has a score from the average score and above was categorized as household of food insecurity.

Data analysis

Data was analyzed using descriptive statistics such as frequency counts, percentages, mean and Binary Logistic regression to test the hypothesis.

The Binary Logistic regression model

Prob (Y=1/X) = ln(Pi/1- Pi)= $\beta_o + \beta_1X_1 + \beta_2X_2 + \beta_3X_3 + \beta_4X_4 + \beta_5X_5 + \beta_6X_6 + \beta_7X_7 + \beta_8X_8 + \beta_9X_9$

Pi = Probability that farming households is food secure

Y = 1 if household is food secure, 0 if household food insecure

β_o = constant

X1=sex (male=1, female=0)

X2=marital status (single=1, married=0)

X3= religion (Islam=1, Christianity=0)

X4=age (measured at interval level as actual year of the respondents)

X5=estimated monthly income (measured at interval level as estimated monthly income of the respondents)

X6=household size (measured at interval level as the number of persons living together in an household)

X7=farm size (measured at interval level in acres)

X8= educational status (No formal education=1, Primary education=0, Secondary education=0, Tertiary education=0)

X9=years of farming

RESULTS AND DISCUSSION

Socioeconomic characteristic of respondents

Entries in Table 1 show socio-economic characteristics of the respondents. The result revealed that60 percent of the respondents were male. According to Ziervogel *et al* (2006) men have easier access to farmland through paternal inheritance than women in Nigeria. Based on this, male headed households are expected to have more access to farmland for food production. The respondents mean age was 51 years, while their average household size was 5 persons. Household size is an important factor in farming household because the larger the size, the more likely they could supply labour needed for agricultural activities. Findings also revealed that 33.3% of the respondents had secondary education. Education is belief toenhance knowledge and comprehension of new farm technologies, practices and systems which in turns improve households' food security status. This agrees with according Babatunde *et. al*(2007) who posited that education is a social capital, which could impact positively on a household's ability to take good and well–informed production and nutritional decision. Furthermore, result revealed that the average farm size of the respondents was 2.41 acres, which indicates that households were subsistence farmers. Akinsanmi and Doppler (2005) posited that the size of farmland that a household cultivates directly affects their production and hence food security. Most (92.5 %) of the respondents earn less than fifty thousand naira which depict that are low earner and it require money to be able to afford sufficient food for the households.This agrees with Olagunju *et al*.,(2012) who posited that a low-income household is more likely to suffer food shortages than a high income household. The amount of money available for the households will determine the quantity of items especially food they can buy because that depends on the household purchasing power. This can also affect their livelihoods which is agriculture most of the times, in that the more money available, the better inputs that could be purchase for their farming activities.

Table 1: Distribution of socio-economic characteristics of the respondents (n=120)

Variables	Frequency	Percentage	Mean	SD
Sex				
Male	73	60.8		
Female	47	39.2		
Marital status				
Single	76	63.0		
Married	44	37.0		
Religion				
Islam	61	50.8		
Christianity	59	49.2		
Age (Years)				
<30	16	13.3		
30-39	9	7.5		
40-49	26	21.7	51	14.662
50-59	31	25.8		

Variables	Frequency	Percentage	Mean	SD
60-69	23	19.2		
70-above	15	12.5		
Estimated monthly income (naira)				
<50,000	111	92.5		
51,000-100,000	8	6.7	29,888	18449.651
>100,000	1	0.8		
Household size (persons)				
1-5	63	52.5		
6-10	55	45.8	5	2.393
11-above	2	1.7		
Farm size (acres)				
<1	1	0.8		
1-4	101	84.2	2	0.987
>4	18	15		
Level of Educational				
No formal education	22	18.3		
Primary education	31	25.8		
Secondary education	40	33.3		
Tertiary education	27	22.5		
Years of farming				
<20	69	57.5		
21-40	33	27.5	18	12.358
>40	10	15.0		

Source, Field Survey (2016)

Table 2 shows that 87.5% of the respondents retorted affirmatively that they eat less than they should,82.5 percent said that they were ever hungry and did not have anything to eat, while the same percentage of the respondents were worry that food stock will run out beforethey get another to eat. This is an indication that food supply and availability within thefarming households is a major concern in the study area, and it could affect their food security status. Also, the respondents affirmed that they experienced inadequate food supply in their household (79.2%), adult in the household skip meals or cut the size of their usual meals (76.7%), and they lose weight because there was not enough food to eat (73.3%). This agrees with Abur (2014) who posited that many households were facing food insecurity and skip meals to ensure the availability of another days maintenance ration. The USDA approach used for this study in analysis food security also verify the status of the children, the findings shows that about 60 percent of the children in the farming households also skip meals and reduces their food size because the available food to eat are not enough, and the money is not sufficient to purchase food for them.This concur with Coleman-Jensen etal.(2016) that reports that according to US Department of Agriculture (USDA) a food-insecure household is one in which access to adequate food is limited by a lack of money or other resources.The findingsfurther show that percentage of the children within the householdsthat did not eat for the whole day was 35% which is quite alarming and call for attention. This can translate to food insecurity within the household and even has consequences on the children. Gitterman *etal*.(2015) opined that Households with children are nearly twice as likely to be food insecure as households without children, children who live in households that are food insecure, even at the lowest levels, are likely to be sick more often, recover from illness more slowly, and be hospitalized more frequently.

Table 2: Distribution of food security status of the respondents (n=120)

Variables	Often true Affirmative F (%)	Sometimes true	Never true Negative F (%)	Mean
I eat less than 1 should		105 (87.5)	15 (12.5)	0.88
I have enough resource to acquire enough food		102 (85.0)	18 (15.0)	0.85
I worry that food stock will run out before I get another to eat		99 (82.5)	21 (17.5)	0.83
I was hungry but did not eat		99 (82.5)	21 (17.5)	0.83
I can afford to feed my children balanced meals		97 (80.8)	23 (19.2)	0.81

Variables	Often true Affirmative F (%)	Sometimes true	Never true Negative F (%)	Mean
I often experienced inadequate food supply in my household		95 (79.2)	25 (20.8)	0.79
Adult in my household skip meals or cut the size of their usual meals		92 (76.7)	28 (23.3)	0.77
I lose weight because there was not enough food to eat		88 (73.3)	32 (26.7)	0.73
I supplement my children's feed with low cost foods		82 (68.3)	38 (31.7)	0.68
I or other adult in my household ever not eat for a whole day because there was not enough money for food		78 (65.0)	42 (35.0)	0.65
My children are not eating enough food because I couldn't afford enough food		77 (64.2)	43 (35.8)	0.64
I cut the size of any of my children's meal because there was not enough money for food		71 (59.2)	49 (40.8)	0.59
The children skip meals because there was not enough food to eat		69 (57.5)	51 (42.5)	0.58
Children were ever hungry but you just could not afford more food		59 (49.2)	61 (50.8)	0.49
I can afford to eat balanced meal		56(46.3)	65(53.7)	0.46
The children ever not eat for a whole day		42 (35.0)	78 (65.0)	0.35

Source: Field survey (2016)

Categorisation of food security status of the respondents (n=120)

Entries in Table 3 show the food security status of the respondents. The results revealed that 86.7percent of the faming households in the study area were food insecure while only 13.3% of them were food secure. This implies that there is high prevalent of food insecurity in the agrarian communities. Food is an important element in reducing poverty, and household that cannot provide adequate food to meet the nutritional requirement of their household cannot be food secured. FAO (2010) reported that households are food insecure when, members of the households, at all times, lack physical, social and economic access to sufficient, safe and nutritious food to meet their dietary needs and food preferences for an active and healthy life. The prevalence of food insecure household in the study area could indicate the poverty status of the household and that could affect their standard of living which will eventually have impact in their livelihoods as well as welfare of the household. Food insecurity as a form of deprivation has been shown to affect many dimensions of well-being. Children from food insecure households are more likely to have poor growth attainment, recurrent infections, inadequate energy and nutrient intakes, compromised learning ability and psychosocial problems (Alaimo *et al.*, 2002; Kaiser *et al*., 2002; Oh and Hong, 2003; and Reid, 2000).

Table 3: Distribution of categorization of food security status of the respondents

Variables	Score range	Frequency %
Food insecure	8-16	104 86.7
Food secure	0-7	16 13.3

Source: Field survey (2016)

Factors responsible for food insecurity

In order to determine factors that could be responsible for food insecurity, these factors are grouped into four which include food availability, sustainability, accessibility and utilization. Under the aspect of food availability the major factors above the mean of 2.70 that could cause food insecurity include unavailability of locally production of food consumed in the community, lack of storage food during surplus and lack of assistance provided during food inadequacies. For any households to be food secure, it is important that food is adequately available. This also agree with Aliber (2009) who posited that after harvesting most rural households are food secure as they have enough food from their own production. Most of the times the availability can be much assured only when the local communities can produce at least food that consumed locally, this are not the situation in the study area. In circumstances where most of the foods were brought from other location depending on the distance, the cost of transportation could increase the price of the food items and eventually affect the quantity of the food item that can be purchased and made available in the households. Even when the farming households could produce their foods, most of them got spoilt during surplus period; there

are less storage facilities and techniques known to the member of agrarian communities that can store large food item. When there is food shortage in the farming households, there is no assistance may be from community, government or non- government organization to tackle the challenge of food unavailability which therefore contribute to their food insecurity. FAO (2010) pointed out that ending hunger and achieving food security require that food consumption and production systems attain more with less, which encompasses fostering sustainable intensification of food production, encouraging sustainable food consumption and reducing food losses and waste.

Food sustainability is another factor that could be responsible food insecurity in that it emphasizes importance of weather variability, policies and changes in the prices of food item. These factors could affect the quantity of agricultural produces the farming households can produces, and policies can affect selling and buying of food item which in turns affect the food supply to the households. Food sustainability has a strong influence on the food security. This concur with FAO (2010); Buttriss and Riley (2013) that opined that Sustainable food is key for assuring food security and it cannot be pursued in the absence of food security. Food security and food sustainability are then strongly linked.

Moreover, food accessibility component of food security is hindered by household income of the farmer(mean=2.56) which could predict the purchasing power of the households, so also transport and market infrastructure for food supply system affect the household access to food thereby limit their ability to achieve food security. Even when the food is available the utilization is also important in order for the household to achieve food security so as to reduce waste and to obtain better nutritional value and vitality. Entries in table 4 indicate that poor orientation of the rural people on importance of certain food items (mean = 2.62) is one of the major factors that could affect food security.The limited access to nutritious food in the study area could be attributed to limited availability of nutritious foods, economic constraints and lack of knowledge and information (International Food Policy Research Institute, 2011).

Table 4: Distribution of factors responsible food insecurity in the households (n=120)

Variables	Major factor		Minor factor		Not a factor		Mean	Rank
	Freq	%	freq	%	Freq	%		
Food Availability								
Unavailability of locally production of food consumed in the community	98	81.7	16	13.3	6	5.0	2.77	1st
Lack of storage of food during surplus of harvest	95	79.2	15	12.5	10	8.3	2.71	1st
Lack of food assistance provided during food inadequacies	93	77.5	19	15.8	8	6.7	2.71	1st
Regular supply of food items not ready found available in community	86	71.7	24	20.0	10	8.3	2.63	4th
Food Sustainability								
Weather variability to support agricultural production	43	35.8	64	53.3	13	10.8	2.25	1st
Changes in price of food item	46	38.8	54	45.0	20	16.7	2.22	2nd
Unfavorable policies for food production preservation and storage	49	40.8	47	39.2	24	20.0	2.21	3rd
Economic factors on trade of food item	39	32.5	51	42.5	30	25.0	2.07	4th
Food Accessibility								
Household income of the farmer	76	61.7	38	31.7	8	6.7	2.56	1st
Transport and market infrastructure for food supply system	74	61.7	38	31.7	8	6.7	2.55	2nd
Lack of purchasing power of rural household	60	50.0	48	40.0	12	10.0	2.40	3rd
Food Utilization								
Poor orientation of rural people on importance of certain food items	85	70.8	25	20.8	10	8.3	2.62	1st
Poor food processing practices	48	40.0	37	30.8	35	29.2	2.11	2nd
Poor hygiene and manufacturing practices	31	25.8	42	35.0	47	39.2	2.11	2nd
Poor diet quality and diversity	40	33.3	43	35.8	37	30.8	2.03	4th

Source: Field survey (2016)

Test of hypothesis

The result of the hypothesis in Table 5 revealed that there is significant relationship

between sex (B=-1.765, P<0.05); years of farming (B=-.121, p<0.05); household income (B=0.012, p<0.05) and food security status of the respondents. This implies that a unit increase of the variables with negative signs lead to a reduction in favour of household food security while a unit increase of the variables with positive signs will lead to increase in household food security status. Sex, years of farming and household income were found to significantly influence household food security status. Sex of the farmer was found to be negatively related and significant to household food security status which means men were less faced with food insecurity compare to women because men have access to social capital and control most of the resources in the family. The implication of this is that women were faced with the challenges of food insecurity than men. This agrees with Oni *et al*(2011) who posited that access to social capital is one of the determinants of household food security status.

Also years of farming experience was found to be negatively related and significant to household food security which indicates that an increase in the years of farming experience will lead to a reduction in household food security status. The implication of this is that as the years of farming of the respondents increases, their strength to cultivate more land decreases due to the effect of old age on farming which as effect on household food security status.

Furthermore, household income was found to be positively related and significant to household food security status which means that as household income increases, it will lead to household achieving food security which means as the household income increases the household food security status increase. This is in line with Aliber(2009); (Olagunju *et al*.(2012) who stated that there is a relationship between a household's income and household food security status.

Table 5: relationship between socio-economic characteristics of the respondents and household food security status

Variables	B	S.E	Wald	Df	Sig	Decision
Age	.028	.040	.511	1	.475	N.S
Sex	-1.765	.721	5.999	1	.014	S
Maritalstatus	.608	.898	.459	1	.498	N.S
Household size	-.181	.243	.553	1	.457	N.S
Religion	1.417	.728	3.787	1	.052	N.S
Educational status	-.784	1.198	.428	1	.513	N.S
Farmsize	-.817	.607	1.809	1	.179	N.S
Years of farming	-.121	.060	4.090	1	.043	S
Household income	0.012	.000	6.324	1	.013	S
Constant	-1.507	1.492	1.020	1	.312	

CONCLUSION AND RECOMMENDATIONS

Based on the findings, it was therefore concluded that most of the farming households were food insecure and the percentage of the insecure household in the study area is alarming, this is also an evidence of poverty among the farming households. If the agrarian communities that supposed to produce food for the urban communities are not food secure, they might not have capacity to produce enough food to meet urban food requirement therefore agrarian food insecurity could affect adequate food supply. Factors responsible for food insecurity were unavailability of locally production of food consumed in the community, lack of storage food during surplus, weather variability to support agricultural production, changes in price of food item, household income of the farmer and the socio-economic status of the respondents were strongly related to their food security status. It is recommended that agricultural agencies and other key actors in democracy should provide enabling environment, supporting policies and resources for adequate food production, food supply at affordable prices among farm households at the grassroots to achieve improved socio-economic status and food security.

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ASSESSMENT OF RURAL PEOPLE'S OPINION ON DIVIDEND OF DEMOCRACY IN LAGOS STATE, NIGERIA

Adeogun, M. O.

ABSTRACT

Lagos rural communities are some of the fastest growing areas in Nigeria after independence in 1960. This State remained intact despite the challenges of administering the dividend of democracy that cater for the welfare and basic necessities that make life easier for her citizenry. The study seeks to investigate how democracy has impacted on development and poverty in Three Local Government Areas (LGAs) and one Local Council Development Area (LCDA) of the State. The LGAs and LCDA purposively selected based on rurality are Epe, Ibeju lekki, Badagry, Igbogbo/Bayeku respectively. Cluster random sample technique was used to select 118 respondents for data collection. Findings revealed that dividends of democracy are increasing from provision of basic amenities to access to loan, access to input, access to governance/recognition, voice in governance and marketing of produce. However, these dividends are not equitably distributed, which are occasioned as a result of partisan favouritism, religion bias, ethnicity, political agenda among others. The study also revealed that there were less of instances of draconian law and more consistency in policies, which has helped development in some communities. The study recommends that democracy should be committed to the citizen welfare and well-being without prejudice to ethnic, religion and party affiliate to have equitable distribution of democratic dividend and development in Lagos State.

Keywords: Farmer opinion, Dividends of Democracy, Community Development

INTRODUCTION

Democracy is a system of Government that is perceived to represent the people's interest. It is often said that it's the government of the people by the people and for the people. It is also seems to be the only means of governance that appeals to all and sundry.The importance of government in any society is to enhance human condition through people's involvement in the determination of various decisions that affect their lives. All over the world, this viewpoint accounts for the reason why democracy is regarded as the best form of government that allows man to fully actualize his potentials and opportunities. Thus, democracy is both an expression and expansion of man's freedom and is akin to man's progress and societal sustainability.

The study seeks to investigate the impact of democracy on development and poverty reduction in Lagos State; examine the farmers perception of democracy; identify the problems farmers are facing in democracy and analyze the dividend of democracy in Lagos state

Quality of Democracy = (freedom + other characteristics of the political system) + (performance of the non-political dimensions)

METHODOLOGY

The study was conducted in Lagos State

The LGAs and LCDA purposively selected based on rurality are Epe, Ibeju lekki, Badagry, Igbogbo/Bayeku respectively. Cluster random sample technique was used to select 118 respondents for data collection.

Respondents' Socioeconomic characteristics:

The study revealed that both male 49.2% and female 50.8 % were encouraged by the dividend of democracy accruable to the rural area. Table 1 shows that most (66.1%) of the respondents were between the group of 41 to 60 years. This finding negates Ekong (2003) assertion that Nigerian farmers are in the middle age bracket. Majority (76.0%) of the respondents had secondary education while only 24.0 % had tertiary education. The implication of this finding is that level of education was not a constraint in getting dividend of democracy. Most (68.7%) of the respondents had 11-30years of farming experience and only, 31.3% of the respondents had1-10 years of farming experience. The years put into farming had no influence in their access to dividend of democracy.

Table1: Percentage distribution of respondents according to selected socio-economic characteristics

Variables	Percentages
Sex	
Male	49.2
Female	50.8
Age	
≤30	1.7
31-40	11.9
41-50	26.3
51-60	39.8
61-70	20.3
>70	0.0
Educational Level	

Variables	Percentages
Tertiary	24.0
Secondary	76.0
Farming experience	
1-10 years	31.3
11-30 years	68.7
>30	0.0
Total	100.0

Field Study 2017

Respondents' type of farming enterprise

The respondents engaged in different types of farming. Most (45%) of the respondents practiced Mixed arable farming where they have diversity of crops for sales and home consumption. This was followed by 30% fishing and processing as basis means of subsistence. Also, 20% of the respondents were into vegetable production. From the Focus Group Discussion (FGD), it was revealed that farmer growing vegetable are those closer to town those that use it to argument the household income while waiting for the main crops to mature. The respondents that engaged in fish farming were only 9 percent despite the awareness and training on aquaculture in Lagos. The respondents claimed that they were able to establish their business as a result of the support from the state and World Bank Project.

Table 2: Percentage distribution of respondents based on Type of farming enterprise

Variables	Percentages
Rice Production	5
Vegetable Production	20*
Mixed Arable Farming	45*
Plantain/Banana	7
Poultry Production and Marketing	4
Aquaculture/Fish Farming	9
Fishing/ Fish Processing	30
Pig /Goat Production	2

Respondents' dividend of democracy

Table 3shows that dividend / benefits of democracy accrue to farmers in Lagos State were Training and Empowerment (49.2%), Hospital and Health Care Centers (45.8), Feeder Roads/Roads Networks, Access to Equipments/Inputs (33.1%), Bore Hole Water (30.5%). While, Access to Loan (5.9%) and Consistency in Policy (1.7%) Rank Lowest. From the FGD conducted, also reveals that democracy has limited the era of draconian law in Nigeria. This implies that for democracy to be meaningful, considerable attention must be paid to farmers access to loan and consistency agricultural policy to improve agricultural production and bring development to the rural level.

Rural development is that aspect of development concerned with an improvement on the living conditions and welfare of the rural populace. Democracy remains the system of government that responds to the yearnings, living conditions and welfare of the citizenry. This indicates that although rural sub-sector in Nigeria had witnessed considerable attention in terms of policy pronouncement and commitments by successive government over times. But still marred with numerous challenges and problems that leaves much to be desired in terms of its development.

Table 3: Percentage distribution of respondents based on dividend/Benefits of Democracy

Variables	Percentages	Ranking
Feeder Roads/ road net work	38.1	3
Bore Hole Water	30.5	5
Transformers/ Electricity	16.0	6
Hospitals/ Health Centers	45.8	2
Farmers Training/ Empowerment	49.2	1
Access to equipment/ implements and input	33.1	4
Access to loan/Grants	5.9	9
Marketing of produce	11.9	7
Access to governance/ being heard	9.0	8
Consistency in Policy	1.7	10

Field survey 2017

Gains from Democracy
Freedom of association
Freedom of Speech
No dictation of Prices
Unity of CDAs& Voice Heard
Less Taxation
Women recognized
Ability to say and do what you say you want to do
Government by the people for the people

Quality of Democracy = (human rights) & (human development)

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AWARENESS AND UTILIZATION OF CASSAVA PRODUCTION TECHNOLOGIES AMONG FARMERS IN IMO STATE, NIGERIA

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ABSTRACT

The study examined farmers' awareness and utilization of cassava production technologies in Imo State, Nigeria. Purposive and multi-stage random sampling techniques were used to select one hundred and twenty (120) cassava farmers. Data for the study were collected through a structured questionnaire and analyzed with descriptive statistics such as: frequency counts, mean scores and percentages and Z–test analysis. The result revealed that 60% of the respondents were females, 55% were married with mean household size of 4.3 persons, mean farm size of 1.3 hectares, while 45.83% had monthly contact with extension. The farmers had high awareness (80.83%) and utilized land preparation and ridge/mound making ($\overline{X}$ =2.8), improved cassava cuttings, fertiliser application and weeding at intervals ($\overline{X}$ =2.7), time of harvest ($\overline{X}$ =2.6), while pest and disease control and planting date and spacing had mean ratings of 2.4 respectively, with a utilization index of 86.7% of cassava production technologies. The result of Z-test analysis showed no significant difference between the farmers' levels of awareness and utilization cassava production technologies in the study area. Increased extension contacts, farmers' access to and subsidy on farm inputs were advocated for effective utilization of cassava production technologies in the study area.

Keywords: Awareness, Utilization, Cassava, Production Technologies and Farmers

INTRODUCTION

Nigeria has consistently maintained the leading position as world largest producer of cassava in recent years with annual production record of 38.7 million metric tons (Food and Agricultural Organization, 2016). Cassava *(Manihotesculentacrantz)* is an indispensible staple food for over 500 million people in tropical Africa but particularly in west Africa sub-region and a major source of energy with very high food security value similar to most cereal crops (Achinewhu and Onwuama, 2002). Cassava has a high income generating potential and can enable resource poor small holder producer to improve livelihood once they adopt and use appropriate production, processing and marketing opportunities (Ezedinma, 2007). There are numerous ways of processing and consuming cassava depending on locality. Cassava and its products hold a position of primary food security producer in Africa, especially in Nigeria. This is due to its adaptation to a wide range of production and environmental conditions including flexible planting, harvest cycles, diseases tolerance and processing. Alternative uses of cassava through value addition has resulted in emergence of wide food recipes from cassava through processing which involves conversion of edible food to another form more acceptable or convenient to the consumer (Nwaobiala, Isiochaand Nwachukwu, 2009; Okoroafor and Nwaobiala, 2014).Cassava has been identified to promote agro-enterprises development in Nigeria and supports the National Agricultural Transformation Agenda (ATA) through market and value chain development and investment to unlock growth opportunities, food security, jobs and income creation, value addition and competitiveness (Gwera, 2009).

National Root Crops Research Institute (NRCRI) Umudike and International Institute of Tropical Agriculture (IITA) Ibadan, has developed cassava varieties that has the potential to be disease tolerant, ability to survive under moisture stress and high yielding (National Root Crops Research Institute, 2012). Udealor and Asiegbu (2006) reported high cassava yield from use of improved varieties with suitable cultural practices. The rating of Nigeria as the world's leading producers of cassava may be due to the cultural and agronomic practices required for cassava cultivation through proper extension services. The cassava recommended practices include; site selection, ridging/mounding, use of improved cassava cuttings, use of fertiliser, herbicides application, use of insecticides, spacing, planting date and time of harvest(NRCRI, 2012).The awareness of these technologies is to ensure that these crops can be put to wider uses in the home, for income generation and possibly for export purposes. However, ever since this massive dissemination of these technologies to farmer groups in the agro-ecological zones (Abia, AkwaIbom, Anambra, Cross River, Enugu, Ebonyi and Imo States, farmers adoption and utilization of improved production technologies has increased output and income in turn alleviates poverty (NRCRI, 2012;Nwaobiala and Nwosu, 2014). Awareness, information and innovation which are intended to improve agricultural production should be disseminated to farmers and ultimately meet their needs. However, variations exist on relevant production technologies needed by farmers in Nigeria (Banmeke and Olowu, 2005; Sabo, 2007).

Various reports indicated that yield levels achievable in small farmers' farms have continued to be far below the yield levels achievable at agricultural research stations in Nigeria (Akoroda, 2011). There are clear indications that a gap still exist between levels of awareness and utilization of cassava production technologies in the study area,

despite all the efforts by extension delivery outfits in the country to disseminate improved agricultural innovations. In view of the above stated facts, this study was undertaken to analyze awareness and utilization of cassava production technologies among farmers in Imo State, Nigeria

Specific objectives were to;

i. describe socio-economic characteristics of farmers' in the study area.
ii. ascertain levels of awareness of cassava production technologies by farmers in the study area; and
iii. ascertain levels of utilization of cassava production technologies by farmers in the study area.

Hypothesis

Ho: There is no significant difference between awareness and use of cassava recommended cassava production technologies in the study area.

METHODOLOGY

The study was carried out in Imo State. The state lies within latitudes 4^o 45'N and 7^o 15'N, and longitude 6^o 50'E and 7^o 25'E. It occupies the area between the lower River Niger and the upper and middle Imo River. The state is bounded on the east by Abia state, on the west by River Niger and Delta state; and on the north by Anambra State, while Rivers state lies to the south. The state is located within the rainforest belt of Nigeria, and the temperature ranges between 20^o C and 30^o C. Agriculture is the major occupation of the people. The major food produced includes cassava, yam, cocoyam, maize, and melon. Imo state is made up of 27 Local Government Areas (LGAs) and three Agricultural zones of Okigwe, Owerri and Orlu.

The population for this study comprised of all cassava farmers in the three agricultural zones of the state. Purposive and multistage random sampling techniques were adopted in the study. Purposively ADP contact farmers who were involved in cassava cultivation were chosen for the study. First, the three agricultural zones that make up Imo state namely; Owerri, Orlu and Okigwe were selected for the study. First, 2 blocks each was randomly selected from the three agricultural zones to give a total of 6 blocks (Owerri – Owerri North and Owerri South blocks: Orlu – Orlu and Nkwerre blocks and Okigwe – Obowo and Isiukwuato blocks). Also, 2 circles each were randomly selected from the selected blocks which gave a total of 12 circles. Finally, ten cassava farmers each were randomly selected from each of the selected circles to give a sample size of 120 cassava farmers. Descriptive statistics such as frequency counts, percentages and means were used to analyze objective i, ii and iii, while the hypothesis was tested with Z - test analysis.

Measurement of variables

The levels of awareness of cassava production technologies in the study area was operationalized by asking the farmers to indicate whether they were aware of the stated cassava production technologies with response options of "Yes" and otherwise "No". Furthermore, the percentages were shaped and categorized with awareness ratings as follows;

1 - 66% = low Awareness

67 - 100% = High Awareness

The levels of utilization of cassava production technologies was captured using a 3-point Likert type rating scale namely; always=3, occasionally = 2 and never = 1. The bench mark was obtained thus; 3+2+1 = 6 divided by 3 to give 2.0

The following decision rule was obtained thus:

1.00- 1.50 (low)

1.51- 1.99 (moderate)

2.0 and above (high)

The utilization indices of the respondents were calculated by dividing the total mean utilization score by 3 - point Likert type rating scale.

Model Specification

The "Z"- test model was used to test for no significant difference between awareness and utilization of improved cassava recommended technologies by farmers in the study area is specified thus;

$$Z = \frac{\bar{X}_1 - \bar{X}_2}{\sqrt{\frac{\sigma_1^2}{n_1} + \frac{\sigma_2^2}{n_2}}}$$

$n_1 + n_2$ - 2 degrees of freedom

Where "z" = "z" statistic

$\overline{X_1}$ = sample mean for awareness of cassava production technologies

$\overline{X_2}$ = sample mean for utilization of cassava production technologies

σ^2_1 = standard deviation for awareness of cassava production technologies

σ^2_2 = standard deviation for utilization of cassava production technologies

n_1 = sample size for respondents awareness of cassava production technologies

n_2 = sample size for respondents utilizing cassava production technologies

RESULTS AND DISCUSSION

The socio-economic characteristics of respondents are shown in Table 1. The result revealed that a high proportion (60%) of the respondents were females, while 40% were males. This result is in tandem with the findings of Ejechi (2015) who found that female farmers dominated cassava farming in Nassarawa state, Nigeria.The result shows that 55% of the respondents were married, with mean ages of 51.2 years. The

implication of this result is thatthe farmers were not energetic and productive in any farm activity. The ages are considered to be responsible to take any rational decision in the uptake and use of any innovation/technology. The mean household size for the farmers was 5.3 persons with farm size of 1.3 hectares. Household size in turn provides cheap labour for agriculture and other remunerative activities. The result however, agrees with Onuk, Tochukwu, Agwu, and Ajibo (2013), as they found household labour providing farm power needs of farmers in Enugu state, Nigeria. Therelative small size of the farmers may be as a result of the land tenure system prevalent in the country. The result agrees with (Abugu*et al.,* 2013) who reported that majority of farmers in south east Nigeria are small scale farmers, on the average cultivate less than 2 hectares of land. A moderate proportion (45.83%) of the respondents had a monthly contact with extension. Farmers' contact with extension has proved to increase agricultural output through dissemination of improved technologies. This result agrees with Ajala, Ogunjimiand and Farinde (2013) as they obtained a similar result among cassava farmers in Oyo state, Nigeria.

Table 1: Socioeconomic characteristics of respondents in the study area (n = 120)

Variables	Frequency	Percentage	Mean
Gender			
Male	49	40	
Female	71	60	
Age (years)			
20 – 30	6	5.00	
31 – 40	15	12.50	
41 – 50	32	26.67	**51.2 years**
51 – 60	47	30.17	
61 – 70	20	16.66	
Marital Status			
Single	11	9.17	
Married	66	55.00	
Divorced	4	3.33	
Widowed	34	28.33	
Separated	5	4.17	
Household Size (numbers)			
1 – 3	33	27.50	
4 – 6	53	44.17	**5.3 persons**
7 – 9	19	15.83	
10 – 12	15	12.50	
Farm Size (hectares)			
0.1 – 1.0	44	36.67	
1.1 – 2.0	62	51.67	**1.3 hectares**
2.1 – 3.0	14	11.66	
Extension Contact (numbers)			
1 – 2	55	45.83	
3 – 4	29	25.84	
No Contact	34	28.33	

Source: *Field Survey 2015*

Awareness of cassava production technologies

Data on Table 2 shows that majority (95.8%) of the respondents were aware of fertiliser application while 95% were aware of site selection/land clearing and use of improved cassava varieties respectively, as against 93.33% that were aware of ridge/mound making. The farmers (84.16%) were aware of weeding at intervals, 88.33% of them time of harvest, while 79.16%, were aware of pest and diseases control and planting date and spacing (77.50%).Ugwoke, Mathew-Njoku, Anaetoand Okereke (2009) affirmed that awareness of any given technology facilitates adoption and utilization, which translates to increased output and income for farmers.

Table 2: Distribution of Respondents according to Levels of Awareness of Cassava Production Technologies in the Study Area

	Aware		Unaware	
Cassava Production Technologies	**Frequency**	**Percentage**	**Frequency**	**Percentage**
Site selection/ land clearing	114	95.00	6	5.00

Cassava Production Technologies	Aware		Unaware	
	Frequency	Percentage	Frequency	Percentage
Ridge/mound making	112	93.33	8	6.66
Use of improved cassava cuttings	114	95.00	6	5.00
Planting date and spacing (1mx1m at angle 45^0)	93	77.50	27	22.50
Fertiliser application (rate and time of application	115	95.83	5	4.16
Pest and disease control	95	79.16	25	20.83
Weeding interval	101	84.16	19	15.83
Time of harvest	100	83.33	20	16.66

Source: Field Survey 2015

The result on categorization of farmers' levels of awareness of cassava production technologies (Table 2b) indicates that cassava farmers had high awareness (80.83%) of the technologies. Since majority of the farmers has high level of awareness of these technologies, they have the propensity of adopting and utilizing the technology. This finding is in consonance with Akinbile, Akwiwu and Alade (2014) that awareness of innovation gives high probability that it would be adopted. Therefore, such innovation if embraced by the farmers; will further improve their production and livelihood.

Table 2b: Categorization of Farmers Levels of Awareness of Cassava Production Technologies in the Study Area

Levels/categorization (%)	Frequency	Percentage
Low 1 – 66	23	19.17
High 67 – 100	97	80.83

Source: *Field Survey 2015*

Utilization of Cassava Production Technologies

The distribution of respondents according to levels of utilization of cassava production technologies is shown in Table 3. The result indicate that majority (71.66%) of the respondents always utilized site selection/land clearing and ridge/mound making with mean scores of 2.8 respectively. Again, majority (88.33%), 79.17% and 72% of the respondents always utilized improved cassava cuttings, fertiliser application and weeding technologies respectively with mean score 2.7. Furthermore, 53.5% and 52.5%of the farmers always and occasionally utilized pest and disease control and planting spacing with mean utilization score of 2.4. The grand mean utilization score for cassava production technologies was 2.6, indicating high utilization with an index of 0.867, meaning that the farmers utilized 86.7% of these technologies. Nwawuisi, Okoye and Odaji (2007) obtained a similar result among farmers that adopted and utilized TMS 30211 and TMS 3001 cassava varieties in Ebonyi state, south-east Nigeria.

Table 3: Distribution of Respondents according to levels of utilization of Cassava Production Technologies

Cassava Production Technologies	Always	Occasionally	Never	Total	Mean Utilization Score
Site selection/ land clearing	98(71.66)	21(17.50)	1(0.83)	337	**2.8**
Ridge/mound making	98(71.66)	21(17.50)	1(0.83)	337	**2.8**
Use of improved cassava cutting	106(88.33)	14(11.67)	0(0)	318	**2.7**
Planting date and spacing (1m x 1m at angle 45^0)	53(44.17)	63(52.50)	4(3.33)	289	**2.4**
Fertiliser application	94(79.17)	22(18.33)	2(1.67)	328	**2.7**
Pest and disease control	62(51.67)	46(38.33)	12(10)	290	**2.4**
Weeding interval	83(72.00)	35(29.13)	2(1.67)	321	**2.7**
Time of harvest	63(52.50)	55(45.83)	2(1.67)	298	**2.5**
Grand Mean					**2.6**
Utilization Index					**0.867**

Source: *Field Survey 2015*

Difference between Awareness and utilization of cassava production

The results in Table 4 show the Z-test comparative analysis between awareness and level of utilization of cassava production technologies in

the study area. The level of utilization was 20.52, while level of awareness is 21.41. The results show Z-test value of 1.33, indicating that there was no significant difference between the level of awareness and use of cassava recommended production technologies. Therefore, the null hypothesis which states that there is no significant difference between awareness of cassava agronomic practices and their level of use is hereby accepted. This result is in consistent with Okanade, Olaniyi and Ogunleye (2005) who obtained a similar result among cassava farmers in Surulere LGA of Oyo state, Nigeria.

Table 4: Z – test analysis of awareness and utilization of cassava production technologies in the study area

Variables	Mean	Standard Deviation	Z – test
Awareness	21.41	7.81	
Utilization	20.52	6.77	1.33
Combined	41.93	14.58	

Source: STATA 4A Result

CONCLUSION AND RECOMMENDATIONS

The study revealed that respondents were aware and utilized fertiliser application, site selection /land clearing, use of improved cassava varieties, ridge/mound making, weeding at intervals, time of harvest, pest and diseases control and planting date and spacing.The study showed no significant difference between awareness and utilization of cassava production technologies in the study area.

The study therefore recommends

i. Need for increased extension contacts to create awareness of cassava production technologies among farmers in the study area.
ii. Timely distribution of high yielding cassava varieties is advocated in order to increase output. This is informed by the time bound nature of farming.
iii. Since there was utilization of cassava production technologies, farmers should have access to fertilisers, improved cassava cuttings, herbicides, credit and subsidy in order to encourage effective utilization of the technologies.

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BENEFITS OF RURAL YOUTHS' INVOLVEMENT IN OIL PALM ENTERPRISE IN IDO LOCAL GOVERNMENT AREA OF OYO STATE, NIGERIA

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ABSTRACT

The economic contributions of oil palm to the sustainable agricultural productivity in Nigeria is high especially through the youth sector of its producing area.This study focused on the benefits derived by rural youths' involvement in oil palm processing activities in Ido local government of Oyo state. A multistage sampling procedure was employed to select 120 respondents for the study. Data were collected via interview schedule on rural youth's socio economic characteristics, involvement in oil palm processing activities, support services needed and the benefits derived. Data were analysed using descriptive and inferential (Chi-square and PPMC) statistics. Results show that most of the respondents were female (79.2%), married (63.3%) with mean age of 26 years. They had oil palm processing as their primary occupation (87.5%) with self labour (60.8%) and source fund through personal savings (83.3%). Mostly identified benefits was the supply of raw materials to industries (weighted mean=215.9), engaging youths to prevent restiveness (214.2) and increased standard of living (209.8). More (52.2%) of the respondents had low level of support services. The respondents' involvement included crushing, digestion, and heating of the fruit (195.9) and separation of endocarp from the kernel (192.4). Significant relationship existed between involvement and sex (p=0.000), marital status (p=0.011), age (p=0.002) as well as benefits derived (p=0.000). The benefits derived by the involved youth could be sustained with improved level of the support services as they are strong enough to keep them in the enterprise.

Keywords: Support services, standard of living, kernel, sustainable agricultural productivity.

INTRODUCTION

Oil palm a native of West African humid tropic has been regarded as the most efficient oilseed crop in the world. It is an important economic agricultural crop in Nigeria as the country has once the largest exporter of its products; this drew the attention of the World Bank to the promotion of the Oil palm business in the country some years back. Currently, 80% of oil palm production in Nigeria comes from dispersed smallholders that use manual processing techniques especially in the rural area. Hence, the economic contributions of oil palm to the sustainable agricultural productivity in Nigeria are high especially through the youth sector of its producing area (Ricardo, 2013).

Studies have shown that the tree crop is a source of oil (palm oil and palm kernel oil), source of timber, palm wine, broom, palm kernel cake, fuel and basket among others. Hence, Oil Palm has been a great source of income and employment to the farmers and processors in rural communities of Africa countries and Nigeria in particular as the enterprise is lucrative, capable of alleviating poverty and brings about rural development (Sarku, 2016; Okolo, Solomon and Igene, 2015 and Jamilu, Abdul-Aziz, Jafaru, Sani and Abudu, 2014). The employment it generates even for the youth ranges from basket weavers, broom makers, palm plank seller, palm wine tapper and seller, palm bunch thresher, palm kernel oil processors, palm oil processors among others. Meanwhile, the palm oil industry is one of the key economic drivers of the agricultural sector in developing countries especially in Nigeria.

Palm Oil has gainfully engaged rural women, men and youth for a livelihood especially its processing as this has been the major product processed from oil palm fruit in Nigeria (Nwankwo, 2016 Eric and Ikhelola, 2007). Palm oil (popularly called red oil) is an essential content of almost every meal in virtually every home with high monetary and nutritional values. It is expected that the availability of such enterprise will attract youths, especially in the rural communities, as it generates income and improve standard of living among others. Akin to this is the availability of markets, in both rural and urban areas for palm oil and other products; being an essential raw material for household and industries (Sarku, 2016). The benefits of the enterprise are expected to prevent youth migration to urban centres in search of 'greener pastures' that may never be. Consequently, the processing of Oil palm to palm oil in the state will minimises post-harvest losses, improves digestibility and palatability of the product, facilitates its handling, cooking and storage, adds value to the products, encourages technical and marketing skills in villages, create employment especially among the rural youth (Ohimain, Emeti, Izah and Eretinghe, 2014).

Youth formed a very significant proportion in country's population especially in rural communities for which their existence and potentials are well known for their contributions to the development of their local communities especially those with sound physical and mental health (Odebode, 2000; Akinbode, 1991 and Ekong, 2003). However, youth in agriculture has been described as a constituent potent of agricultural development through agrarian reform for promotion of agricultural sector of the economy (Gwanya, 2008 and Jibowo, 2005). They do provide opportunities for generating the farming entrepreneurs and other rural professions. In addition, rural youth enjoy certain life experiences,

which can be considered advantageous. These include a greater frequency of interaction with family, and hence less emotional problems. They also enjoy earlier and greater involvement in work roles with opportunity of becoming economically independent earlier than their urban counterparts (Akinbode, 1991 and Eremie, 2002).

Despite these, rural youths have strong apathy toward Agricultural activities which is an outstanding characteristic that can promote agriculture. (Adedoyin, 2005; Adewale, Oladejo and Ogunniyi, 2005). The development of the agricultural sector of the Nigerian economy therefore depends on involvement of young people, more especially the rural youths. It is therefore pertinent to seek to posit that youth's involvement in oil palm processing will not only boost the much needed narrowed gap of demand and supply of oil palm in the Nigerian markets, improve the socioeconomic life of the rural people; but will also encourage development of vocational agriculture among the rural youths especially with the availability of the needed support services.

Although, there have been few studies on youth involvements in food crop production and processing (Ekong, 2003), many of these studies are without specific age group in focus. Also, several studies have revealed a generally low representation of youths in agriculture and rural development related issues; however, many of such studies focused on arable crop production activities and rural development issues (Ayinde, Torimiro and Koledoye, 2014; Agumagu, Njoku and Ukpongson, 2010). A dearth of information therefore exists on involvements of youths in oil palm processing, in spite of the opportunities and benefits the processing enterprise portends. It is therefore crucial to ascertain the benefits derived by rural youths' involvement in oil palm enterprise in Ido local government area of Oyo state, Nigeria along the processing chain of oil palm. To this end, the study determined the socioeconomic characteristics of the respondents, level of their involvement in oil palm processing, the important support services needed to improve their involvements in the enterprises and the specific benefits derived by the youths from their involvements in oil palm enterprises in the study area.

It was hypothesised that no significant relationship existed between the socioeconomic characteristics and youth's involvement in oil palm processing and there is no significant relationship between the benefits derived and the youths' involvements in oil palm processing

METHODOLOGY

The study was carried out in Ido Local Government area, of Oyo State, Nigeria. Multistage sampling procedure was used to select the respondents for the study. The first stage involved the random selection of 25% of the 12 wards in the study area; Omi Adio, Ayobo and Abidogun were selected. The second stage involved purposive selection of 50 % of the eight (8) settlements in each of the selected wards where palm oil is being predominantly processed. This will give a total of 12 settlements in all with 4 settlements selected in each ward. The third stage involved the random sampling of 10 active youth Palm oil processor from the list of palm oil processors association in each of the communities; hence having 120 respondents for the study.

Data collection

Data was collected using structured questionnaire and also interview schedule to circumvent illiteracy constraints.

Socioeconomic characteristics of the respondents

The result in table 1 shows that more than two third of the respondents were female (79.2%) while close to two third were married (63.3%); indicating that oil palm processing was dominated by married female. The higher percentage of women implies that female's involvement in oil palm processing is higher than that of their male counterpart this might be due to the feminine stages involved in the traditional processing of the oil palm in the study area. This is in agreement with the assertions of Nwanko(2016) and Ricardo(2013) that palm oil processing is mostly carried out by women. Mean while respondents' marital status is in line with assertion of Ajayi, Akande, Odejide and Idowu(2010) that rural dwellers respect the marriage institution and considers it as an essential thing; as being married further implies a brighter future for the business as they resides in the study area and hence be committed to the business than the unmarried.

The findings in Table 1 further show that the mean age and years of formal education of the respondents were 26.6 and 2.1 years respectively. The mean age implies that the processors were mostly youth; being young is a good omen for the continuity of oil palm processing enterprise in the study area. However, the respondents mean age of this study is in not in agreement with the findings of Ohiman *et al(* 2014)in similar studies; in whose study was dominated by respondents with age range of 31-40 years. Furthermore, the respondents' mean year of formal education indicates that the respondents were not all that literate since traditional oil palm processing is more of psychomotor domain than cognitive domain. However, this trend of the education attainment is in contrast with the findings of Enwelu *et al*(2016) and Jamilu *et al*(2014), who found the mean year of formal education of oil palm processors to be 6 years. This implies that higher

level of education is not a prerequisite for the processing of oil palm as the higher years of former education does not correlate with traditional processing techniques of oil palm; however, low education of the respondents may hinder modern processing technologies.

The respondents mean family size of 5 persons per household is supported by the research findings of Enwelu *et.al(* 2016) which reported the existence of relatively small household sizes in rural areas; on the other hand the result was in contrast with the findings of Nwankwo(2016) in the similar studies who discovered the family size of 8.

The result in Table 1 further reveals the respondents estimated mean monthly income of N15, 154.17, which is closely related to the findings of Ohiman *et al* (2014) who established the monthly net return of the palm oil processing business to be N14,000 but disagrees with the Enwelu *et al* (2016) who found the mean monthly income of N 30, 967 in similar study which invariably doubled the mean income of this study. Nevertheless, the result of this study negates the opinion of Ricardo (2013) that the gross income earnings in oil palm production are reasonable enough to encourage women's participation in the business. However, the low income level recorded by this study may be as a result of the seasonality of oil palm processing in the study area; as the respondents may likely diversify their livelihood for ends meet especially during the off season of the processing period as asserted by Yekinni, Adeniyi and Adebisi (2017) that rural dwellers diversify into other livelihood activities in order to cope with their financial obligations especially during the off season.

Table 1: Socioeconomic characteristics of the respondents

Variable	Frequency	Percentage (%)	Mean
Sex			
Male	25	20.8	
Female	95	79.2	
Age (years)			
16-25	46	38.4	26.6
26-30	74	61.1	
Marital status			
Single	43	35.8	
Married	76	63.3	
Divorced	1	0.8	
Educational status			
No formal education	21	17.5	2.1
Primary	66	55	
Secondary	33	27.5	
Estimated monthly income (₦)			
≤ 10,000	38	31.6	15, 154.17
11,000 - 20,000	67	55.8	
21,00 - 30,000	15	12.3	
Household size			
0-5	57	47.5	6
6-10	58	48.8	
11 and above	5	4.2	

Source: Field survey (2015)

Support services needed in oil palm processing

The results according to the weighted scores in Table 2 show that improved technology (200.0) was ranked first among other support services needed in oil palm processing. This is followed by credit facilities (199.2) and training services (199.2) while the least support services needed identified was the labour (150.8). This implies that the level of the respondents involvement could be greatly enhanced by improved technologies, credit facilities and training services among others; however, labour will be least contributing factor to the respondents involvement in the oil palm processing business which may be due to the use of self and family labour that are prominent labour sources in rural area. However, the result in Table 3 further reveals that more than half (52.2%) of the oil palm processor fell into the low level of support services availability which implies that the respondents need more support services in oil palm processing in the area.

Table 2: Distribution of respondents on their support services needed in oil palm processing

Support services	Important	Not important	Not need at all	Weighted score	Rank
Access to improved technology	100	0.0	0.0	200.0	1st
Access to credit facilities	99.2	0.8	0.0	199.2	2nd
Training services	99.2	0.8	0.0	199.2	2rd
Extension services	98.3	1.7	0.0	198.3	4th
Improved processing technologies	98.3	0.8	0.8	197.4	5th
Youth group formation	95.8	4.2	0.0	195.8	6th
Improved market	95	3.3	1.7	193.3	7th
Packaging strategies	93.3	6.7	0.0	193.3	8th
Food safety measures	92.5	7.5	0.0	192.5	9th
Storage facilities	91.7	8.3	0.0	191.7	10th
Labour	60	30.8	9.2	150.8	11th

Source: Field survey (2015)

Table 3: Distribution of respondents by level of support services needed in oil palm processing

Category	Frequency	Percentage
Low	63	52.5
High	57	47.5
Total	120	100.0

Source: Field survey (2015)

Respondents' level of involvement in oil palm processing

Information on Table 4 shows the level of respondent's involvement by their weighted scores. Crushing, digestion, and heating of the fruit (195.9) were ranked first among other involvement in oil palm processing. This is followed by separation of endocarp from the kernel (192.4) while kernel drying and packing (189.9) was ranked third. However, the least activities that the respondents were involved was steam sterilization of bunches (184.2). Meanwhile, Table 4 further reveals that more than two third (79.3%) of the respondents fell into high involvement in palm oil processing which is higher than the finding of Aphunu and Akpobasa(2010) who found 60.86% youth involvement in palm oil processing. The inference is that the youths might have perceived a brighter future for the oil palm sector of the country which now necessitates their high involvement since past studies has established the lucrativeness and profitability of oil palm enterprise for poverty alleviation in the rural communities (Enwelu, Onyekwo, Nwaalieji, Dimelu, 2016 and Ohiman *et al*, 2012).

Furthermore, the respondents considered crushing, digestion, and heating of the fruit as the basic activities that are necessary to be carried out by the oil palm processors while steam sterilisation could be an optional activity. The findings tend to agree with the findings of Ricardo (2013) who reported active involvement of the youth in agricultural activities due to their zeal, strength, and innovativeness.

Table 4: Distribution of the respondents' level of involvement in oil palm processing

Oil palm processing activities	Not at all	Occasionally	Always	Weighted score	Rank
Crushing, digestion, and heating of the fruit	0.8	2.5	96.7	195.9	1st
Separating the endocarp from the kernel	0.8	5.8	93.3	192.4	2nd
Kernel drying and packing	3.3	3.3	93.3	189.9	3rd
Oil extraction from macerated fruit (by hand, hydraulic or other machine pressing)	0.8	10	89.2	188.4	4th
Separating fibre from the endocarp	2.5	6.7	90.8	188.3	5th
Stripping fruit from bunches	4.2	5.0	90.8	186.6	6th
Drying, grading, and cracking of the endocarp	4.2	5.8	90	185.8	7th
Palm oil clarification`	3.3	8.3	88.3	184.9	8th
Steam sterilization of bunches	5.0	5.8	89.2	184.2	9th

Source: Field survey (2015)

Table 5: Distribution of respondents by level of involvement in oil palm processing

Category	Frequency	Percentage
Low	26	21.7
High	94	79.3
Total	120	100.0

Source: Field survey (2015)

Benefits derived from oil palm processing

The most benefit derived from oil palm processing by the respondents by weighted score as indicated by Table 6, was the supplying of raw materials to industries (215.9), this was closely followed by engaging the youths to prevent restiveness (214.2) while increase in standard of living (209.8) was the third benefit derived. Benefits like risk spreading and sharing (187.6) and source of recreation (174.7) were the less beneficial to the respondents in the study area. The result of this study is in consonance with the findings of Adebo, Ayodele, Olowookere (2015) and Adesiji, Komolafe, Kayode and Paul (2016) who asserts that palm oil processing enhances income and standard of living of the respondents. This implies that the benefits derived from the oil palm enterprise by the youth are good enough to attracts, sustains and retains about one-third (30%) of the respondents who derived a high benefits from oil palm processing (Table 6a). However, the low level of the benefit derived may be attributed to the seasonality of oil palm production; as the income received therein may not be able to sustain them all year round; for instance the mean income of the respondents was 15,000.

Table 6: Distribution of respondents based on the benefits derived from oil palm processing activities

Benefits	**High**	**Moderate**	**Low**	**Not at all**	**Weighted score**	**Rank**
A means of supplying raw materials to industries	20.0	76.7	2.5	0.8	215.9	1st
A means of engaging youths to prevent restiveness	20.0	75.0	4.2	0.0	214.2	2nd
Increased standard of living	15.8	78.3	5.8	0.0	209.8	3rd
Increased job opportunities	15.0	79.2	5.8	0.0	209.2	4th
Financial independence	19.2	70.8	9.2	0.8	208.4	5th
Improved livelihood ability	14.2	79.2	6.7	0.0	207.7	6th
Guaranteed income source	21.7	64.2	14.2	0.0	207.7	7th
Improved household nutritional and food security	11.7	77.5	10.8	0.0	200.9	8th
It serves as source of employment	15	71.7	11.7	1.7	200.1	9th
Material possession	10.8	77.5	11.7	0.0	199.1	10th
Provision of alternative local energy source	12.5	74.2	12.5	0.8	198.4	11th
Enhanced recognition	17.5	58.3	21.7	2.5	190.8	12th
A means of risk spreading and sharing	4.2	82.5	10	3.3	187.6	13th
It serves as source of recreation	18.3	52.2	15.8	13.3	174.7	14th

Source: Field survey (2015)

Table 6b: Distribution of respondents by level of benefit derived in oil palm processing

Category	Frequency	Percentage
Low	84	70
High	36	30
Total	120	100.0

Source: Field survey (2015)

Hypothesis 1: This hypothesis seeks to test for the significant relationship between the socioeconomic characteristics and the respondents' involvement in oil palm processing. Respondents sex (χ^2 =12.902; p=0.000) and marital status (χ^2 = 8.938; p=0.011) were significant. This indicates that sex and marital status have a positive influence on the level of involvement of the respondents in oil palm processing. This implies that there is a gender role for sustainable palm oil production and that the marital experience or status has a positive influence in the processing of oil palm, this is in consonance with the assertions of Sarku (2016) and Enwelu *et al.* (2016). However, land tenure system and membership of association has no significant relationship with their involvement in the enterprise.

Table 7a further shows that youths' involvement in oil palm processing activities was significantly influenced by age (r= 0.277; p=0.002),

educational status r= -0.242; p=0.008) and years of experience (r= 0.202; p=0.027). This further implies that, the older the respondents the lesser the involvement in oil palm processing activities; this is due to the energy tasking of the enterprise as the activities involved manual production of palm oil are drudgery. Added to this is the significance of educational status that has an inverse proportion with the involvement in the oil palm processing; this further implies that the less literate the respondents are, the more involved they will be in oil palm processing while the year of experience is proportional to the respondents involvement in oil palm processing. The significance of age to involvement in palm oil enterprise as established by the findings of this research is in tandem with that of Nwanko, 2016, but in contrast to what his studies upholds for education and years of experience in a similar studies.

Table 7: Chi-square showing the relationship between socioeconomic characteristics of the respondents and their involvement (n=120)

Variables	χ^2	df	p-value
Sex	12.902	1	0.000
Religion	1.098	2	0.578
Marital status	8.938	2	0.011
Tenure right ownership			
Self owned	0.189	1	0.664
Rented	0.459	1	0.498
Membership in association	0.573	1	0.449

Table 7a: PPMC showing the relationship between the socio-economic characteristics of the respondents and their involvement

Variables	r-value	p-value
Age	0.277	0.002
Educational status	-0.242	0.008
Estimated monthly income	0.080	0.388
Household size	0.067	0.464
Years of experience	0.202	0.027

Source: Field survey (2015)

Hypothesis 2 –PPMC Result in Table 8 shows that significant relationship existed between benefits derived and involvements of the respondents in oil palm enterprises (r= 0.389; p=0.000). This implies that the more the benefits derived by the respondents, the higher their involvements in oil palm processing will be and vice versa. This is in agreement with the findings of Ohimain, *et al*(2014) that highlighted the significant benefits accrue to the youth processor in the enterprise for their economic and social development.

Table 8: Correlation analysis between the benefits derived and their level of involvement

Variables	r-value	p-value
Benefits	0.389	0.000

Source: Field survey (2015)

CONCLUSION AND RECOMMENDATION

Based on the findings of this study, it was concluded that the respondents were female, married and predominantly youth processors. It was also concluded that the support services needed by the respondent include improved technology, credit facilities, training services and extension services. The respondents had low level of support services hence need more support services in the study area. Also, respondents had high involvement in Crushing, digestion, and heating of the fruit; separation of endocarp from the kernel, and kernel drying and packing. However, the benefits derived by oil palm processors include supplying of raw materials to industries, engagement of youths to prevent restiveness and increased standard of living; nevertheless the respondents derived low level benefit. Significant relationship existed between the involvement of the respondents and sex, marital status, age, educational status, years of experience and benefit derived. However, the benefits derived by the involved youth could be sustained with improved level of the support services as they are strong enough to keep them in the enterprise.

Hence, the study recommends that adult education should be embraced by the respondents in the study area in order to explore the support services that will enhance their involvement in oil palm processing so as to have higher benefits from the enterprise. Consequently processors should form a cooperative group to pull their resources together in order to have access to the improved

technology which was their highest needed support services identified in the study area.

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CHALLENGES OF AGRIPRENEURIAL DEVELOPMENT IN NIGERIA: CRITICAL ISSUES FOR AGRICULTURAL EXTENSION

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ABSTRACT

The low agricultural productivity in Nigerian rural economy can be substantially attributed to poor extension delivery. An overview of the major role and challenges of extension in improving agricultural productivity through agripreneurial development in Nigerian rural economy is presented in this paper. In-depth review of the literature was used to discuss the history of agricultural extension in Nigeria. Major roles of agripreneurship in national economy were also discussed. Such roles include job creation, increased exportation, improved standard of living, diversification of the economy, food security and structural transformation. Challenges of agripreneurial development in Nigeria identified include inadequate fund, inadequate basic amenities, inadequacies of past government programmes and policies, inadequate and poorly-trained extension staff, volatility of input and output prices, and lack of appropriate technologies. This paper concludes that proper implementation of the APP document will lead to improved agripreneurial development and agricultural productivity. It is recommended that the key issues identified in this paper should be giving priority attention while implementing the agricultural promotion policy.

Keywords: Agricultural productivity, agripreneurship, agripreneurial development, extension delivery, Nigeria

INTRODUCTION

Agripreneurship which simply means entrepreneurship in agriculture can be seen as a process whereby farmers become determined, creative, innovative, willing to take calculated risk, always looking for opportunities to improve and expand their farm business (Sancho, 2010). Agripreneurship is the profitable fusion of agriculture and entrepreneurship as it turns farm into an agribusiness. It is synonymous with entrepreneurship in agriculture and refers to agribusiness establishment in agriculture and allied sector. Agripreneurship is a concept specific to agriculture and drawn from wider entrepreneurship. The concept is used to describe dynamic process of creating incremental wealth from agricultural sector (Shailesh *et al.*, 2013).

Olatomide and Omowumi (2015) viewed agripreneurs as individuals who take the major risk in terms of equity, time and career commitment of providing value to some products or services. The product or services itself may not be new or unique but he adds value to it with the sole goal of filling up a vacuum in other to create wealth. A farmer to become a successful agripreneur needs to be active, curious, determined, persistence, visionary, hard-working, come up with ideas, communicative with strong management and organizational skills, recognize suitable marketing opportunities, manage the optimum resources and bearing the risk inherent. Agripreneurship as a concept specific to agriculture and drawn from wider entrepreneurship is very critical and urgent. In simple terms, agripreneur is an entrepreneur who focuses on the agriculture sector. Agripreneurs are a special category of entrepreneurs who have a love for agriculture and apply their acquired skills and competencies to leverage potentials of the agricultural sector of the economy (Mittal, 2015). The managerial, technical and innovative skills of entrepreneurship applied in the field of agriculture many yield positive results and a well-trained agripreneurs may become a role model to all such disheartened farmers. An agripreneur may start an agro business, change a business direction, acquire a business or may be involved in innovatory activity of value addition. Explicitly stated an agripreneur is a risk-taker, opportunist, initiator which deals with the uncertain agricultural business environment (Tripathi and Agarwal; 2015).

Sah (2009) believes that developing entrepreneurs in agriculture will (a) reduce the burden of agriculture (b) generate employment opportunities for rural youth (c) control rural-urban migration (d) increase national income (e) support industrial development in rural areas and (f) reduce the pressure on urban cities.

Entrepreneurial characteristics for agripreneurship

Entrepreneurship skills are considered to be those competencies required to accomplish tasks and activities related to the farm business. Successful agripreneurs must possess the following traits in other to succeed in their endeavors:

1. Ability to find and explore opportunities: agripreneurs are always alert to opportunities. They are very much quick to see and grab opportunities. They exhibit an innovative tune of mind and convert the problems into viable opportunities. They plan intellectually and anticipate carefully how to achieve their goals in realizing an opportunity.
2. Innovators: Successful agripreneurs are innovators. They constantly put their efforts in introducing new products, new method of production, opening new markets and recognizing the enterprise.
3. Risk-bearing: Agripreneurs are people who take decisions under uncertainty and thus they are willing to take risk, but they

never gamble with the results. They choose moderate risk rather than play wild gamble. They, therefore, undertake calculated risk which is high enough to be exciting, but with a fairly reasonable chance to win.

4. Self-confidence: Agripreneurs must have self-confidence to accomplish the task effectively and efficiently. They must take decisions on their own in uncertain and risky situations and stick to it confidently even if there are initial setbacks.
5. Coordination and Vision: agripreneurs organizes the resources at his disposal to achieve his goals and objective. He combines the land of one, the labor of another and capital of yet another, and thus produces a product. By selling the product in the market, he pays interest on capital, rent on land and wages to laborers and what remains is his/her profit
6. People's skills: an agripreneur must communicate effectively and efficiently with others. He must be able to work with people to achieve stated aims and objectives. They are comfortable while dealing with people at all levels. They interact with raw material suppliers, customers, bankers, and others; for different activities.

Role of Agripreneurship in National Economy

Creation of Job*:* agripreneurs are innovators who bring new ideas to life. By so doing, they create jobs to be filled by able bodied men and women in the society. Most economies are agrarian and investments in agriculture would yield good results in the country.

Improved standard of living*:* agripreneurs viewed agriculture like every other business with profit orientation. They produce in large quantities to achieve their profit goal. The large quantity drives down the price of most farm produce which helps improve the standard of living as food items becomes cheap and affordable. Jobs created by agripreneurs also help increase the standard of living as people have the financial resources needed to cater for their needs. It helps in reducing food costs, supply uncertainties and improving the diets of the rural and urban poor in the country

Increased exportation*:* Agripreneurs take advantage of location economies to produce goods that they have both comparative and competitive advantage over others taking advantage of international markets. Excess agribusiness products can be exported to other countries where they are in short supply. This serves as a source of foreign currency and improves the country's balance of trade.

Diversification of the economy*:* Agripreneurship helps in the diversification of a country's economy from been a mono-commodity economy to a diversified economy thereby offering different products for export. This helps the economy cushion the effect of fall in oil price in the international market.Income accruing from different products helps in stabilizing the economy.

Enhanced Food Security: A successful agribusiness is capable of ensuring availability and entitlement of the people to sufficient food at all times to guarantee healthy life. Agripreneurship must ensure food availability (via supply) and encourage entitlement of the people with plenty alternative commodity bundles for the people.

Structural Transformation:A strategic link between the farm and non-farm sectors creates an integrated production structure and a balance between large and small production units. A dynamic agribusiness fuels the growth of the rural non-farm sector through a number of linkages: while agriculture requires inputs provided by the non-farm enterprises. The rural non-farm sector creates backward integration and forward linkages leading a fast process of structural transformation.

Agripreneurship Development in Nigeria

The peculiarities of the Nigeria's agriculture sector provide further compulsion to the dire need for agripreneurship. Agriculture is the mainstay of Nigerian economy because it supports high share of employment and livelihood creation. Agriculture employs about two third of Nigeria's labour force and contributing about 42% to the Gross Domestic Product (GDP). It is also an important source of raw materials (Uneze; 2013).Ehui and Tsigas (2009) opined that the agricultural sector of Nigeria has a remarkable capacity for growth but the reality on ground is dismal as the sector is still largely operating at subsistence level coupled with unfocused and barren government policies.

Sudarshan (2013) believes that opportunities abound in Nigerian agriculture like production of agricultural produce by making best use of the technology, resources and demand in the market; procurement and distribution, hiring of implements and equipment like tractors, seed drills, sprayers, harvesters, threshers, dryers and technical services such as installation of irrigation facilities, weed control, plant protection, harvesting, threshing, transportation, storage, etc. At input production level, there are many potential agripreneurial opportunities - bio-fertilisers, biopesticides, soil amendments, plants of different species of fruits, vegetables, ornamentals, root media for raising plants in pots, agricultural tools, irrigation accessories, production of cattle feed concentrate, mineral mixture and complete feed. Again, agripreneurial opportunities to support fishery and poultry still abound. At small scale

agri-processing units, post-harvest, marketing. Narendran and Ranganathan (2015) opined that electronic marketing, cold supply chain, advisory and consultancy services provide immense scope and opportunity for youths to function as agripreneurs for agricultural development and prosperity. Electronic marketing directly connects farmers with the customers and minimizes the role of middlemen in the supply chain. Cold supply chain (cold room) integrates the whole supply chain for perishable products and minimizes the wastage at the production centre, logistics and storage. Consultation and advisory services are very much necessary for implementing contract and corporate farming at the field level.

Over the years the young men and women have seen agriculture as out-dated, labour intensive, unprofitable venture and have left it for the old and fragile to seek better opportunities as white collar workers. Agripreneurship tries to change this mind-set of young graduates by making them see agriculture as a dynamic sector, offering a multitude of opportunities for entrepreneurship along the entire agribusiness value chain. This makes them seek out need in the society which they can fill through agriculture by processing or adding value to meet such need.

Agripreneurship in Nigeria is still at the rudimental stage; efforts should be geared towards making it popular especially among young men and women. Government emphasis has shifted towards agriculture. Agripreneurship paves way for the actualization of the diversification of the economy through agriculture if the necessary infrastructures needed are put in place to achieve this height. Agricultural extension has a big role to play in educating the populace on opportunities in agripreneurship and teaching them what it takes to be an agripreneur.

The possible areas of entrepreneurship in agriculture include:-

- Agro produce processing units – There units do not manufacture any new product. They merely process the agriculture produce e.g. Rice mills, Dal mills, flour mills decorticating mills etc.
- Agro Produce manufacturing units – These units produce entirely new products based on the agricultural produce as the main raw material. E.g.-Sugar factories, Bakery, Straw board units etc.
- Agro-inputs manufacturing units – These units produce goods either for mechanization of agriculture on for increasing manufacturing plants, e.g.- Fertiliser production units food processing units, agricultural implements etc.
- Agro service centres –These include the workshops and service centre for repairing and serving the agricultural implement used in agriculture.
- Miscellaneous areas – besides the above mentioned areas, the following areas may prove to be encouraging to establish agri enterprises such as setting up of Apiaries, feed processing units, seed processing units, mushroom production units, commercial vermin-compose units, goat rearing farmers club, organic vegetable and fruits retail outlet and bamboo plantation.

Role of agricultural extension in agripreneurship

Extension officers have a role in re-orientating farmers to think like agripreneurs. Agricultural extension ensures that the agro-economic and social environment of agripreneurs and the day-today production problems they face are appreciated by research, thereby facilitating the continuous re-orientation of research towards the priority needs of agripreneurs and the early resolution of important technological constraints.

Agricultural extension officers use previous experience to educate agripreneurs on agribusiness management, which will enable them to set realistic time and cost targets, allocate, combine and utilize resources efficiently and identify production risks.

Extension, by its operational strategy, provides linkage between sources of knowledge, idea or information and the end users of the knowledge, after the knowledge has been processed by extension professionals into forms usable and adaptable to appropriate local conditions. It is most effective when it performs its traditional role of acquiring, processing and disseminating, in its most practical and simplified forms, complex and sometimes abstract knowledge from research centre activities. Essentially, provision of linkage to input, market and credit sources which are very crucial to the success of agripreneur. Also, extension assists agripreneurs to acquire and make better use of production information. Educated agripreneurs tend to be more efficient in food production due possibly to their enhanced ability to acquire technical knowledge, hence make significant and positive contribution, to agripreneurial development.

Challenges of Agripreneurship in Nigeria

Many studies have been carried out on the challenges of doing business or been entrepreneurs in Nigeria. Ifeanyi and Okechukwu (2014) submit that difficulty in obtaining loans, ignorance and lack of experience, lack of good business models, infrastructure constraints, stiff government policies and corruption are the major factors that militate against entrepreneurial progress in Nigeria. In an earlier study, Ihugba *et al.*(2013) submitted that

inadequate credit facilities, graft policy summersault, multiple taxation, poor infrastructure, poor adaptability and resilience are among the numerous barriers to the growth and development of entrepreneurship in Nigeria. Some of the challenges faced by agripreneurs in Nigeria include:

Inadequate finance: Inadequate finance available to agricultural entrepreneurs is one of the biggest problems which entrepreneurs are bearing especially due to the recession. Major difficulties faced by entrepreneurs includes low level of purchasing power of rural consumer so sales volume is insufficient, lack of finance to start business, reduced profits due to competition, poor pricing of goods and services. Prospective agripreneurs are scared by financial institutions through high interest rates and lack of collateral. This has hindered the advancement by prospective agripreneurs.

Inadequate basic amenities: This has been a hitch and setback to the Nigerian economy and siting of business in the country. The epileptic power supply has increased the cost of doing business in the country. Alternative source of power increases the cost of production. Poor road network and bad roads in the country has reduced the ease of connectivity among states and the cost of transporting goods is on the high side. Poor storage facilities lead to waste of agricultural produce. Insurgency has scared prospective business and all these have limited the success of agripreneurship in the country.

Inadequacies of past policies and programmes of the government: government policies especially agricultural policies are not effectively implemented. Improper policy articulation enthrenches poor support, policy uncertainties/inconsistencies or failure of agricultural policy results from poor institutional arrangements. This has increased the risk associated with agriculture and reduced its desirability. There are no subsidies and incentives to encourage the farmers to expand production. Also, infant industries are not protected as they face competition with the foreign markets while stiff government policies discourage business growth.

Inadequate Extension Field Staffs: The level of staffing of extension agencies is inadequate to meet the agricultural extension services requirements and demands in the country. This has limited the spread of information to farmers in the rural areas and their coverage. Also, conditions of service are not favourable which has reduced job satisfaction and desirability of extension jobs.

Price Volatility: the rapid increase in the price of input and output has been the trend as the Nigerian economy is hit by recession. This has increased the cost of doing business in the country. This poses a big threat to agripreneurship in the country.

Inadequacy of Appropriate Technology: Using either too obsolete or sophisticated technology tends to frustrate the linkage for lack of know-how and cost of maintenance. Where technology happens to be too advanced for the indigenous labour force, it renders the workforce useless while high energy consuming technology truncates production due to huge cost of fuels.

Corruption in the agricultural sector: This factor cannot be over emphasized. Establishing and running businesses in the country is quite hard as hands must be greased for business activities to run smoothly. Often time government aids and funds do not get to the desired audience.

CONCLUSION AND RECOMMENDATIONS

This paper concludes that agripreneurship development in Nigeria is low and confronted with many challenges.Government should encourage agripreneurship by providing infrastructure, regular basic training and increased funding for research and extension.

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CONSEQUENCES OF TRANSHUMANCE AND FARMER'S CONFLICTS ON RURAL LIVELIHOODS IN OYO STATE, NIGERIA

Adebo, G. M., and Olotu, A. F.

ABSTRACT

The occurrence of conflicts over the use of scarce natural resources between farmers and herdsmen in Nigeria are on the increase in recent times. The study investigates the consequences of transhumance and farmer's conflicts on rural livelihoods in Oyo state, Nigeria. A three-stage random sampling technique was used to select 90 farmers from six communities contiguous with herdsmen' stock routes for the study. Data were collected with the aid of a structured questionnaire. The data collected were subjected to descriptive and the Relative Importance Index analysis. The consequences of the conflicts on rural livelihoods were viewed under four sub-groups namely, physical, economic, social and socio-psychological aspects. Each of the aspects has variables ranging from three to eight. Two out of the five variables under physical aspect was significantly affected by the transhumance-farmers conflicts; these were home and farm destruction and sustaining wound and injury with relative important indices of 0.66 and 0.65 respectively. The economic aspect revealed a reduction in crop yields, reduction of outputs and reduction in farm income with 0.76 relative importance indices each. The social-psychological aspects revealed four out of the six relevant variables and they are a reduction in food quality and quantity (0.71), farm job abandonment (0.72), sleepless night (0.64), and fear and anxiety (0.65). The study concludes that transhumance-farmers conflicts conflict had negative consequenceson every aspect of rural livelihoods in Oyo state, and thus, utmost attention should be placed on reducing/eliminating the re-occurrences

Keywords: Transhumance conflicts, livelihood, farm output, Income, and farm sustainability

INTRODUCTION

In recent times, transhumant Pastoralist and sedentary/migrant farmers have engaged each other in a destructive warfare that is threatening the peace and stability of Nigeria. The *Fulani* in Nigeria naturally occupies some part of the drought-stricken regions of the Sahel (Boko, 2007). They have to migrate down south and some areas of the middle belt to escape from the ravaging effect of the drought as well as to save their cattle from dying (Umar, 2006).

The regular seasonal movement of cattle, southward in the dry season in response to shortages of pasture and water, northward in the wet season to avoid tsetse, is a consistent pattern of transhumance among the Pastoral Fulani of the Savanna zone in Nigeria. The speed and length of these seasonal movements vary from area to area and from year to year and may be correlated with a number of local conditions. Among these, the principal factors are: the duration of wet and dry seasons; the size of herds; the presence of other herds; the density of sedentary population and the extent of farmland under crops; and the last, but not the least, the availability of suitable markets where dairy products may be sold or exchanged against cereal and root foods. In the process, the migration of these herdsmen has caused more harm than good in all these areas (Abugu and Onuba, 2015). For instance, between the year 2000 and 2015, there have been reported cases of conflicts and confrontation between the *Fulani's* and the indigenes of the areas they migrated to. The media (print and electronics) is wash with reported cases of clashes between the Fulani's from the North and the inhabitants of the Plateau, Kogi, and Benue in the middle belt region of the country and some parts of the Eastern region (Abugu and Onuba, 2015).

The Sun Newspaper of June 30th, 2014 reported the clashes between the *Fulani's* and the *Agatu*people of Benue State and the clashes left the masses dead. In the eastern parts of the country, like, Uzouwani (Enugu State), Ezeagu and Umuahia (Abia State), such clashes have not gone unnoticed. In 2013, the press media reported that the Fulani killed three people and caused significant damage to crops in Umuahia, Abia State. The case of Benue State is pathetic as the Fulani have become an army of occupation to the inhabitants of the areas.

The South-west region is not exempted from the unrest caused by the *Fulani* herdsmen. Recently (The Nation, April 12th, 2016), armed herdsmen invaded Oke-ako area in Ikole Local Government of Ekiti State and killed a farmer on his plot. Many of these acts have also occurred in agrarian communities of Oyo, Osun and Ondo States whereby significant crops were damaged and lives are at the same time lost.

The conflict had been primarily about resource use, damage to crops, blocking of transhumant corridors (Burtali), farming along the valleys and stream/river banks and uncomplimentary agricultural policies by government. However, the recent conflict had assumed a dangerous dimension with the infusion of ethnic, religious and political factors into it. Cattle rustling, availability of dangerous weapons, intra-pastoralist conflicts, mercenary elements and dangerous drugs had all added to the combustion. In fact, reports had it that most of the pastoralists are involved in violent attacks, killings, and armed robbery, and banditry, damage to crops, theft, and

kidnapping. It is believed that many herdsmen who are involved in violent clashes with farmers in Nigerian villages are not Nigerians. According to Mohammed (2013), the Nigerian Constitution has given every citizen the fundamental right to freedom of movement in search of legitimate businesses; transhumance pastoralism is seen along these lines. Also, "For pastoralists from neighbouring West African countries, access to grazing rights in other countries in the ECOWAS zone including Nigeria, are guaranteed by the ECOWAS Transhumance Protocol of 1998 and ECOWAS Protocol of Free Movement of Goods and Persons in West Africa."

Most of the crises were reported on the news; however, there is a dearth of information about the consequences of the conflicts on the livelihoods of the farmers in Oyo state. It is against this background that the study focused on answering the following research questions. What are the causes of conflicts among the farmers and the transhumance nomadism? What are the damages done to the rural inhabitants? What are the socio-psychological consequences of herdsmen/ farmers conflict?

METHODOLOGY

The study was carried out in Oyo state. Oyo is an inland state in southwest Nigeria, with its capital at Ibadan. It is bounded on the north by Kwara State, in the east by Osun State, in the south by Ogun State and in the west partly by Ogun State and Republic of Benin.

Oyo state was formed in 1976 from Western Nigeria and included Ọsun State, which was split off in 1991. Oyo State is a homogenous state, mainly inhabited by the Yoruba ethnic group. The indigenes comprise the Oyos, the Oke-Oguns, the Ibadan and the Ibarapas, all belonging to the Yoruba family and indigenous city in Africa, south of the Sahara. Ibadan had been the centre of administration of the old Western Region, Nigeria since the days of British colonial rule.

Other notable cities and towns in Oyo State include Oyo, Ogbomọso, Iseyin, Kishi, Okeho, Saki, Eruwa, Iroko, Lanlate, Oje-Owode, Sepeteri, Ilora, Awe, Ilero, Igbeti, Igboho and Igbo-Ora, Otu.

Oyo State covers approximately an area of 28,454 square kilometers and is ranked 14th by size. The landscape consists of old hard rocks and dome-shaped hills, which rise gently from about 500 meters in the southern part and reaching a height of about 1,219 metre above sea level in the northern part. Principal rivers such as Oba, Ofiki Ogun, Oyan, Osun, Sasa, Erinle and Oni River originate from these highlands. The Climate is equatorial, notably with dry and wet seasons with relatively high humidity. The dry seasons span from November to March while the wet seasons starts from April and ends in October. The average daily temperature ranges between 25° C (77.0° F) and 35° C (95.0°F), almost throughout the year

Sampling and sampling procedures

A multi-stage sampling technique was employed to draw the sample for the survey.The first stage involved a purposive selection of six villages from Oyo State where transhumance movement and nomadism/farmers conflict is prevalent. The villages are Okeho, Shaki, Iseyin, Ayetoro, Igboho, and Kishi.The second stage involved snow-ball selection of 15 farmers and four herdsmen from each village whose farm is trampled on by the herds of Fulani or that have experienced pastoral agricultural clashes or conflict in recent times. Thus, a total of 90 farmers and 24 herdsmen were selected and interviewed for the study. A well- structured interview schedule wasused to obtain the information for the study. The data collected were analyzed using Descriptive statistics such as frequency counts and percentages and mean. Relative Important Index was used to measure the socio-psychological consequences of the conflicts on rural livelihoods.

The **Relative Important Index (RII)**

RII = Sum of Weights (W_1+W_2+W_3+ ….. +WN) / A x N

Where W = weights assigned to each factor by the respondents and it ranges from 1 to 5 where '1' is less important and '5' is extremely important.

A = highest weight (i.e. 5 in this case), and N = total number of respondents.

Weighted score =

$$\frac{\text{No of SA X5+No of A*4+No of U*3+DX2+SD X1}}{\text{A X N}}$$

Any weighted score below three is considered as not important and vice versa

RESULTS AND DISCUSSIONS

Causes of Pastoralist and Farmers'Conflicts in the Study Area

The result in Table 1 revealed themajor causes of pastoralist and farmers' conflict in Oyo state in order of importance were an encroachment of farmland, crop damage, stealing of crops and competition for food and water as indicated by 96.67, 83.33, 73.33, and 48.89 percent of the respondents respectively. It could be affirmed that pastoralist and farmers' conflicts in Oyo state were caused by encroachment of farmland, crop damage, stealing of crops and competition for water and food. The findings support the assertions of (Adelakun *et al*., 2015) that damage to crops is one of the major causes of farmers-pastoralist conflicts in Oyo state. Also, (Dimelu *et al*., 2017) discovered that socio-economic, security, production practices and institution-related factors were the major factors causing farmer-pastoralist conflicts in Kogi state Nigeria.

The herdsmen in Oyo state opined that the causes of conflicts between them and the farmers were numerous. It ranges from crop damage (91.67%) to deliberate hostility (83.33%) and ethnic rivalry (83.33%), farm encroachments (75.9%) and competition for food and water (75.0%) (Table 1). Since the farmers and the herdsmen were able to identify the major causes of conflicts between them, it is imperative that the problems could be easily solved if all the stakeholders could come together to conflict resolution through peacemaking interventionists.

Table 1: Distribution of Respondents based on the causes of pastoralist and farmers' conflict in Oyo state

Causes of conflict	Farmers (N=90)		Herdsmen (N=24)	
	Freq.	%	Freq	%
Encroachment of farmland	66	96.67	18	75.00
Crop Damage	87	83.33	22	91.67
Ethnic rivalry	33	36.67	20	83.33
Indiscriminate bush burning	16	17.78	4	16.67
Stealing of crops	75	73.33	12	50.00
Competition for land and water	44	48.89	18	75.00
Deliberate hostility by other parties	16	17.78	6	25.00
Little respect for traditional rulers or landowners	22	24.44	20	83.33
Low awareness of stock routes	23	25.56	8	33.33
Depleting soil fertility	5	5.56	8	33.33
Low level of compliance to stock routes	31	34.44	8	33.33
Declining influence of traditional rulers	26	28.89	2	8.33

***Multiple responses**

Source: Field Survey, 2017

Distribution of respondents based on consequences of conflict on farmers' livelihood

The effects were measured under four parameters; physical, economic, social and emotional effects. In terms of the physical effects, it is discernible in Figure 1 that the major physical effects of pastoralist-farmers conflict on rural livelihoodwere farm destruction, sustenance of injury, wound of family members and assault as indicated by 93.33, 92.22 and 85.56 percent of the respondents respectively. Other physical effects of pastoralist/farmer's conflict were the death of family members and rape as indicated by 40.0 and 11.1percent of the respondents respectively. (Idowu, 2017) the reported massive death toll of many innocent lives and actors as grave consequences of farmers-herdsmen's conflict in Nigeria Olayoku (2012) noted that between the year 2006 and 2014, Nigerian Watch database recorded 615 violent deaths related to cattle in the year 2006 and a massive increase in the death toll in 2011. Likewise in the year 2013, Sunday Trust recorded a total of 300 deaths between January 1 and May 20 in the North Central states of Taraba, Nasarawa, Plateau, Nasarawa, Kogi and Benue states respectively.

The major consequence bore by the herdsmen was sustenance of wound and injury. All other consequences recorded very low percentages.

It could be affirmed that Pastoralist-farmers' conflict in Oyo state negatively impacts the livelihoods of the farmers. It confirms the study of Sulaiman and Ja' afar (2010) who reported that several human lives were lost during the farmer-pastoralist conflicts in Bauchi state between 2003-2008. Also, Olabode and Ajibade (2010) study revealed that the frequent causes of Fulani/farmers' conflict in Oke-Ero Local Government Area of Kwara State were the destruction of crops by cattle. Since Pastoralist-farmers' conflict threatens the existence and survival of farmers and their sources of livelihoods, there is an urgent concern to nib the problem to the board through a permanent solution

It could be affirmed that the farmers were mostly affected by the conflicts than the herdsmen. This might be as a result of the ability of the herdsmen to move along with their animals to other locations to source for the means of sustenance.

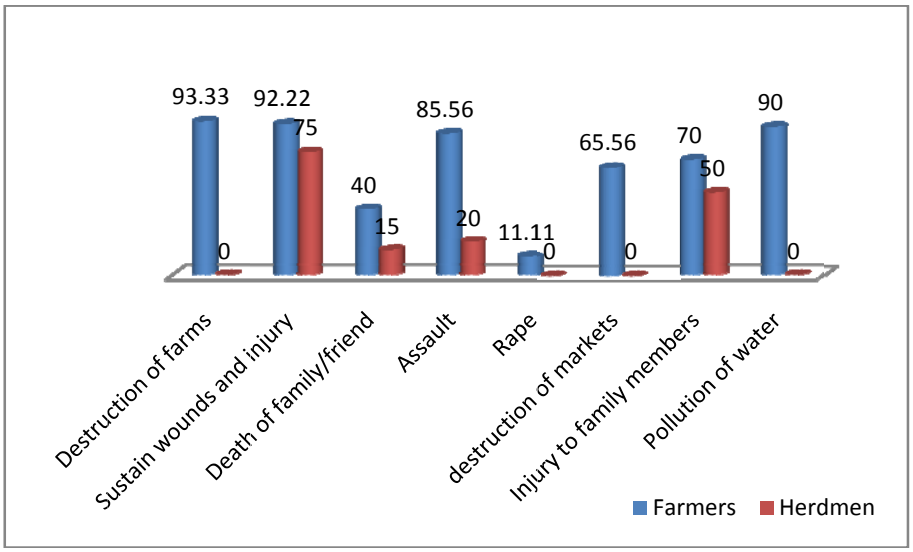

Figure 1: Physical Effects of pastoralist-farmers conflict on rural Livelihood

Economic effects pastoralist-farmers conflict on rural livelihood

Among the farmers, Figure 2 revealed that that 94.44 of the respondents suffered from reduced income and output respectively, while 92.22 and percent of the respondents suffered from low crop yield. in contrast, very few (15.0,18.0 and 48.0%) suffered from low productivity, reduced animal production and reduced income respectively.

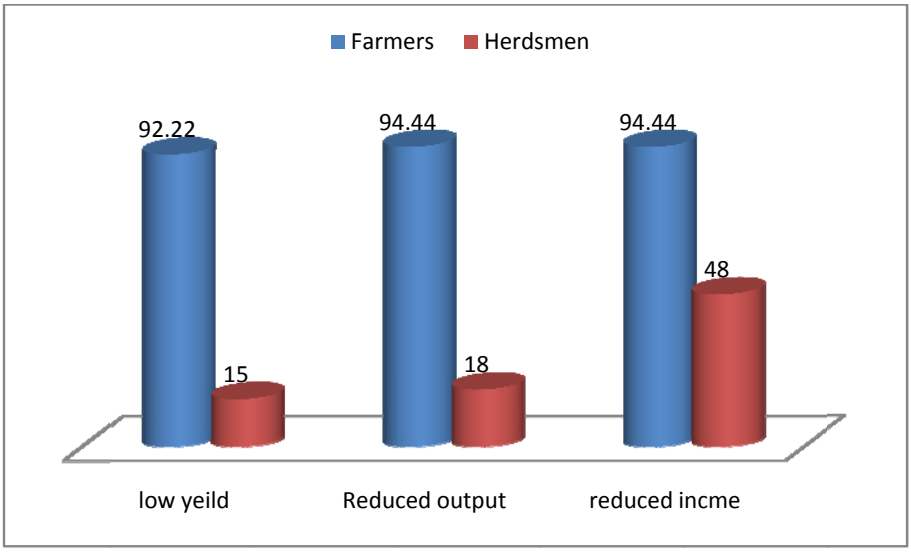

Figure 2: Economic effects pastoralist-farmers conflict on rural Livelihood

Socially, pastoralist- farmer's conflicts in Oyo state negatively affect the personal and family health, self-esteem and social relationships of 86.67, 62.22 and 57.78 percent of the farmers respectively (Figure 3). None of the herdsmen suffered any social consequences. This might be because of the cultural differences between the Oyo people and the herdsmen which are Fulani's.

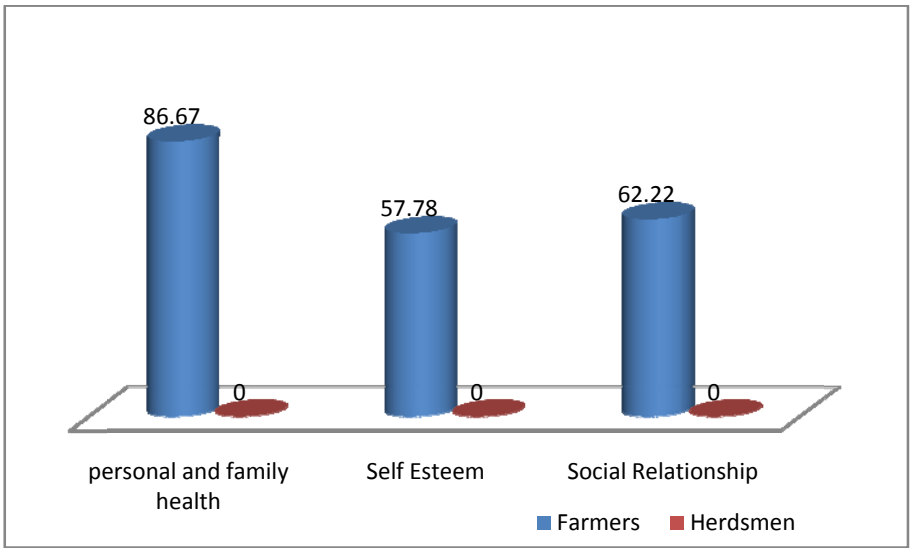

Figure 3: Social effects of pastoralist-farmers conflict on rural Livelihood

The psychological effects of the conflicts in Oyo state were the reduction in the Stress, worry and Anxiety, fear, and Anger as shown by 90.00, 82.22 and 74.44 percent of the respondents respectively. Other psychological effects include physical exhaustion and arose of anger/emotion as revealed by72.22 and 57.78 percent of the respondents respectively (Figure 4).

Stress, according to Bruce (1998) is a mental physical and emotional strain on the body. It occurs occasionally and in response to a stressor. Stressful experiences include major life events, trauma, and abuse and are sometimes related to the environment in the home, workplace, or neighborhood. Stress can have long-term consequences on the body and the brain.

Worry and anxiety, fear and anger are emotional reactions. According to Lindner (2013) emotions are the "wireless navigation system" for participating in relationships. Emotions monitor our inner world; track our relationships with the outer world; and help us to act. While tracking our relationship with the outer world, emotion can cause us to make grave mistakes, because the outer world entails both our ecological and social environments. Both can slide into opposition in disastrous ways. It is instructive to note that the farmers were more hard hit by the pastoralist farmer's conflicts than the herdsmen

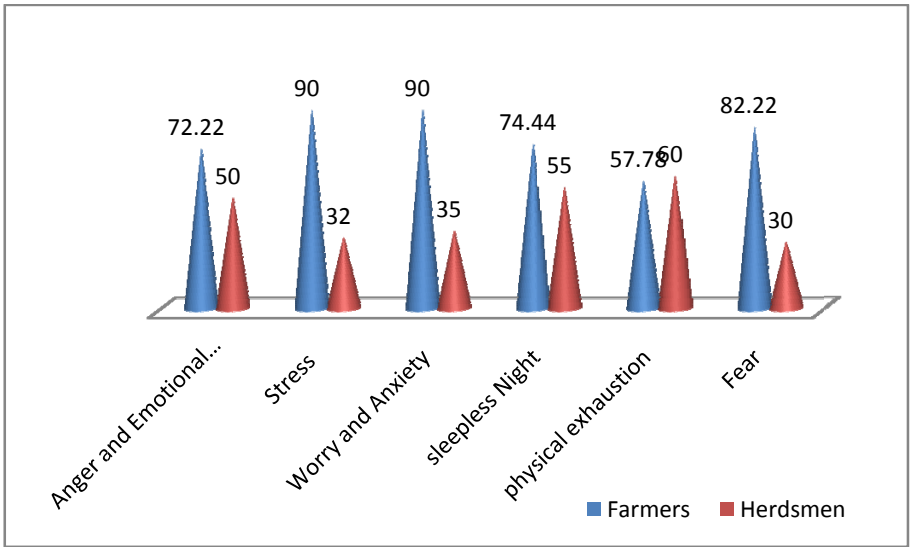

Figure 4: The Psychological consequences of pastoralist-farmers conflict on rural Livelihood

Distribution of respondents based on the magnitude of the consequences of conflict on their livelihood

The result in Table 2 revealed the distribution of respondents based on the extent of the consequences of pastoralist and farmers'

conflict on farmers' livelihood in Oyo state. These consequences are also classified into four aspects namely, physical, economic, the social and psychological aspects. Each of the aspects has variables ranging from three to eight. It is imperative to note that the mean point for the variables is 2.50 and any variable found to be greater than the mean point is considered to be more relevant while any variable found to be lesser than the mean point are considered to be less important or relevant.

Two (home and farm destruction and sustaining wound and injury) out of the five variables were the physical effects of the conflicts mostly felt among the rural inhabitants. All the economic variables were earnestly affected by pastoralist and Farmer's conflictin Oyo state. Four of the six psychological variables were greatly affected as a result of the conflicts. They are Fear (0.71), stress (0.72), sleepless night (0.64), worry and anxiety (0.65) and were accorded 5th, 4th, 9th, 7th, positions respectively.According to Castro (2017), emotion deeply informs motivation; strong emotional intensity provides the energy for action. Weak intensity manifests as low energy, producing ineffective or meaningless responses. In essence, a farmer who could not sleep that is afraid or anxious would definitely have weak emotions and would not have enough energy for actions, thus leading to ineffectiveness and low productivity. Worry according to Borkovec, William Ray, and Stöber (1998) inhibits emotional processing, produces anxious and depressive experiences (Adisa, 2017) revealed varying degrees of psychological, physical and socio-economic dimensions to the effects of the conflict among respondents from all sides (farmers and herdsmen). Also, (Odoh, 2012) justifies the necessity to develop and adopt various coping strategies to mitigate the effects of conflicts between farmers and herdsmen.

In terms of the magnitude of the consequences of the conflicts on herdsmen, only one out of the eighteen variables was relevant and this is the sustenance of wound and injury with a relative importance index of 0.646. It shows that the farmers bear mostly the consequences of pastoralist and farmers' conflict.

Table 2: Distribution of Respondents by the Magnitude of the Effect of pastoralist and Farmer's conflict

Extent of conflict effect on rural livelihood	**Farmers**			**Herdsmen**		
	MEAN	RII	RANK	**MEAN**	**RII**	**RANK**
PHYSICAL EFFECTS						
Farm destruction	2.62	0.66	6th	1.25	0.313	15th
Sustain wound and injury	2.60	0.65	7th	2.58	0.646	1st
Death	2.07	0.52	16th	1.67	0.417	9th
Assault	2.33	0.58	10th	1.42	0.354	13th
Rape	2.03	0.51	17th	1.42	0.354	13th
Destruction of market	1.98	0.49	18th	1.17	0.292	17th
ECONOMIC EFFECTS						
Crop yield	3.02	0.76	1st	1.17	0.292	17th
Reduce output	3.04	0.76	1st	1.25	0.313	15th
Reduce income from crops	3.02	0.76	1st	1.17	0.292	17th
SOCIAL EFFECTS						
Personal/family health	2.28	0.57	14th	1.67	0.417	9th
Self esteem	1.69	0.42	19th	1.67	0.417	9th
Social relationship	2.30	0.58	10th	2.08	0.521	3rd
PSYCHOLOGICAL EFFECTS						
Anger/emotional exhaustion	2.32	0.58	10th	2.17	0.542	2nd
Stress	2.84	0.71	5th	1.83	0.458	6th
Fear	2.87	0.72	4th	1.83	0.458	6th
Sleepless night	2.57	0.64	9th	2.08	0.521	3rd
Family inconveniences	2.32	0.58	10th	1.83	0.458	6th
Physical exhaustion	2.14	0.54	15th	1.92	0.479	5th
worry/anxiety	2.61	0.65	7th	1.58	0.396	12th

Source: Field survey, 2017

Summary

The Study was carried out to investigate the consequences of transhumance and farmer's conflicts on rural livelihoods in Oyo State, Nigeria. A total of ninety farmers and 24 herdsmen were selected using a snowball technique. A well-structured interview schedule was used to obtain the information for the study. The data collected were analyzed using Descriptive statistics such as frequency counts and percentages and mean. Relative Important Index was used to measure the

socio-psychological consequences of the conflicts on rural livelihoods.

The result of the findings show that from the farmer's perspectives, pastoralist and farmers' conflicts in Oyo state were caused by encroachment of farmland, crop damage, stealing of crops and competition for water and food.

The herdsmen in Oyo state opined that the causes of conflicts between them and the farmers were numerous. It ranges from crop damage to deliberate hostility, and ethnic rivalry, farm encroachments, and competition for food and water

The physical consequences of conflict include home and farm destruction, sustenance of injury and wound by their family members and assault, death of family members and rape. The only consequence suffered by the herdsmen was sustenance of wound and injury.

The economic consequences suffered by the farmers were reduced income and output and low crop yield. The major economic consequence suffered by the herdsmen was reduced income. Socially, pastoralist- farmer's conflicts negatively affect the personal and family health, self-esteem and social relationships of the farmers, but it has no social effect on the herdsmen.

The psychological effects of the conflicts suffered by the farmers include the Stress, worry and Anxiety, fear, and Anger, physical exhaustion and arose of anger/emotion

In terms of the magnitude of the consequences of conflict on their livelihood, home and farm destruction and sustaining wound and injury were the major physical effects of the conflicts mostly felt among the rural inhabitants. The psychological variables greatly affected were Fear, stress, sleepless night, worry and anxiety

CONCLUSION

It could be affirmed that Pastoralist-farmers' conflict in Oyo state negatively impacts the livelihoods of the farmers. Both the farmers and the herdsmen suffer damages from the conflicts that arose between them. The farmers were mostly affected by the conflicts than the herdsmen.

The physical, economic, social and psychological aspects of rural farmers were greatly affected by the conflicts. The effects of the conflict were felt more by the farmers than the herdsmen.

RECOMMENDATION

The Study recommends thatefforts should be made to make grazing laws in Oyo state to curb Pastoralist-farmers' conflict.

The government, private investors, and non-governmental organizations should come to the aids of the farmers in the study area through compensations for the damages done during the conflicts.

Grazing land should be provided for the animals during off season. Also, efforts should be made to provide silage and hay during the period of wet seasons and made available during dry seasons.

Entrepreneurs should look into the commercialization of silage and hay production and processing

Farmers should be encouraged to plant either castor plant, Senna alata or Jathropha plants around their farms. Senna alata plants put off animals, castor plant is very poisonous to plant. Animals naturally repel the smell of jathropha plants.

Adequate security measure should be provided for both the farmers and herdsmen in Nigeria. The security of lives of both the farmers and herdsmen are very important, hence all conflict resolution strategies should be employed to prevent further occurrence

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ECONOLOGICAL CAUSES OF INDUSTRIAL CONFLICT IN INSTITUTE OF AGRICULTURAL RESEARCH AND TRAINING (IAR&T), IBADAN OYO STATE, NIGERIA

Bolarinwa, K. K. and Oyeyinka, R. A.

ABSTRACT

The incessant share opposing interests between workers and the management in institution necessitated this study. The study investigated the persistence occurrence of industrial conflict, ascertained causes of industrial conflict and suggests ways of preventing industrial conflict in the institution. Survey research method was used in eliciting information from the employees. Sample size of seventy (70) employees was randomly sampled out of seven hundred and ten (710) employees. The data collected were analysed using Person Product Moment Correlation. Findings show that 54.3% of the employees were within the age range of 31 to 40 years, while 60.0% were male.Majority (91.4%) of the employees had tertiary education. Concerning type of industrial conflict, results show that, indicated that anxiety (2.40,), locus for power distribution (2.23) and resources distribution by gender (2.22) were the common types of industrial conflict experienced in the institution. Also, working condition (2.80), demand for higher wages (2.52) and allowances (2.24) were the economic causes of industrial conflict in the institution. There was a significant relationship between economic and non economic causes of conflict and incessant occurrence of conflict in the institution ($P<0.05$). Thus, there is need to pay serious attention to the causes of industrial conflicts in order for the management to reduce and avoid occurrence of conflicts for smooth administration and high productivity of the institution.

Keywords: Industrial Conflict, Causes of conflict, Employee

INTRODUCTION

The concept of industry involves an exchange relationship between two major actors namely, employers and employees, as well as the intervening role of the state. In such relationship conflicts are inevitable as there will always be conflicts and disagreements between employers and employees, either on wages or on the general condition of service of the workers. Industrial conflict can therefore be explained as the inability of these parties (either between employer and employees or within their groups) to reach agreement on any issue connected with the object of employer and employees interaction. Suresh (2014) opined that industrial dispute occurred within an organisation when there is difference between employers and employers, between employers and workmen, or between workmen and workmen, which is connected with the employment or non-employment or the terms of employment or with the conditions of labour of any person. Onyeonoru (2005) defined industrial conflict as all expressions of dissatisfaction within the employment relationship especially those pertaining to the employment contract and effort bargain.

Industrial conflict is expressed in different terms such as strike, strike action, industrial unrest, industrial disharmony, trade dispute, industrial dispute, etc. It is a concept which express the existence of unhealthy relationship between key actors in an industrial setting (Ogunbameru and Oribabor, 2000). As people compete for jobs, resources, power, acknowledgment and security; dealing with it is difficult because it arouses primitive emotions such as people feeling threatened. However, conflict is by nature ubiquitous and inevitable in human existence. It is a product of human interaction and relation, and its occurrence is only among and between parties or groups.

Workplace conflict always signals before its arrival, even when organisation can't see it directly. If organisations pay attention to the warning signs, they can derail its effects before conflict flattens their workforce. They are clues that something is wrong and needs to be addressed. Conflict arises from a desired scarce resources, status or power. It is considered as a fact of life. We are in ever-changing economic, technology, social and political era in which conflict has become inevitable in a dynamic organization. Change and economic growth bring opportunities but they also bring risk particularly in an era of world-wide rivalry for market resources and influence. The inability of the managers to view and manage workplace conflicts systematically has rendered conflict dysfunctional in some organizations. It is therefore the task of management and employees to minimize risk involved in conflicts while taking advantage of the opportunities they provide.

There are two major sources of industrial conflict namely; internal and external sources. The internal sources refer to factors which are inherent within the framework of the organisation. The two crucial factors of internal sources are power relationship and the divergent interest of the industrial actors which often bring about conflict when they are about to share organisational industrial cake(Fajana,2000;Ajibade, 2004). External sources are outside four walls of the organisation it occurs when the third party intervention to industrial dispute becomes one sided or bias. It is important to differentiate 'sources' and 'causes' of industrial conflict. Sources of conflict explain the place or nature with which or from which conflict emanates and the

reason why conflict is endemic and inevitable. Causes of conflict explain those conditions that may warrant conflict to germinate and become issues of concern. Conflict at its source may not necessarily become issues of controversy, confrontation and concerns (Otobo, 2005).

Econological is an administrative terminology which proceeds from the basic assumption that people are economically rational and they attempt to maximise outputs in an orderly and sequential manner (Perretomode, 1991). Based on the explanation of econological concept, causes of industrial conflicts can be broadly classified into two categories: economic and non-economic causes. The economic causes will include issues relating to compensation like wages, bonus, allowances, and conditions for work, working hours, leave and holidays without pay, unjust layoffs and retrenchments. The non-economic factors include victimization of workers, ill treatment by staff members, sympathetic strikes, political factors, indiscipline (Arputharaj and Gayatri, 2014; Suresh, 2014)

Considering the past history of Nigerian industrial relations, one may conclude that industrial conflict is a dominant factor in the Nigerian labour relations. Industrial conflict has been a cankerworm that has eaten deep the marrow of Nigerian industrial and social development. Nigerian experienced several industrial disputes dating back from the colonial period to independence and to post-independence era. For instance in 2007 during Olusegun Obasanjo's regime, the Nigerian Labour Congress embarked on a nationwide strike protesting the increase in the fuel price with the aim of fighting for the interest of Nigerian citizens who are the primary consumers of the product. Also in 2009, the ASUU embarked on six months strike demanding for a revised salary structure and better working conditions. Furthermore on August 2011, the Nigeria Labour Congress also embarked on nationwide warning strike over the non-implementation of the new national minimum wage by the federal government as promised by the President Goodluck Jonathan during his campaign. In the Institute of Agricultural Research and Training, there were several industrial conflicts that had occurred. Notable among them is the one recorded on the 4th of March 2013, in daily independent newspaper 'that the protracted crisis rocking the Ibadan-based Institute of Agricultural Research and Training (IAR&T) had led to 10-month strikes. The crisis resulted in loss of two staff while some were hospitalized because managementbluntly refused to pay staff salary. Various attempts by two supervisory agencies to the Institute, Obafemi Awolowo University (OAU), Ile-Ife and the Agricultural Research Council of Nigeria (ARCN) in settling the matter failed. The failure in management of the industrial conflict was attributed to poor management of industrial conflicts within the organization.

In the word of Gregory and Georgia (2010), conflict in the workplace is a painful reality and a key reason for poor productivity and frustration. It does not magically go away and only get worse when ignored. If sufficiently widespread, these can have the same effect on the efficiency of the enterprises as organized action. In the situation where industrial conflict deteriorates badly or has become endemic, locating and dealing with the individualized cases, can often be more difficult than dealing with collective industrial actions. One significant area of economic growth is worker (employee) satisfaction which leads to significant work output. Where employees are satisfied with their work conditions there would be a commensurate increase in production.

Cooperation between management and workers or unions facilitates not only a settlement of disputes or disagreements but also the avoidance of disputes which may otherwise arise (Seniwoliba, 2013). The question is that, why is it that Nigeria do experience constant industrial conflicts? It is either the Nigeria Labour Congress or other trade unions pursuing an increase in either wage or the academic staff union of universities fighting over better working conditions etc. This calls for serious attention because one significant area of economic growth is workers' (employee) satisfaction which leads to significant work output. Where employees are satisfied with their work conditions, there would be a commensurate increase in production. Cooperation between management and workers or unions facilitates not only a settlement of disputes and disagreements but also the avoidance of disputes which may otherwise arise (Seniwoliba, 2013). Against this background, the recent industrial reform measure and the trends in strike activities which led to the reduction in workers' productivity is thus identified as a problem to the realization of industrial harmony in the country.

Hence, there is need to investigate causes industrial conflict in order for management to be able to know how to reduce and avoid this conflict from the view-point of the administrators themselves. As a result, the following specific objectives were advanced for the study:

1. describe the personal characteristics of employees within the research institute,
2. determine the signals of occurrence of industrial conflict in the research institute,
3. identify sources of industrial conflict in the institution and;
4. ascertain economic causes and non-economic causes of conflict in the research institute.

The following hypotheses were tested:

- There is no significant relationship between sign of industrial conflict and economic causes of industrial conflict in the research institute.
- There is no significant relationship between sign of industrial conflict and non-economic causes of industrial conflict in the research institute.

METHODOLOGY

The employees of the research institute were the population considered for the study. Simple random sampling technique was used to select seventy employees out of seven hundred and ten employees in the Institute. The data used in this study were collected using both primary and secondary data. Primary data were collected through the use of questionnaire while secondary data were obtained from the already existing materials/ information that were found relevant to the research. They were generally collected from textbooks, journals, seminar papers and internet materials.The instrument used in gathering the data for the study was questionnaire. The questionnaire contained items, which required the respondents to give information as regard to the data that will supply answer to the research objectives and hypotheses to guide data collection for the study. Red signal of occurrence of industrial conflict was measured using 3 point rating scale with 15 items developed by Moor (2008) Twelve–item scale was used to measure sources of conflict on a 3-point rating scale where the cut off point for the manifestation of each source is 2.0. Seniwoliba (2013) statements designed for measuring economic (13 items) and non-economic (9 items) causes of industrial conflict was presented to employee to react to each item using 3 point items rating scale and the cut-off point is 2.0

RESULTS AND DISCUSSION

Socioeconomic characteristics of the respondents

Table 1 shows that out of the employees interviewed, 54.3% of the employees were between the age group of 31 and 40 years. The mean age of the employees was 39.08 years. This indicates that most employees are in their active age.Also, 60.0% of the employees were male while 84.3% of the employees were married. It was found that half (50.0%) of the employees were Christians, and 54.3% of the employees had HND/BSc, 20.0% had MSc, 17.1% had NCE/OND, 5.7%2.9% had school certificate. The employees in the organisation have higher educational qualification being research institution where minimum qualification to secure employment in the organisation is first degree certificate ot its equivalent. The result also reveal that 52.9% of the employees had 10 years working experience. With this, it is expected that conflict management should be achieved with relative ease and such experience could help to reduce future occurrence of conflict. On salary scale, data shows that the employee was well paid as few (31.4%) of the employees earned less than ₦100,000.

Table 1: **Distribution of respondents by their socioeconomic characteristics** N=70

Variables	Frequency	Percentage
Age		
Less than or equal to 30 years	6	8.6
31-40 years	38	54.3
41-50 years	25	35.7
51 years and above	1	1.4
Sex		
Male	42	60.0
Female	28	40.0
Marital status		
Single	9	12.9
Married	59	84.3
Divorced	1	1.4
Widowed	1	1.4
Religion		
Christianity	35	50.0
Islam	29	41.4
Traditional	4	5.7
No response	2	2.9
Qualification		
School certificate	2	2.9
NCE/OND	12	17.1
HND/BSc	38	54.3
MSc	14	20.0
No response	4	5.7

Variables	Frequency	Percentage
Working class		
Researchers	40	40.0
Non Researchers	30	11.4
Years of working experience		
Less than or equal to 10 years	37	52.9
11 – 20 years	31	44.3
21 years and above	2	2.9
Income per annum		
Less than or equal to ₦100,000	22	31.4
₦110,000 - ₦200,000	9	12.9
₦210,000 - ₦300,000	13	18.6
₦310,000 - ₦400,000	26	37.1

Source: Field survey, 2014

Signs determining the frequency of occurrence of industrial conflict in the institution

As indicated in Figure1, the predominant indicators of industrial conflict in the institute were petition, various kind of strike, and riot by the labour union with mean scores of 2.70, 2.60 and 2.50, respectively. The implication of this result is that the management do fail to manage the conflict until it results into strike, petition and riot. This implies that management of the institute are non-challant in addressing signals of industrial conflict when it manifests itself gradually in the organisation. It could be inferred from the result that insensitivity of the management to signs of workplace conflict that flattens the institution workforce during the conflict period. According to Moor (2008), warning signs are clues that something is wrong and needs to be addressed before it is escalated by the organisational managers.

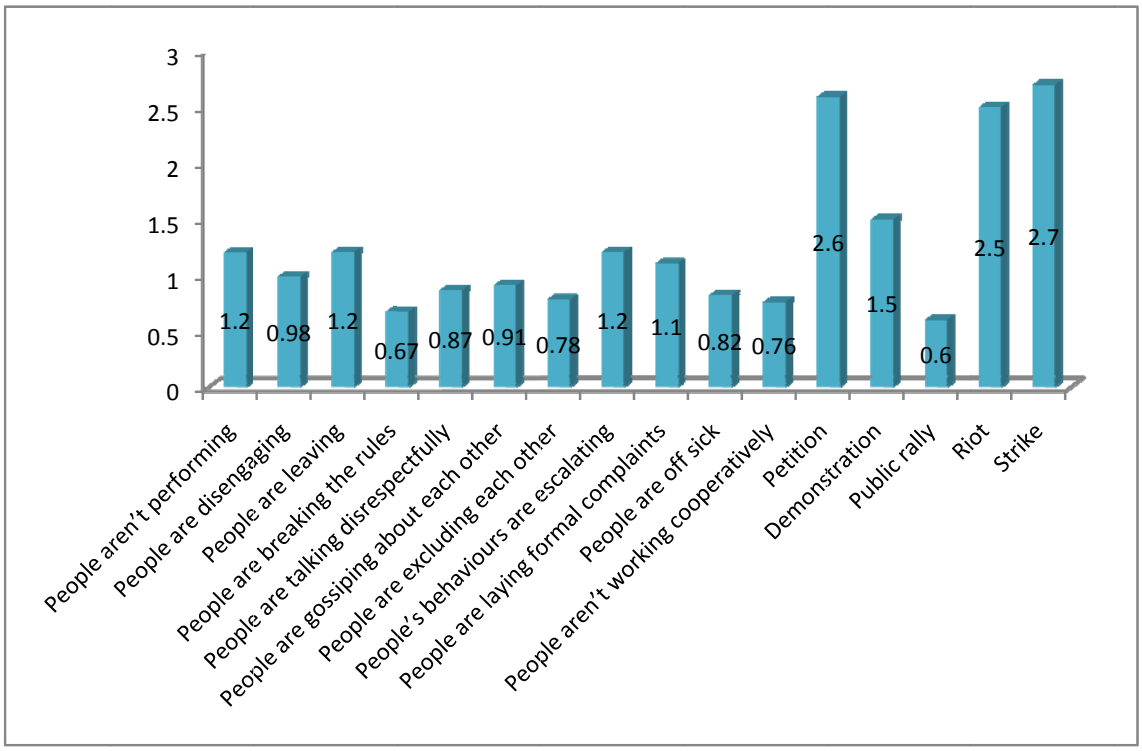

Figure 1: Signal of industrial conflict
Source: Field survey, 2014

Identification of the sources of industrial conflict that has occurred in the Institution

The results in Figure 2 reveal that the higher mean score of 2.40, 2.23, and 2.22recorded for anxiety, locus of power distribution, power and resources distribution by gender, respectively were the major sources of industrial conflict in the institution. The implication of the result is that anxiety, locus of power distribution, power and resources distribution by gender are the major

sources of industrial conflict in the institution. However, anxiety the employees expectations, and the belief that something terrible is about to happen which may be created by employees focusing attention away from the "here and now" ranked higher than any other sources of conflict as shown in Figure 2. Albrecht (1977) as cited in Walonick, (1993) confirmed that the society's number one health problem is anxiety, and that emotionally induced anxiety can be classified into four categories: time anticipatory situational anxiety, and encounter anxieties. Time anxiety is always created by a real or imaginary deadline. Anticipatory anxiety is created when a person perceives that an upcoming event will be unpleasant. Situational anxiety can occur when a person is in an unpleasant situation, and they worry about what will happen next. Encounter anxiety is created by contact with other people (both pleasant and unpleasant).

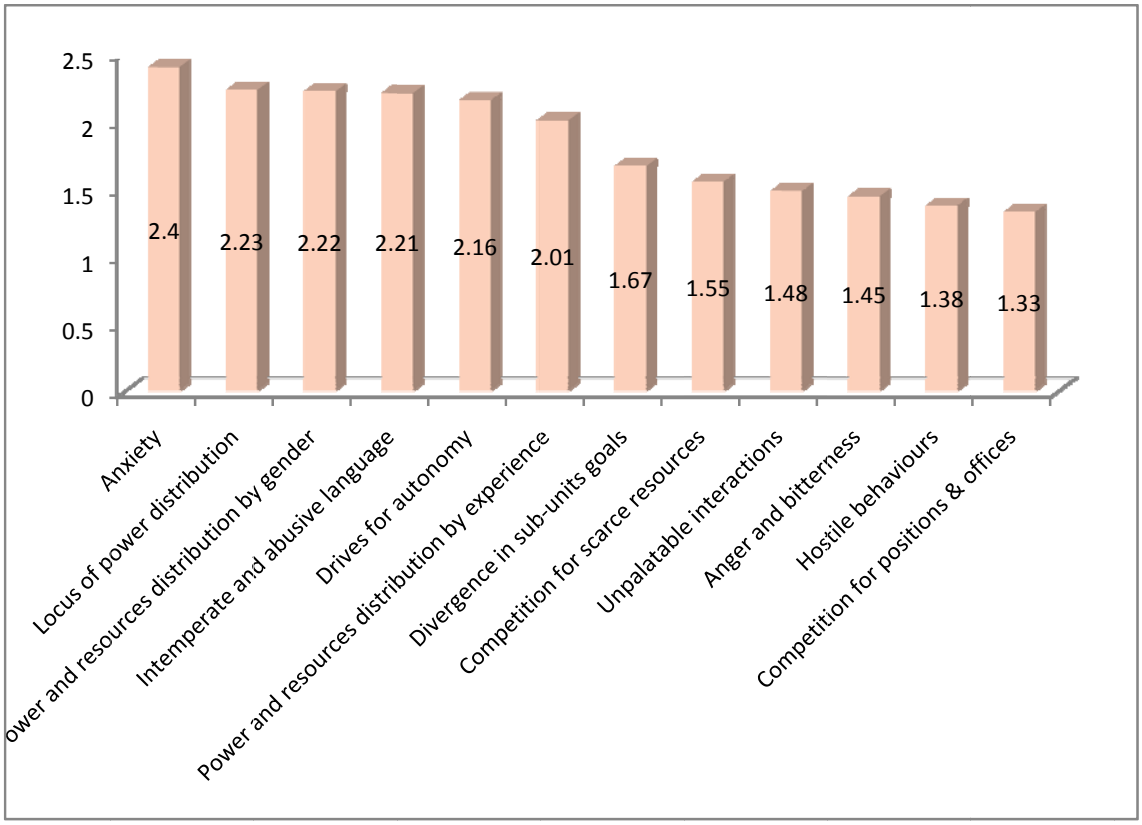

Figure 2: **Sources of industrial conflicts**

Economic causes of industrial conflict in the institute

The results in Figure3 reveal that change in conditions for work (2.80), demand for higher wages (2.52) and payment of allowances (2.24) ranked first, second and third, respectively as the major economic causes of industrial conflict in the research institute. These causes boil down to worker satisfaction which is a function of significant work output. In a situation where the employees are satisfied with their working condition there would be an increased in work efficiency. Therefore good industrial relations climate is essential to promote efficient production of goods and services a key consideration of profitability, the ability of enterprises to grant better termsand conditions of employment and for economic and social development.(Seniwoliba, 2013). Donkor(2010) corroborates the assertion of Seniwoliba (2013) by stating that industrial relations management not only enhances productivity of the workers, but it also helps in settling disputes through collective bargaining, in the areas of job satisfaction, job regulation and job rules.

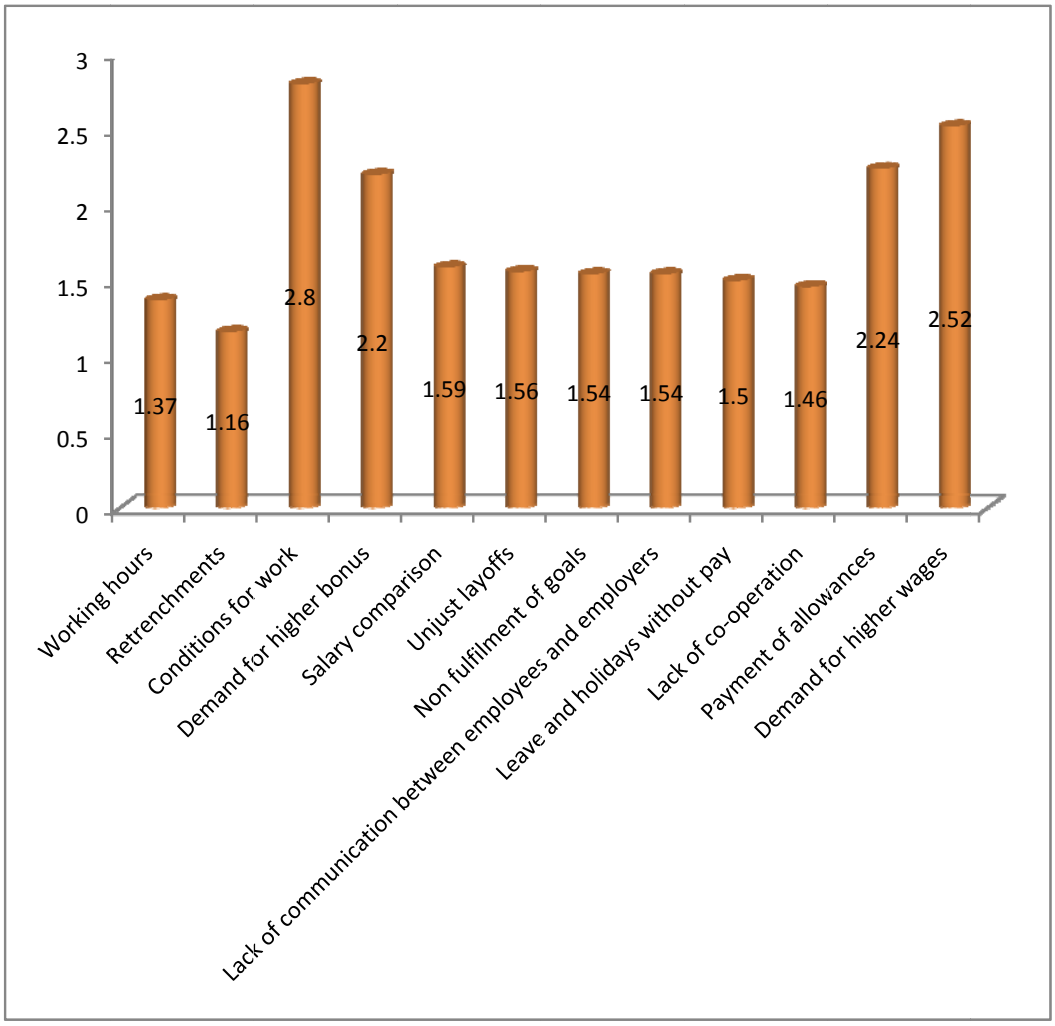

Figure 3: Economic causes of industrial conflicts

Non-economic causes of industrial conflicts

The non economic causes of industrial conflicts as shown in Figure 4 indicates that political factors(2.34), miscomprehension of roles (2.10) and violence (2.09) were identified as major non-economics causes of industrial conflict in the institution. The political factor ranked higher than any other factors considered. The implication of the finding is that the political issues within and outside the institution contributed greatly to industrial conflict that has occurred in the institution.

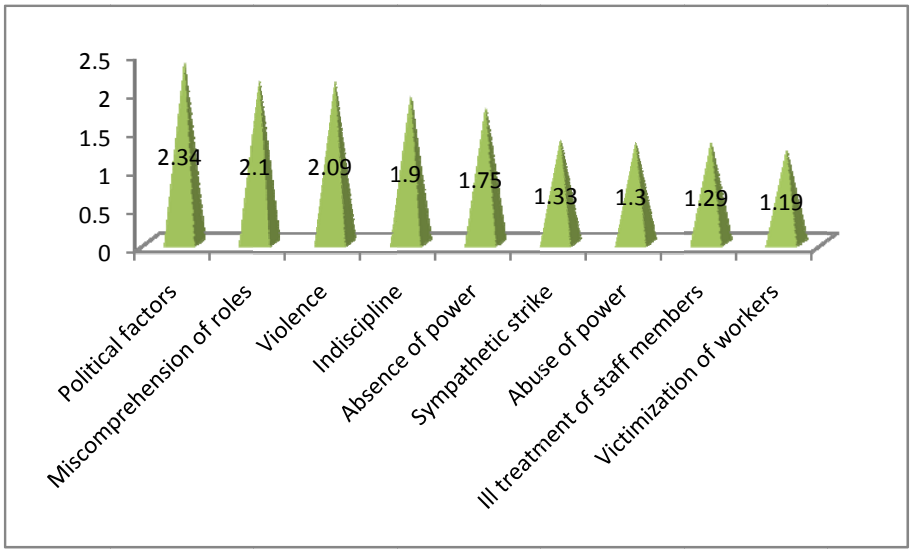

Figure 4: **Non-economic causes of industrial conflict**
Source: Field survey, 2014

Test of relationship between sign of industrial conflict and economic causes of industrial conflict in the research institute.

Findings in Table 2 reveals that there was a significant relationship between the lack of communication between employees and employers demand for improve working conditions, increase and demand for higher wages and economic causes of industrial conflict in the organisation. The inference that could be drawn from the result is that the lower the employer values these variables the higher the occurrence of industrial conflict in the institution. Also the values of coefficient of determination as indicated in Table 5 confirm the percentage contribution of each variable to the incessant signals of occurrence of industrial conflict in the Institution. Hence, the variables that have higher coefficient of determination should be considered as crucial to the effective running of the organisation and employee work efficiency.

Table 3: **Result of correlation analysis showing the relationship between incessant signals of occurrence of industrial conflict in the institution and economic causes of industrial conflict**

Economic causes	R	Coefficient of determination (R^2)
Demand for higher wages	-0.726	0.714
Demand for higher bonus	-0.513	0.508
Allowances	-0.696	0.713
Conditions for work	-0.870	0.826
Working hours	-0.809	0.809
Salary comparison	-0.083	0.149
Non-fulfilment of goals	-0.355	0.203
Leave and holidays without pay	-0.230	0.05
Unjust layoffs	-0.550	0.658
Retrenchment	0.150	0.27
Lack of communication between employees and employers	0.621	0.864
Lack of co-operation	0.082	0.101

** Significant at P< 0.05 r= correlation value

Test of relationship between sign of industrial conflict and non-economic causes of industrial conflict in the research institute

There is no significant relationship between non-economic causes of industrial conflict and occurrence of industrial conflict. This was tested using Pearson Product Moment Correlation and the result is presented in Table 3. Findings revealed that there is a significant relationship between political factors, violence as well as ill treatment by staff members and the occurrence of industrial conflict in the . This implies that the higher the political factors and violence and ill treatment by staff members, the more the occurrence of industrial conflict in the organisation. Moreover the coefficient of determination as shown in Table 3 further indicated the percentage

contribution of each variable to e occurrence of industrial conflict in the institution.

Table 3: Result of correlation analysis showing the relationship between signals of incessant occurrence of industrial conflict in the Institution and non-economic causes of industrial conflict.

Non-economic causes	r	Coefficient of Determination (r^2)
Victimisation of workers	0.508	0.584
Ill treatment by staff members	-0.701	0.608
Political factors	-0.826	0.831
Sympathetic strikes	-0.079	0.515
Indiscipline	0.530	0.515
Violence	0.683	0.650
Miscomprehension of roles	-0.641	0.525
Absence of power	-0.003	0.113
Abuse of power	0.588	0.571

r= correlation value

CONCLUSION AND RECOMMENDATIONS

Based on the findings of this study, it has been established in this study that conflicts of interest is inevitable between employer (management) and employee (labour) because there is an authority relationship in which the aims of the two parties will at least sometimes conflict. That the management of the institution was insensitive to mild signals of industrial conflict and neglect some sources of industrial conflict that suppose to prevent industrial conflict action in the institution if earlier precaution has been implemented. Likewise the study revealed that the major economic causes of industrial conflicts within the Institution were demand for higher bonus, conditions for work, working hours, non-fulfilment of goals, and leave or holiday without pay while the non-economic causes of industrial conflict are political factors and violence. Hence it is recommended that the management of the institution boostthe economic and non economic factors promoting industrial conflict in their institution. Also Conflict preclusion structures should be put in place to address industrial conflict signals and sources that can produce conflicts before they break open. In another word conflict situations should be promptly confronted and addressed whenever they occur rather than being avoided.

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EFFECT OF ADOPTION OF RECOMMENDED CASSAVA PRODUCTION PRACTICES IN BWARI AND KUJE AREA COUNCIL ABUJA, NIGERIA

Adamu, B. D., Sambo, E. B., Barnabas, T. M. and Hiikyaa, A. N.

ABSTRACT

Farming practices have been poor in Nigeria compares to countries like Brazil, Thailand and Indonesia. Stakeholders in agriculture have made all effort in promoting the adoption of recommended cassava production practices(RCPPs).In spite of this; adoption of RCPPs remain low and resulting to poor farm productivity. Consequently; this study examine the effects of adoption of the recommended cassava production practices (RCPPs) on the yield and income benefit among farmers; as well as the constraints faced by farmers in adoption of the recommended practices. The study used a multi-stage sampling procedure to select 120 registered cassava farmers. Frequencies, percentages, means, and z – test were employed for data analyses. Result of the Z-test revealed that the mean yield of cassava before and after adoption were 3,832 t/ha and 6,387 t/ha respectively; with a differential of 67%. The mean income of farmers before and after the adoption was ₦464, 642.00 and ₦714, 833. 00 respectively; and the differential mean was 54%. The major constraints for low and non-adoption of some of the recommended cassava production practices were limited scale and uneven distribution of farmland, insufficient funds and complex nature of technologies disseminated to farmers. It was recommended that technology developers should develop technologies that are simple, cost effective and easily adoptable by farmers. On the other hand, promoters of technology adoption should intensify efforts targeted at improving service delivery and the promotion of the adoption of recommended cassava production practices by the farmers especially those technologies that recorded low levels of adoption. But more than this, it is recommended that the applicable technologies should be appropriate, adaptive, adoptive and sustainable.

Keywords: Effect; technologies; adoption; recommended cassava production practices

INTRODUCTION

Nigeria is one of the world largest producers of cassava, with about 37 million tonnes of cassava cultivated on 2.5 hectares of land, with a national average yield of 14.8 metric tonnes per hectare (Olumide, 2003). However, a total output production of 38.17 million metric tonnes was reported to be harvested from 4.118 hectares of land with average yield of 9.271 tonnes per hectares (FAO, STAT, 2007). Nigeria's production accounts for 19% of the world output and 34% of Africa's output (Agwu and Anyaeche, 2007).Nigeria occupies the 8th position in terms of its productivity (kg/ha), relative to countries as Brazil, Thailand, Indonesia, Uganda, India, Ghana and Congo respectively. This is attributed to a number of production factors, such as: the varieties cultivated and the management practices adopted. These farming practices have been revealed to be poor in Nigeria compared to such countries like Brazil, Thailand, Indonesia (FAO, 2002). The International Institute of Tropical Agriculture (IITA), Ibadan, National Root Crops Research Institute (NRCRI), Umudike Umuahia and many other research institutions have developed appropriate cassava technology packages aimed at promoting cassava production and improvement on cassava yields. Cassava research by the by International Institute of Tropical Agriculture (IITA) and National Root Crops Research Institute (NRCRI) over the years in Nigeria has led to the development of different varieties that are resistance to major disease. These varieties give over 50% higher yield compared to local varieties (Yahaya, 2007). The persistent problem of food shortage in Nigeria has led to increasing agricultural productivity, which involves the use of improved yielding crop varieties. These have been popularised among farmers through extension services of agricultural development projects (ADPs) The multiplication, distribution and adoption of TMS varieties by farmers have led to tremendous yields increase over the years. For instance, presently Nigeria cassava production is reported to be by far the largest in the world. Indeed, the expansion of cassava production had been relatively steady since 1980 where production stood at about 12 million tonnes; and by between 1988 – 1992 productions increased to 15 and 26 million tonnes respectively; owing to the release of improved varieties**.** The Food and Agriculture Organisation (FAO) estimated that Nigeria produced approximately 34 million tonnes of cassava in 2002 (CBN, 1999; FAO, 2004)and 39 million tonnes in 2003 (CBN, 2003).

The economy is basically agrarian, with majority of the people living in squalor and very poor standard of living. Most of the farmers are subsistence small holders, farming 1.2 hectares of farmland under a traditional system characterized by low technology and production efficiency. Besides, they are also faced by problems of natural resource inputs, especially land, water, labour and management. The poverty among farm families goes beyond material deprivation to include insecurity, vulnerability and exposure to risks, shocks and stress. This poor condition of the rural communities had continued to deteriorate since independence due to severed neglect emanating from poor and inconsistent policies formulation and implementation by successive governments in Nigeria (Okozie, 2003).

The introduction of technologies to a social system is designed to achieve certain outcome, whether this is achieved or not depend on changes that are noticed among the target groups (FN Adun, University of Ibadan, Nigeria. Unpublished). Studies by (Philip *et al*., 1990), revealed that improved farm equipment enables farmers to increase the land area under cultivation and achieve higher income. (Berry, 1993, Sambo *et al* 2013 and Sambo *et al* 2015) noted that income is likely to increase, especially if production expands as a result of increases in yield per hectare and the adoption of cultural practices, which sustain soil fertility over time.

The problem limiting the production of cassava in the Federal Capital Territory (FCT) is the over dependence on traditional methods of production by farmers.The (RCPPs) is package aimed at improvement the improvement on cassava yield. Osuagwu (2002) who stated that cassava yield can be increased by adoption of recommended practices or by expanding the land area under cassava cultivation. The process of increasing cassava yield through modernization is depended on the extent to which farmers become aware of the existence of such recommended practices, develop interest, evaluate them, try them and become convinced of their relevance. It is only then that it can be expected that the farmers would adopt completely all the components of the recommended production practices.

Several studies (Okoosi 1990, Saito 1994 and Okozie, 2003) revealed that farmers in the study area have access to different improved cassava production practices and cassava hybrid cultivars. Thus, TMS 30572, TMS 4(2) 1425, TMS 99/2132, TMS 98/0581, NR 8032, MS6. The Federal government through the Cassava Multiplication Programme (CMP), the Root and Tuber Expansion Programme (R-TEP) and the Abuja Agricultural Development Project (ADP) have all made a lot of commitment in promoting the adoption of these recommended cassava production practices. However, in spite of all efforts,the farmers in the study area are still practicing the traditional cassava production methods (Kuta, 2007). Consequently, the production of cassava in the study area in terms of its yield (1.2 million tones) is relatively low (BAC Annual Report, 2004). Therefore,the need to determine factor militatingagainst the adoption of recommended cassava roduction practices on yield and income amongfarmers in Bwari and Kuje area council Abuja,The research seeks to answer the following questions:

i. what are the effects of adoption of recommended cassava production practices on income and yield of farmers?
ii. what are the constraints faced by farmers in the adoption of recommended cassava production practices?

The broad objective of this study was to determinants the effect of adoption of recommended cassava production practices on yield and income among farmers in Bwari and Kuje area council Abuja. The specific objectives are to:

i. Examine the effect of adoption of recommended cassava production practices on income and yield of farmers and;
ii. Identify the constraints faced by farmers in the adoption of recommended cassava production practices.

Hypotheses of the study

Adoption of recommended cassava production practices has no significant influence on yield and income of farmers.

METHODOLOGY

Study area

The Federal Capital Territory (FCT) is centrally located, lying within the latitude $8^0$25′N and $9^0$20′N. and longitude 6^O 45'E and 7^O 39'E. Abuja has a boundary with Kaduna State to north and Kogi State to the south. It is also bounded to the east and west by Nassarawa and Niger States respectively. There are six Area Councils in Abuja namely: Abaji, Bwari, Gwagwalada, Kuje, Kwali and Abuja Municipal Area Councils. Abuja covers an area of 8,000 square kilometres with a total population of 1,899,622 in 2012. National Population Census Result(NPC, 2006).Abuja like most parts of the country records its highest temperatures during the dry season months which are generally cloudless. During the dry season, the typical month of which is March, temperatures could be as high as 37^0C in the south-west and about 30^0C in the North-East(AESD, 2004).Rainfall starts from March in the Southern parts of the territory (Abaji and parts of Kuje Area Councils) and from April in the Northern parts (Bwari Area Councils) and ends around October in the Northern parts and November in the extreme south. The duration of the rainy season therefore, varies from 240 days in the Northern parts to 290 days in the Southern parts.(AESD, 2004).The people are predominantly peasant producers cultivating crops such as yam, cassava, maize, sorghum, rice, groundnut, beans and vegetables. The embark on small, medium and large-scale livestock marketing. The people live mostly in organised settlements, towns and cities (AESD, 2004).

Sampling procedure and sample size

Multi-stage sampling technique was used to select the study area and sample size.. Two Area

Councils (Bwari and Kuje) were purposively selected in the first stage. In the second stage, two out of the ten districts (Kuduru and Igu) were randomly selected from Bwari using a table of random number technique. Three districts (Rubuchi, Gwagwalada and Gudunkarya) were also selected from the fifteenth district of Kuje giving a total of five districts. This selection was based on the intensity and concentration of farming activities particularly cassava production in the study area, in the third stage, assigned value number of random selection method was employed to select two villages from Kuduru district (Gutau and Kuduru), three villages from Igu (Igu, Panunike and Tokolo), two villages from Rubochi (Rubochi and Kujekwa), two villages from Gwargwada (Gwargwada and GidanBawa) and one village from Gudunkarya. In the forth stage, the list of farm villages and households from ward councilors revealed that a total number of registered farmers in these five districts were one thousand, two hundred (1200). This formed the sample frame for the study. In the fifth stage, one hundred and twenty (120) of the respondents that is, 10% of this population was randomly taken because the farmers in the study area were homogeneous in their mode of operations.

Data collection

A well-structured questionnaire was useto collect information from the farmers. Information was collected on the socio-economic, institutional and technological characteristics of the respondents. Interview method, informal observation and pictorial information were also gathered more appropriately as means to elicit adequate information on the study area.

Recommended production practices

The study made use of eight recommended production practices and these are: Recommended planting material; healthy stem cutting with 4 – 5 nodes; recommended planting time - April and June, then August or September; recommended method of planting; planting on ridges at an angle; recommended planting depth(5 cm – 10 cm); recommended plant spacing(1 m x 1 m) for sole cropping; recommended fertiliser rate (NPK 15:15:15, 4 – 8 bags per hectare) and weeding (herbicide application);Pre-emergence herbicide - Alachlor (Lasso) at300 ml/ CP15 knapsack pump; Selective post –emergence herbicide - Round-up at 4-5 liters per hectare; harvesting (cassava lifters).

Analytical tools

Descriptive statistics was used to analysed the general constraints faced by farmers on adoption of recommended cassava production practices and Z-statistic was used to examine the effect of adoption of recommended cassava production practices on income and yield of the respondents.

Z-Statistic

The z-test model was used to compare the differences in yield and income of the farmers before and after adoption of recommended practices. This was used to achieve objective five of the study.

$$z = \frac{|\bar{X} - \mu|}{S\bar{X}} \text{----------(1)}$$

Where Z = calculated Z value

$\bar{X}$ = Mean of the sample

S$\bar{X}$ = Standard error of the mean

$$S = \sqrt{\frac{\sum(x_1 - \bar{x})^2}{n-1}} \text{----------(2)}$$

Where x_1 = individual observation

$\bar{x}$ = mean of the distribution

n = sample size

RESULTS AND DISCUSSION

Effect of adoption of recommended cassava production practices on yield and income

Table 1 gives the z – analysis showedthe effect of adoption on the output and income of the respondents before and after the adoption of recommended cassava practices RCPPs. The average yield was estimated to be 3832.4t/ha before the adoption of recommended cassava practices and 6387.33t/ha after the adoption with a differential percentage of 67%. The minimum yield before and after the adoption of recommended cassava practices were 1800 and 3000t/ha respectively. The maximum yield before and after the adoption of recommended practices were 9330 and 15550t/ha respectively. The z- calculated was 21.25 above the z-critical of 1.96 at 1% level of probability. This implies that there was significant difference between the yield of cassava farmers before and after the adoption of recommended cassava production practices. Theresults revealed that the yield of farmers after adoption of the cassava recommended practices was higher than yield before adoption. The result further showed that, the average income was N464,641.67 before the adoption of recommended cassava practices and N714,833.00 after the adoption of recommended cassava practices. The minimum income before and after the adoption of cassava recommended practices were N260,000 and N400,000 respectively. The maximum income before and after the adoption of recommended practices were N1,222,000.00 and N1,880,000.00; giving a 54% mean increase.The z- calculated was 5.38 and this was significant at 1% level of probability. These findings revealed that the income of farmers after adoption of the cassava recommended practices was higher than income before adoption. The findings was consistent with the report of Anazodo (1986), who noted that adoption of improved farm practices resulted in an

increase in total production by improving yields and income. The mean percentages for both yield and income were higher and this implied that the adoption of cassava recommended practices had significant influence on the yield and income of the cassava farmers.

Table 1 Effect of the adoption of improved cassava recommended practices on output and income in Nigerian naira.

Variable	Before	After	Difference	Differential % (2011)
Output (t/ha)				
Mean	3832.4	6387.33	2554.93	67%
Maximum	9330	15550	6220	
Minimum	1800	3000	1200	
Standard deviation	180.31	300.51	120.2	
z- calculated	21.25***			
z- critical	1.96			
Income (Naira)				
Mean	464,641.67	714,833.33	250191.66	54%
Maximum	1,222,000.00	1,880,000.00	658000	
Minimum	260,000.00	400,000.00	140000	
Standard Deviation	199,622	307,111.9	107489.9	10,748,900.00
z- calculated	5.38***			
z- critical	1.96			
*** P<0.01				

Level of living

Findings in Table 2 revealed that there was no increase in the amount of money spent on cookers after adoption of recommended production practices. The results indicated that there was increased in the amount of money spent on grinding machines, livestock, televisions, radios and telephones. The amount of money spent on motorcycles, cars, sprayers, houses, cushion chairs and generators after adoption doubled the amount spent on items above. However, the money spent on the purchase of bicycles decreased after adoption. This implied that the farmers had money that could afford them motorcycles for their comfort. The purchase of most household properties after the adoption of the recommended practices improved greatly. This showed changes in the respondents' level of living. According to Isah (2009), money generated from adoption of recommended rice practices was use to purchase more household properties by the respondent are in agreement with the findings above.

Table 2: Distribution of money spent on household properties by respondent before and after adoption

Household Properties	Average amount spent before adoption	Average amount spent after adoption	Difference	Differential %
Bicycles	3,166.67	2,375.00	-791.67	-33.33
Motor cycles	7,500.00	23,333.33	15,833.33	211.11
Cars	8,750.00	24,500.00	15,750.00	180.00
Grinding machines	2,500.00	4,950.00	2,450.00	98.00
Livestock	7,950.00	14,400.00	6,450.00	81.13
Sprayers	800.00	2,933.33	2,133.33	266.66
Houses	11,666.67	45,500.00	33,833.33	290.00
Cushion chairs	1,500.00	4,216.67	2,716.67	181.11
Cookers	500.00	500.00	0	0
Televisions	3,800.00	5,366.67	1,566.67	41.22
Radios	1,470.00	7,908.33	6,792.67	85.87
Generators	825.00	2,933.33	2,108.33	255.55
Telephone sets	2,650.00	3,266.67	616.67	23.27
Total	**52,399.17**	**135,745.00**	**83,345.83**	

Constraints to adoption of recommended cassava production practices by farmers

The major constraints faced by farmers in the adoption of recommended cassava production practices as. presented in Table 3 showed the ranking of the constraints faced by the respondents on adoption of recommended cassava production practices. Scarcity of farmlands with 77.50% of the respondents ranked first constraint; followed by

insufficient extension agents with 27.50% and the least was 6.67% of the respondents respectively.

Table 3: General constraints faced by farmers on adoption of recommended cassava production practices

Constraints	Frequency	Percentage	Ranking
Limited scale and uneven distribution	93	77.50	1
Insufficient extension agents	33	27.50	2
Insufficient capital	19	15.83	3
High cost of farm inputs and affordability	10	8.33	4
Lack of access roads	9	7.50	5
Processing, storage and marketing problems	9	7.50	6
Problems of root/tuber pests and diseases	8	6.67	7
Poor information network.	8	6.67	8

CONCLUSION AND RECOMMENDATIONS

The findings of this study have revealed that cassava farmers are handicapped by a scarcity of farmland suggesting their inability to expand the current level of cassava production. Also, inadequate funds were is a limiting factor on adoption of Recommended Cassava Production Practices (RCPPs) among farmers. However, the study noted that the adoption of RCPPs increased the yield and income of the farmers. This is reflected in the ability of the farmer to meet up with their socio-economic responsibilities; and improvement in their living conditions. But, in spite of the fact that the adoption of RCPPs had positive and significant effects on yield and income of farmers, and holds great potential, there was low level of adoption of this technology due to the high cost attributable to it. Hence, it is recommended that appropriate technologies, which should be made available to the farmers, must be affordable and timely availed by the agencies and stakeholders involved. Furthermore, since the major constraint on adoption of recommended cassava production practices was limited scale and uneven distribution of farmlands, it is recommended that appropriate adaptive and adoptive sustainable technologies that would suit the fragmented nature of farmlands should be developed by research institutes and made available for use by the farmers.

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EFFECT OF MEMBERSHIP IN CO-OPERATIVE SOCIETIES ON THE SOCIO-ECONOMIC STATUS OF CO-OPERATORS IN KWARA STATE, NIGERIA

Yusuf, O. J.

ABSTRACT

This study examined the effects of membership in co-operative societies on the socio-economic status of co-operators in Kwara State, Nigeria. Specifically, the socio-economic characteristics of co-operators were described and members' extent of participation and benefit derived in co-operative societies were determined. Multistage sampling technique was used to 120 select respondents for the study. Primary data was collected using interview schedule. Data were analyzed using descriptive such as frequency count, percentage, mean and standard while correlation analysis was used for inferential deduction. Results showed that majority (80.0%) of respondents are male and engaged in farming (75%) as major occupation. Majority (93.3%) always attended general meeting of their various co-operative societies while 90% always the contributed society monthly dues. Benefits enjoyed most by cooperators included credit service delivery to members with mean score of 2.78, market accessibilities for members' produce (2.52), skills acquisition program (2.07), capital formation for joint purchasing of input (2.04) and collective processing of farm produce (2.00). While least services enjoyed by co-operators were joint ownership of resources as collaterals in bank (0.98) and access to tractor use (1.18). Overall, about half (48%) of the respondents were categorized as having low benefits from their membership in co-operative societies. Results of correlation analysis showed there was significant and positive relationship between socio-economic status of co-operators and participation in co-operative activities ($r = 0.57$) and benefits derived by members in co-operative societies ($r = 0.9$) at $p<0.01$. It was concluded that membership in cooperative societies had significant effects on socio-economic status of co-operators in the study area. It is recommended that Community Based Organizations (CBOs) and Non-Governmental Organizations (NGOs) working on grassroots development shouldencourage co-operative societies to leverage on co-operative resources as collateral to access bank loan so as to increase the overall benefits derived by co-operators from their various co-operatives and thereby enhance their socio-economic status.

Keywords: Cooperative activities, participation, membership benefit, cooperators.

INTRODUCTION

Generally, a cooperative may be described as an association of persons who pool their resources together on mutual basis to solve specific socio-economic problems (Otto and Ukpere, 2011). Cooperatives provide real economic benefits to farm families through increasing the stabilityof the farming sector, improving market access for their products and strengthening thefarmers' position in the agri-food chain. Improving farmers' living conditions supportsrural development and preserves the viability of rural communities (ILO, 2007).Cooperative organizations are thus widely recognized as vitalto rural community and grassroots development.

According to Wanyama *et al*. (2008), cooperatives in Africa have significantly contributed to the mobilization and distribution of financial capital and have created employment and other income generating opportunities. Through community organization, cooperatives serve the bases and platform for bringing together the economically weak member of the society with a view of enhancing their individual capacities (Alkali, 1991). Cooperative aggregate people, resources andcapital into economic units. Being voluntary, democratic and self-controlled business organizations, cooperatives offer institutional framework through which local communities gain control over productive activities from which they derive their livelihood (Wanyama*et al*., 2009). The cooperative values and principles are especially important in the rural context – self-help, self-help, self-responsibility, democracy, equality, equity, and solidarity, the ethical values of honesty, openness, social responsibility and the principle of caring for their members and their communities. (ILO, 2007)

While several literatures, as indicated in the foregoing paragraphs, established significance and benefits derived by co-operators within co-operative societies, there is, nonetheless, dearth of empirical evidence evaluating effects of membership in co-operative societies on members' socio-economic status in Kwara State, Nigeria. This study aims at contributing to the existing body of knowledge on the significance of cooperatives to grassroots development by investigating the effects of membership in co-operative societies on socio-economic status of members in Kwara State, Nigeria.

The general objective of this study was to examine the effect of membership in co-operative societies on the socio-economic status of co-operators of Kwara State, Nigeria.

Specific Objectives were to:

1. Describe the socio-economic characteristics of member of co-operative societies;
2. Determine member extent of participation in co-operative activities; and

3. Determine the benefit derived by being a member of co-operative societies

The following null hypothesis were tested for the study:

1. There is no significant relationship between extent of members' participation in cooperative activities and their socio-economic status.
2. There is no significant relationship between the benefit derived by members in co-operatives societies and their socio-economic status.

METHODOLOGY

The study is conducted in Kwara State, Nigeria. Farmers in co-operative societiesregistered with All Farmers Association of Nigeria (AFAN), Kwara State branch form population of the study. Information gotten from AFAN showed that the body has registered cooperative groups in 12 Local Government Areas of the state. A multi-stage sampling procedure was used to select the respondents for the study. First stage involved selection of 25% of the total number of Local Government Areas that had registered co-operative groups with AFAN. Three (3) LGAs namely Moro, Asa, and Ilorin East LGAs were thus selected. Each of these selected LGAs had 10 registered co-operative groups. At second stage, 30% of the total numbers of cooperative groups in each of these LGAs were randomly selected. Names of selected groups and numbers of individuals therein in parenthesis are as follows: *Agbeniyi* cassava group (42), *Bomodeoku* CMS group (57) and *Agbesanmi* CMS group (31) selected from Moro LGA; *Kajola-Alapa* CMS group(26), *Agbelere* CMS group (45) and *Irewumi* CMS group(49) selected from Asa; and *Oke-ose* CMS group (40), *Ifedawapo* CMS group (35) and *Agbelere* group (35) selected from Ilorin-East LGA, totaling nine (9) co-operative groups selected in all. At third stage, 35% of the total number of members of the chosen cooperative groups was selected. Accordingly, 46 individuals out of 130 in Moro LGA, 42 out of 120 from Asa and 38 out of 110 in Ilorin-East giving a total of 126 respondents, were sampled for the study. However, data from 120 respondents successfully interviewed during field survey were used for data analysis.

Primary data were collected through use of structured interview schedule. Information elicitedincluded: socio-economic characteristics of co-operative farmers, extent of members' participation in co-operative activities, benefit members derived from co-operative societies, constraints to members' participation, and effects of participation on members' on socio-economics status. The research instrument was validatedby rural development experts.They were requested to critically examine the research instrument in relation to the study objectives. Their suggestions were used to amendthe research instrument prior to field survey. Data collected were analyzed using both descriptive and inferential statistical tools. While frequency count, percentage, mean and standard deviation were used to summarize the data, Pearson Product Moment Correlation (PPMC) was used to test stated hypotheses.

The dependent variable of the study was socio-economics status of cooperators. It was measured by requesting respondents to examine how they perceived membership in the co-operative societies affected their SES based on socio-economic parameters provided using a 5 point Likert type scale. The options werescored as follows: Strongly Agreed5points,Agreed4points, Undecided 3points, Disagreed2points and Strongly Disagreed1point.Participation in co-operative activities and benefits derived from membership were measured on a 4 point 'Likert-type scale as follows: 'Not at all' scored 0 point, 'rarely' scored 1 point, and 'Sometimes' and 'Always' scored 2 and 3 points, respectively. Other independent variables such as marital status, sex, level of education etc, were measured at nominal level, while numerical variables such as household size, income, etc were measured at ratio level.

RESULTS AND DISCUSSION

Personal characteristics of respondents

Results in Table 1 show that majority (80.0%) of respondent were male, while 20.0% were female. Majority (29.2%) fell between 46-55 years age category while very few (1.7%) were below 25 years. Mean age of respondents was 48 years with a standard deviation. Also majority (96.7%) were married while only 3.3% were not married, had average household size of 7 members and earned average monthly income of about N55, 000. The results indicate that the respondents were close to the peak of their productive age range, earned relatively meagre income and would have financial responsibility to fulfill among family members, which perhaps could be reasons for their joining cooperative societies. The results also indicate that there were more males participating in cooperative societies than female in the study area. This could be as a result of their positions as household heads which comes with several responsibilities that they may want to leverage on cooperative support to meet. It could also be that women coming together as cooperators may be informal and might not be registered with All Farmers Association of Nigeria.

Majority (75.8%) engaged primarily in farming while 15.8% engaged in trading and the remaining 8.4% were civil servants. Furthermore, majority (96.7%) of the respondent practices crop production as their type of farming and 3.3% engaged in fish farming. Average farm size was 4.7

acres. The implication of this is that rural farmers engaged mostly in farming as their major occupation. This agreed with the submission of Oluwatayo *et al* (2008) that rural dwellers mostly engaged in farming, they also take up to 90% of Nigeria total food production and they also earn their living from these small farms.

Table 1: Distribution of respondents by their personal characteristics

Variable	Frequency	Percentage
Gender		
Male	96	80
Female	24	20
Age (year)		
25 and below	2	1.7
26-35	14	11.7
36-45	34	28.3
46-55	35	29.2
56-55	31	25.8
66 and above	4	3.3
Mean	48	
Standard deviation	11	
Marital Status		
Single	4	3.3
Married	116	96.7
Major Occupation		
Farming	91	75.8
Trading	19	15.8
Civil servant	10	8.3
Household Size		
> 6	55	45.8
7-12	56	46.7
13 and above	9	7.5
Mean	7	
Farm Size (acres)		
2.5 and below	29	24.2
2.51-5.00	39	32.5
6.00-7.50	35	29.2
7.51 and above	17	14.2
Mean	4.74	
Standard deviation	2.47	
Monthly income		
10,000-60,000	87	72.5
60,001-110,000	27	22.5
11,001 and above	6	5

Source: Field survey, 2017

Membership in co-operative societies

Results in Table 2 shows that over half (55.5%) of the respondent belonged to multipurpose co-operative society. While 25.8%belonged to Credit/Thrift co-operative society, few (8.3% and 7.5%) belonged to produce marketing and producer co-operative societies, respectively and very few (2.5%) were members of processing co-operative societies. This indicates that most respondents belonged to multipurpose co-operative societies in the study area. This may be because they offer relatively more benefits than the single-benefit co-operative societies such as produce co-operative societies, credit/thrift co-operative societies.This is in contrast to the findings of Idrisa*et al.* (2007) and Ogunleye *et al.* (2015) where majority of co-operators in their study belonged to members of credit and thrift societies. This may be attributed to difference in interests of individual co-operators and perhaps successes recorded by various co-operatives in the past. As membership in co-operative societies are voluntary, individuals may prefer to associate with co-operative groups that have been successfully known to protect members' interest and come to their aids in times of their needs.

Results further show that half (50%) of the respondents had been members of co-operative groups for up to 10 years. About 33% and 17% had been members of co-operative societies for between 11 to 20 years, and 21 to 30 years, respectively. Mean year of membership in co-

operative society was 12.95 years. Also, about half (52.5%) were ordinary members in their co-operative groups, while 32.5% were executive members, and 15% committee members. The results indicate relatively long period of years' respondents had been participating in co-operative societies in various capacities ranging from ordinary membership to holding executive positions. Sustained interests of respondents in these societies may not be unconnected to benefits derived by members.

Table 2: Distribution of respondents by membership in cooperative societies

Variables	Frequency	Percentage
Types of co-operative societies		
Producer co-operative	9	7.5
Produce marketing	10	8.3
Credit and thrift co-operative	31	25.8
Processing co-operative	3	2.5
Multipurpose co-operative	67	55.8
Years of membership		
10 and below	60	50
11-20	39	32.5
21-30	20	16.7
30 and above	1	0.8
Membership status		
Ordinary members	63	52.5
Executive members	38	32.5
Committee members	18	15.0

Source: Field survey, 2017

Members' participation in co-operative activities

Results in Table 3 show that majority (93.3%) always participated in attending general meeting of their various co-operatives societies, while few (6.7%) only sometimes attended. Attendance of general meeting recorded a weighted mean score of 2.93. This indicates that the respondents used to partake in this activity. Based on mutually agreed rules, members often absent at general meetings may not derive full benefits of their membership in the co-operative societies. Majority (90%) of the respondents always participated in contribution of society's monthly dues. Similarly, majority (86.7%) contributed to discussion that brings about development and growth of their co-operative societies. These activities recorded very high weighed mean score of 2.83 and 2.82, respectively. These indicate that respondents attached significant importance to regular contributions, both financial and otherwise, associated with their membership within their co-operative societies. It might be that defaulters in payment monthly dues would not have access to certain benefits, hence high proportion that participated in this activity. Results further show that partaking in 'preparation of annual plan of activities' and 'sharing of responsibilities during the end of year program' also recorded high weighted mean score of 2.17 and 2.20, respectively. These again are indications of significant importance respondents attached to partaking in co-operative activities, such as in deciding what activities to carry out, and when, where and how to do them.

However, only about 43% and 41% of the respondents participated in attending executive meetings and committee meetings, respectively. These activities recorded weighted mean score of 1.32 and 1.31, respectively. This indicates low membership participation in these activities. This is not unexpected given that only few proportion of members who are usually executive and committee members of an association are expected to attend their respective gatherings. In the same vein, partaking in approval of budget and following up with utilization of loan disbursed to members recorded a relatively low mean score of 1.84 and 1.80, respectively. It may also be that only a few members are saddled with these accomplishing these tasks too.

Overall, the foregoing results indicate high degree of participation in co-operative activities by the co-operators in the study area. This is supported by the submissions of Osterberg and Nilsson (2009) who stated that participation of members in cooperative governance is certainly an important part of the success of cooperatives and Amini and Ramezani (2006), who regarded members' active participation in co-operative governance as the most important factor in success of cooperatives.

Table 3: Distribution of respondents by their participation in co-operative activities

Activities	Not at all	Rarely	Sometimes	Always	Mean
Attend general meetings	0.0	6.7	93.3	2.93	
Attend executive meetings	55.8	0.0	0.8	43.3	1.32
Attend committee meeting	54.2	1.7	3.3	40.8	1.31
Contributions of monthly dues	2.5	1.7	5.8	90.0	2.83
Electing of executives members	24.2	5.0	15.8	55.0	2.02
Partake in preparation of annual plan of activities	7.5	10.8	38.2	43.2	2.17
Partake in approval of budget	24.2	9.2	25.0	41.7	1.84
Partake in sharing responsibilities during end of the year program	12.5	9.2	25.0	53.3	2.20
Follow up with utilization of loan disbursed	25.8	8.3	25.8	40.0	1.80
Contributions to discussion that bring about growth and development	1.7	0.8	25.8	86.7	2.82

Source: Field survey, 2017

Benefits derived by members from co-operative societies

Results in Table 4 show that majority (83.3%) of respondents indicated they always had credit service delivery to members. This benefit ranked highest with a weighted mean score of 2.78. Majority (64.2%) also indicated 'market accessibilities for produces' as benefit derived from membership in co-operative societies and this benefit ranked second with a mean score of 2.52. benefitting from 'skills acquisition programme' and 'collective processing of farm produce' ranked 3rd and 4th, amongst benefits members derived from their co-operative societies. Other benefits above average mean value of 1.50 which members had access to included 'joint use of resources' (1.98), 'provision of input at subsidized rate' (1.83), 'access to fertilisers and herbicides' (1.60) and 'access to improved seeds' (1.53). 'Co-operative access to bank loan' 'access to tractor use', and 'joint ownership of resources for bank collateral' ranked lowest among benefits derived by members with mean scores of 1.30, 1.18 and 0.98, respectively.

These findings imply that members of co-operative societies in the study area enjoyed various services ranging from access to credit facilities, market accessibilities for member produce, capital formation for joint use if resources collective processing of farm produce, access to fertiliser, herbicides and improved seed to skill acquisition programs etc. Also, those who did not benefit from these services might either be less actively involved in their co-operative groups, or might belong to those groups that did not offer these services, i.e. processing co-operative societies mainly render services of collective processing of farm produce, while credit/thrift co-operative societies renders mainly credit services to their members. Respondents not benefiting well from use of tractor might be due to their small farm size, which may not be economically viable for mechanization. However, lack of co-operative access to bank loan and inability of co-operators to leverage on use of joint resource ownership as bank collateral is not a good development as the co-operative societies would be denied access to larger funds from more institutionalized source.

Table 4: Distribution of respondents by benefits derived in co-operative societies

Benefits	Not at all	Rarely	Sometimes	Always	Mean
Credit service delivery to members	0.8	3.3	12.5	83.3	2.78
Collective processing of farm produce	19.2	10.0	21.7	49.2	2.01
Market accessibilities for produces	4.2	4.2	27.5	64.2	2.52
Capital formation for joint purchasing of input	10.0	13.3	39.2	37.5	2.04
Skills acquisition program	10.0	11.7	40.0	38.3	2.07
Access to tractor use	41.7	11.7	34.2	12.5	1.18
Access to fertilisers and herbicides	29.2	11.7	30.0	29.2	1.60
Joint ownership of resources for collateral in bank	51.7	10.8	25.0	12.5	0.98
Access to improved seeds	29.2	11.7	35.8	23.3	1.53
Co-operative access to bank loan	34.2	11.7	44.2	10.0	1.30
Provision of input at subsidized rate	18.3	10.0	41.7	30.0	1.83

Benefits	Not at all	Rarely	Sometimes	Always	Mean
Joint use of resources	15.0	10.0	37.5	37.5	1.98

Source: Field survey, 2017

Categorisation of respondents by membership derived in cooperative societies

Results in Figure 1 show that, using mean plus or minus standard error, half (50%) of the respondents were categorized as having low benefits from the co-operative activities, while 47.5% were classified as having high benefits. Very few (2.5%) had average benefits. These results indicate that overall, about half of the respondents did not benefit immensely from their membership in co-operative societies.

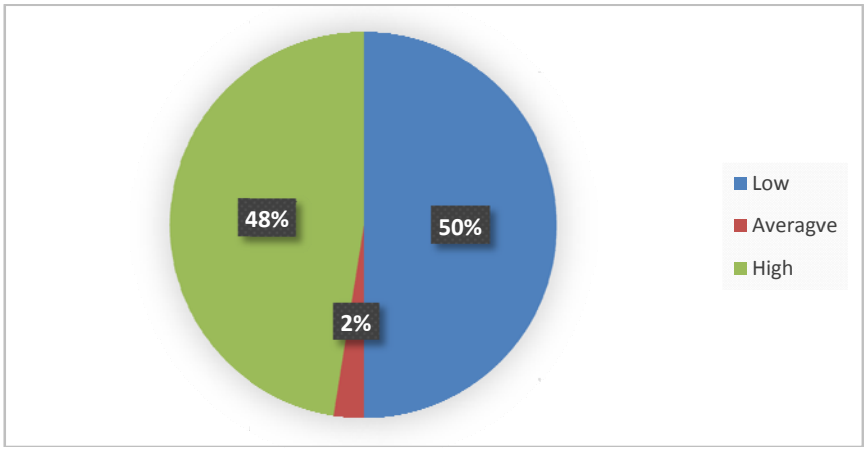

Figure1: Categorization of respondents by membership benefits in co-operative societies
Source: Field survey, 2017

Effects of membership in co-operative societies on co-operators on their socio-economic status

Results in Table 5 show that majority (96.6%) of the respondents believed that membership in co-operatives has helped them attain increase in their farm size. This statement recorded a mean score of 4.38. Majority (96.6%) also concurred that membership in co-operative society has greatly enhanced their standard of living (mean score = 4.43) while for those engaging in other business endeavours aside farming, majority (97.5%) equally believed belonging to their co-operative groups enabled them to expand their business (4.29).similarly, it is believed that membership helped co-operators witness regular and increased income over the years (4.14), enjoyed increase in farm productivity (3.93), and helped in acquisition of TV set (4.05), Radio (4.02), mobile phone (4.23) and mobile means of transportation (3.88). The results, overall, reveal that respondents favourably perceived membership in their co-operative societies positively affected and enhanced their socio-economic status.

Table 5: Perception of respondents about the effects of membership in co-operative societies on the socio-economic status

Socio-economic status parameter	SA	A	U	D	SD	Mean
My membership in co-operative society has increased my farm size	43.3	53.3	1.7	1.7	0.0	4.38
Participation in co-operative has influenced my acquisition of mobile transport	29.2	44.2	13.3	11.7	1.7	3.88
I have witnessed regular and increased income over the years of my participation in co-operative	25.8	68.3	1.7	2.5	1.7	4.14
My participation in co-operative has brought me social prestige in my society	27.5	62.5	4.2	4.2	1.7	4.10
Through increased income, I have moved from a mud house to a blocked wall house	25.0	48.3	15.0	8.3	2.5	3.87
My farm productivity has greatly increased over the years due to my participation in co-operative society	25.8	64.5	5.8	2.5	1.7	3.93
I have diversified from rain-fed farming and acquired irrigation facilities	15.8	40.0	19.2	15.8	9.2	3.38

Socio-economic status parameter	SA	A	U	D	SD	Mean
I have been able to buy a refrigerator for the storage of feeding stuffs and other uses	30.0	63.3	2.5	3.3	0.8	4.18
The regular income has assisted me to acquire a television set	18.3	74.2	2.5	5.0	0.0	4.05
The regular income has assisted me to acquire a radio	16.7	75.8	1.7	5.0	0.8	4.02
The regular income has assisted me to acquire a mobile phone	30.8	65.0	0.8	3.3	0.0	4.23
I have been able to well established/expand my business aside from farming	32.5	65.0	1.7	0.8	0.0	4.29
It has greatly improved my standard of living	48.3	48.3	1.7	0.8	0.8	4.43

Source: Field survey, 2017

Results of correlation analyses establishing relationship between the dependent variable and selected independent variables of the study

Results in Table 6 show that there was significant and positive relationship between socio-economic status of co-operators and their participation in co-operative activities (r = 0.57) and benefits derived by members in co-operative societies (r = 0.9)at p < 0.01. The results imply that the more co-operators actively engaged in co-operative activities, the more the benefits derived therefrom and subsequently the more favourable their perception about the positive effects of membership in co-operative societies on their socio-economic status.

Table 6: Relationship between Socio-economic status and participation in co-operative activities and benefits derived by members

Variable	r	p-value
Participation in co-operative activities	0.57	0.000
Benefits derived in co-operative societies	1.00	0.000

Source: Field survey, 2017

CONCLUSION AND RECOMMENDATION

Respondents were members in various co-operative groups with multi-purpose co-operative societies being the most prominent one they belonged to. Respondents had been participating in these co-operative societies for a long period of time in various capacities ranging from ordinary membership to holding executive positions. Prominent among benefits enjoyed from membership in co-operative societies included access to credit facilities, market accessibilities for member produce, capital formation for joint use of resources, collective processing of farm produce, easier access to basic farm inputs, while they did not commonly benefit from co-operative access to bank loan and leverage on use of joint resource ownership as bank collateral. There was high degree of participation in co-operative activities and co-operators mostly favorably opined that membership in co-operative societies positively affected and enhanced their socio-economic status. There was also significant and positive relationship between socio-economic status of co-operators and their participation in co-operative activities and benefits derived by members in co-operative societies. It is recommended that Community Based Organizations (CBOs) and Non-Governmental Organizations (NGOs) working on grassroots development should encourage rural co-operative societies to leverage on use of co-operative resources as collateral to access bank loan so as to increase the benefits derived from their various co-operatives and thereby better enhance their socio-economic status.

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EFFECT OF RURAL-URBAN MIGRATION ON HOUSEHOLD FOOD SECURITY IN UMUAHIA SOUTH LOCAL GOVERNMENT AREA OF ABIA STATE, NIGERIA

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ABSTRACT

This study analyzed the effects of rural-urban migration on household food security in Umuahia South Local Government Area of Abia State, Nigeria. Specifically the study examined the socio-economic characteristics of the migrants' household; identified the causes of rural-urban migration in the study area and determined the food security status of the respondents in the study area. A total of 120 respondents were randomly selected across 10 villages in the study area. A structured questionnaire was used to collect primarydata. Data collected were analyzed using descriptive statistics and ordinary least square multiple regression model. The results of the descriptive statistics showed that the respondents have a mean age of 49 years and majority of the migrants' household were educated and married, with male dominated household constituting 79.16 % and mean household size of 5 persons. It also showed that most (81.66%) of the respondents were engaged in farming occupation with mean income of ₦50,737.The three main causes of rural-urban migration in the study area were: search for job, better education and join spouse. The results of the food security status showed that 66.67% of the respondents have food security index of less than 1. The results of the regression analysis showed that age, household size and food from friends were the major determinants of food security in the study area. The study thus recommends that government through its relevant agencies should encourage sustainable food production through subsidizing farm inputs and giving improved seedlings to farmers to boost their productivity in order to enhance grassroots development and dividend of democracy in the rural areas as well as achieve the sustainable development goal of zero hunger by 2030.

Keywords: rural-urban migration, household, food security.

INTRODUCTION

Migration, the movement of persons from one location to another in search of greener pasture is a common phenomenon among the human population. It has been identified as a survival strategy utilized by the poor, especially the rural dwellers (Ajaero and Onokala, 2013). On the other hand, food security exists when all people at all times have physical, social and economic access to sufficient, safe and nutritious food which meets their dietary needs and food preferences for an active and healthy life (Food and Agriculture Organization, 2010). The food and Agriculture Organization has reported a rise in world hunger after years of progress. It reported that 38 million more people were under-nourished in 2016 compared to 2015.

The number of undernourished or hungry people have reached 815 million, representing 11 percent of the world population (FAO, 2017). Asia has the highest number followed by Africa. The sustainable Development Goal 2 of the United Nations is aimed at ending hunger and all forms of malnutrition by 2030. Migration affects the sending communities either positively or otherwise as it entails the loss of manpower for productive activities. In Nigeria several studies have been conducted on migration but only a very few studies were found to deal with internal migration and food security directly (Afolabi, 2007; Crush *et al*., 2006; Fasoranti, 2009).

In Abia State, studies have been done on effect of rural-urban migration in rural communities (Ehirim, Onyeneke, Chdiebere-Mark and Nnabuihe, 2012; Osondu, Ibezim, Obike and Ijioma, 2014). However, none dealt on its effect on food security status of rural households in Umuahia South Local Government Area. Therefore, this study is aimed at filling the gap in literature. It is expected that the findings of this study will enhance grassroots development and dividend of democracy in the rural area of Abia State, Nigeria.

METHODOLOGY

The study was conducted in Umuahia South Local Government Area(LGA) of Abia State. Umuahia South LGA is one of the seventeen LGAs of Abia State with the headquarters at Apumiri Ubakala. It is bounded in the North by Umuahia North LGA, South by Isiala-Ngwa North LGA, East by Imo River and west by Ikwuano LGA. Umuahia South LGA covers an area of about 140 km^2 with a population of 138,570 comprising 68,950 males and 70,107 females (NPC, 2006). The inhabitants are predominantly Igbos and majority of them are Christians.The major food crops in the area include cassava, yam, maize, cocoyam, banana and various types of fruits. They also rear animals such as sheep, goat and poultry.

Multi stage sampling technique was used in the selection of the respondents. Firstly, 5 autonomous communities were randomly selected in the study area. Secondly, 2 villages were randomly selected from each autonomous community making it a total of 10 villages. Thirdly, 12 migrants' households were randomly selected from each village. This makes a total of 120 migrants' households used for the study. Data for the study was sourced primarily using questionnaire and oral interview. Collected data were analyzed using descriptive statistics, food

security index and ordinary least square multiple regression model as specified below:

The expenditure survey approach of food security index was used to determine the food security status of the respondents. It is specified thus:

$$Z_i = \frac{per\ capita\ monthly\ food\ expenditure\ for\ the\ ith\ household}{\frac{2}{3}\ means\ per\ capita\ monthly\ food\ expenditure\ of\ all\ household}$$

Where:

Z_i = food security index; when

$Z_i \geq 1$, it implies that the ith household is food secure;

$Z_i < 1$, it implies that the ith household is food insecure

Model specification for the ordinary least square multiple regression for estimating the effect of rural-urban migration on household food security in the study area is explicitly stated as:

$Z = \beta_0 + \beta_1X_1 + \beta_2X_2 + \beta_3X_3 + \beta_4X_4 + \beta_5X_5 + \beta_6X_6 + \beta_7X_7 + e_i$

Where:

Z = food security index

X_1 = Household size (number)

X_2 = Age of household head (years)

X_3 = Educational level of household head (number of years spent in school)

X_4 = Household income (naira)

X_5 =value of food from family and friends (naira)

X_6 = Migration (migration rate)

X_7= Household dependency ratio (percentage)

β_0 = constant term

$\beta_1 - \beta_7$= beta coefficient of explanatory variables

RESULTS AND DISCUSSION

Socioeconomic characteristics of the respondents in the study area

The socio-economic characteristics of the respondents are presented in Table 1

Table 1 Socioeconomic characteristics of the respondents (n = 120)

Variables	Frequency	Percentage	Mean
Age			
1-30	9	7.5	47
31-60	93	77.5	
61 and above	18	15	
Sex			
Male	66	55	
Female	54	45	
Level of education			
Primary	14	12	
Secondary	47	39	
University	59	49	
Marital status			
Single	40	33.33	
married	80	66.67	
Gender of household head			
Male	95	79.16	
Female	25	20.84	
Occupation			
Non-Farming	22	18.34	
Farming	98	81.66	
Household size			
1-3	35	29.16	5
4-6	54	45	
7-9	21	17.5	
10 and above	10	8.34	
Income			
1,000 – 50,000	72	60	50,737
51,000 – 100,000	44	36.67	
101,000 – 150,000	2	1.67	
151,000 and above	2	1.66	
Total	**120**	**100**	

Source: Field survey, 2016

The results of socioeconomic characteristics of the respondents as shown in Table 1 indicated that majority (77.5%) of the respondents are within the age bracket of 31 to 60 years with a mean age of 47 years.This implies that most of the respondents have the ability to engage in productive activities that will enhance their food security status. The results also showed that 55% of the respondents are males while the remaining 45% of the respondents are females. It also indicated that all the respondents are literate with education attainment level of 12%, 39% and 49% respectively in primary, secondary and university respectively. As regards marital status, about (66.67%) of the respondents are married while 33.33% are single. This implies that most of them have the responsibility of ensuring that their households are food secured. Also Majority (79.16%) of the migrants' households are male headed while only 20.84% of the households are female headed. This result is plausible given that males are always regarded as the bread winners in most communities.The result also indicated that majority (81.66%) of the respondents are engaged in farming activities as means of livelihood, while only 18.34% of the respondents are engaged in non-farming activities. This finding is in line with that of Ajaero *et al*., (2013) who observed that agriculture is the main source of livelihood of rural communities in the south-eastern Nigeria. In addition, most (74.16%) of the respondents have household size of 1 to 6 persons with a mean size of 5 persons. This implies that most of them have manageable households that will serve as source of cheap labour for on-farm and off-farm activities.The result also indicated that majority (96.67%) of the respondents earn monthly income of between N1,000 to N100,000 with mean monthly income of N 50,737. This implies that most of them earn above the country's minimum wage of N18,000.

Table 2: Causes of rural-urban migration in the study area

The causes of rural-urban migration in the study area are as shown in table 2 below

Variables	Frequency	Percentage	Rank
Job	59	49	1st
Better education	30	25	2nd
Join spouse	29	24	3rd
Empowerment	22	18	4th
Skill acquisition	14	12	5th

Source: Field survey, 2016

The results of the descriptive statistics on Table 3 shows that the main causes of rural-urban migration in the study area in descending order of importance include; search for job (49%), better education (25%), join spouse (24%), empowerment (18%) and skill acquisition (12%). This result is in line with that of neo-classical theorists who argued that migration is driven by spatial issues, job opportunities and better income expectations (Lee, 1966; Harris and Todaro, 1970; Zelinsky, 1971; Skeldon, 1997; Hagen-Zanker, 2008).

Table 3: Food security status of rural migrants' households in the study area

The food security status of the respondents is as presented in Table 3 below

Food security index	Frequency	Percentage
Less than one (<1)	80	66.67
Greater than or equal to one (≥ 1)	40	33.33
Total	120	100

Source: Field survey, 2016

The result of the descriptive statistics to ascertain the food security status of rural migrants' households in the study area indicated that 66.67% of the households were food insecure with food security index of less than 1, while the remaining 33.33% of the sampled respondents were food secured with food security index of greater than or equal to 1. This implies that food insecurity can trigger rural-urban migration. This result is in consonance with the report of the Food and Agriculture Organization (2017) on a rise in world hunger with 11 percent of the world population hungry.

The results of the regression analysis on the effect of rural-urban migration on food security status of the respondents is as presented in Table 4 below.

Table 4: Effect of rural-urban migration on household food security in the study area

Variables	Linear	Double log	Semi-log	Exponential
Constant	3.024	0.236	0.923	-1.933
	(2.298)	(0.148)	(0.0750)	(0.376)
Age	-0.040	0.252	0.013	0.692
	(-2.311)*	(-1.116)	(-2.254)*	(0.947)
Education	0.030	0.038	0.010	0.052
	(0.501)	(0.129)	(0.483)	(0.055)
Gender of household head	0.431	0.289	0.041	-1.318
	(0.826)	(-1.471)	(0.231)	(-2.077)*
Household size	0.161	0.883	0.148	-1.316
	(-9.9560)*	(-5.723)***	(-5.321)***	(--2.641)***
Income	8.278E-6	0.139	2.313E-7	0.349
	(1.236)	(6.735)***	(0.102)	(5.228)***
Migration	0.002	0.099	0.003	0.652
	(0.303)	(0.767)	(0.992)	(1.568)
Food from family and friends	0.000	0.033	5.237E-5	0.007
	(10.205)***	(0.517)	(9.456)***	(0.031)
R^2	0.507	0.420	0.554	0.240
R	0.732[a]	0.674[a]	0.760[a]	0.534[a]
F	18.462***	13.289***	21.839***	6.382***

Source: Field survey, 2016
*** significant at 1% level
** significant at 5% level
* significant at 10% level

The results of the ordinary least square multiple regression in table 4 shows that the semi-log functional form had the highest F ratio of 21.839 which is significant at 1% level of probability. Highest R^2 of 55.4% and 3 significant variables. Hence, it was chosen as lead equation and used for the interpretation. The results of the semi-log functional form of regression model showed that age, household size and food from friends were the significant variables that affected food security status of the rural households in the study area. The coefficient of age (-0.13%) was negative but significant at 10% level of probability. This finding is in conformity with apriori expectation given that people tend to eat more and work less as they age which will adversely affect the food security status of the migrants' households. The coefficient of household size (-0.148) was negative but significant at 1% level of probability. This means that a unit increase in household size holding other variables constant leads to 0.148 reduction in rural household food security status. The coefficient of food from friends (5.237E-5) was positive and significant at 1% level of probability. The implication of this finding is that an increase in food from family and friends of the migrants' household will increase their household food security status. The R^2 value of 0.577% means that 57.7% of the variation in the dependent variable was explained by the independent variables included in the model. The F-ratio of 21.839% which is significant at 1% shows the goodness of fit in the model.

CONCLUSION AND RECOMMENDATIONS

The findings of this study have shown that search for job and better education are the major causes of rural-urban migration in the study area. It also indicated a high level of food insecurity in the study area. Thus, the study recommends that:

- Government should establish food processing industries in rural areas to process the farm produce and create jobs.
- Government should also equip schools in the rural areas with the necessary infrastructures to reduce the rate of migration
- Its relevant agencies such as; Ministry of Agriculture and Rural Development; Agriculture Development Program and Financial institutions should expedite action on subsidizing farm inputs, give improved seedlings and soft loans to farmers to boost their productivity and food security status in order to enhance grassroots development and dividend of democracy in the rural areas as well as achieve the sustainable development goal of zero hunger by 2030.

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EFFECTS OF FADAMA III COMMUNITY INFRASTRUCTURE PROVISION ON INCOME OF MEMBERS OF FADAMA USER GROUPS (FUGS) IN ANAMBRA STATE, NIGERIA

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ABSTRACT

The study determined the effect of Fadama III community infrastructure on income of members of Fadama User Groups FUGs in Anambra State. The specific objectives of the study addressed the influence of rural market, processing facilities, water borehole and credit support facilities on income of members of FUGs in Anambra State. A sample size of 375 beneficiaries from rural community in the state. A structured Questionnaire administered to respondents, using four point likert-type scale rating to gather data. Regression analysis used to determine the influence of community infrastructure (Rural markets, borehole, processing facilities and credit support) on members of Fadama User Group's income. Findings revealed that Fadama III Community Infrastructure had significant and positive influence on the income of members of Fadama User Groups. The f-ratio of 5.50 was significant at 1% level. This implies that the independent variable (income). Equally, the t-statistics of coefficient of all independent variables was significant at 1% level. T-values (2.655, 1.105, 1.936 and 2.057) were all significant at 1% level. The null hypotheses were all rejected and alternate hypotheses were all accepted, which implied that rural market, water borehole, processing facilities and credit support have significant influence on the income of FUG members. Rural market had the most significant influence on the income of Fadama User Groups. In view of the findings, the research recommended that the project should be replicated to other states that have not benefited and that rural communities should be effectively mobilised to join FUGs to take advantage of the programme where there is absence of community infrastructure.

Keywords: Fadama, Community, Infrastructure, Income

INTRODUCTION

As a developing Nation, Nigeria is plagued by the problems of under development, uneven distribution of resources and incomes, low productivity, food insecurity, poor public infrastructure, among others (Ekong, 2003).

Current FAO statistics on the profile of rural development in Nigeria shows that 70% of Nigerians live in rural areas, 73% of the poor people are rural dwellers, 95% are extremely poor, living below poverty line. Nigeria is thus categorized as low income, food deficit country (FAO, 2012). Similarly, FMARD (2001) reported that Nigeria's rural communities are characterized by the following; Lack of portable water and, therefore, prevalence of water borne disease, low income and employment opportunities, inadequate access roads and means of transportation, malnutrition and under-nutrition, poor shelter, health, educational facilities with prevalence of environmental and ecological hazards such as desertification and erosion. Economists generally agree that a major way to break the prevailing cycle of poverty is through an efficient infusion of capital and adequate infrastructure facility. According to Olayiwola and Adeleye (2005), infrastructural facilities refer to those basic services without which primary, secondary and tertiary productive activities cannot function. Broadly this includes all public services like transportation, water supply, communication. Countries of the world ensure the provision of infrastructure to improve the livelihoods of their citizens and their quality of life (Khoza, 2009). Infrastructure is seen as an umbrella term for many activities and basic structure and facilities necessary for a country to function efficiently. It is designed as the totality of basic physical facility upon which all other economic activities in a system depend (African Development Bank, 1999; Geet, 2007).

Rural infrastructure, according to Abumere (2002), are the system of physical, human and institutional form of capital which enable rural residents to perform better in their production, processing and distribution activities, as well as help improve the overall quality of life.The talk of transforming rural-Nigeria has remained the focus of successive governments in recent years. Rural transformation in Nigeria has become imperative in view of the fact that rural Nigeria constitutes the larger percentage of Nigeria society. Government over the years has introduced programmes meant to improve the infrastructural facilities towards increasing agricultural productivity and income of farmers. Prominent among them are; Directorate of Food, Rural Road and Infrastructure (DFRRI), River Basin Development Authority (RBDA) and National Agricultural Land Development Authority (NALDA). In spite of the above efforts, infrastructural developments in rural place suffered a long set back. Top down planning approach was mostly used to implement development programmes, particularly infrastructure, which had negative impact. This had mainly led to the development and execution of infrastructure that failed to match the needs of community (Idachaba 2006).

The design of National Fadama Development Projects (NFDP) was thus a strategic response by the stakeholders to alleviate the aforementioned problems among rural dwellers.The project has been in phases NFDP I, NFDP II and NFDP III. The success recorded in the Fadama phase I and II by participating States

culminated in the third phase of the National Fadama Development Project (NFDP III).Fadama III has 6 components, and they include;Capacity building, local governance and communication,Small-scale community-owned infrastructure,Advisory service and input support development, Support to the Agricultural Development Programmes, (ADPs) sponsored research and on-farm demonstrations, Asset acquisition for individual Fadama Users Groups (FUG5)/Economic interests and Project management, monitoring and evaluationThe Development objective of National Fadama Development Programme (NFDP III) is to sustainably increase in the income of farmers and other economic groups and to empower communities. The project is anchored on Community-Driven Development (CDD) approach which gives the control of resources and decisions to the benefiting members of Fadama User Groups.The project is being funded by World Bank, FGN, state Government, local government councils and the benefiting cooperatives. This is a credit to Federal Government but grants to States and benefiting communities (World Bank, 2009). The provision of efficient infrastructure is now widely recognized as indispensable to agricultural process as it is a known fact that infrastructure can support economic growth, reduce poverty and make development sustainable (Fakayode, 2008). In any modern society, infrastructure plays a pivotal and often decisive role, in determining the productivity and development of country's economy, as well as quality of life of its citizens.According to World Bank (2004), Nigeria infrastructure, in terms of quality and quantity, is grossly inadequate and inferior to that existing in other parts of the world. Niel (1993) asserts that infrastructural facilities reduce cost of production and increases profitability. It is widely believed that infrastructure is not an end in itself. It is a composite means for generating income (Prabir, 2005). Though rural infrastructure serves as catalyst for development and income generation, most of them are either not available or in deplorable conditions and this militates against the prospects of better living standards, employment, income and other forms of economic activities (Ale, Abisuwa and Ologinagha, 2011). For example, before Fadama III interventions, there were deplorable conditions of rural markets in the study area for evacuation of agricultural produce, Absence of market leads to perishability of agricultural produce, which eventually leads to damages and mostly reduces price of agricultural produce. Also, transportation cost of traveling for long distance looking for available market for sales is drastically increased. This equally encourages consuming all that is produced and discourages production for commercial purposes. This has led to loss in income of farmers in Anambra state. There was no availability of borehole facilities in the area to support agricultural and other related activities. Most of the farmers in the area are into cassava and rice cultivation, and processing mills were lacking in the area for processing. Majority of them travel far away looking for processing mills, which increases cost and time spent. Basically, failure to process farm produce adds little or nothing to the value and price of the produce. Ahmed (2013) reported that post- harvest losses were making Nigerian farmers poor. For a very long time, Nigerian farmers have commented on the situation without getting meaningful assistance.Credit facilities have been a nightmare for farmers to embark on future agricultural production. Farmers find it extremely very difficult to access credit from conventional financial institutions due to the fact they consider lending to agriculture very risky. Farmers find it difficult to procure farm input (seedlings, fertilisers. etc), which adversely affects their income. Whereas Chizari and Zare (2000) stressed that effect of credit on agricultural production is positive and significant, Limao and Venables (1999), cited in Inoni and Omotor (2009) observed that poor infrastructural facilities were responsible for poor productivity in agriculture which affects farmers' income negatively. These have been prevalent in the agricultural areas in Anambra State.Despite the recent success in addressing the state of infrastructure through Fadama I and Fadama II projects, much more remains to be done to improve the existing low level of infrastructure and services. The operation of Fadama III is designed to allow communities to identify and act on their most urgent needs for infrastructure, thereby impacting positively on income of rural dwellers.Fadama III project is anchored on bottom- up approach which is an integral part of community-driven development and derivable through full participation of beneficiaries, which unlike other programmes, is designed to tackle those challenges and short comings in a sustainable manner. The issues indeed raised my interest to investigate the state of establishment of infrastructure that will boost income of FUG members in Anambra State. The present study attempts investigate effect of community infrastructural facility under the aegis of FADAMA III (which encompasses rural markets, borehole facilities, cassava processing facilities and credit support facilities) on income of members of Fadama User Groups.

The broad objective of the study is to ascertain the effect of Fadama III community infrastructure on income of Members of Fadama User Groups (FUGs) in Anambra state. The specific objectives are to:

i. determine the influence of rural markets on income of members;

ii. examine the influence of rural borehole on income of members;
iii. identify the influence of cassava processing facilities on income of members; and,
iv. ascertain the influence of credit support on income of member

Hypotheses of the study

$H_0$1 Establishment of rural markets has no significant influence on the income of FUG members.

$H_0$2 Establishment of water borehole has no significant influence on income of FUG members.

$H_0$3 Establishment of cassava processing facilities has no significant influence on income of FUG members

$H_0$4 Credit support for FUG members has no significant influence on income of FUG members

RESEARCH METHODOLOGY

Study area

Anambra state is in Southern Eastern Nigerian and It has a population of 4,055,038, with density of 846/km^2 (2,200/sqm) and total land mass of 4,854km^2 (NPC, 2006)Anambra is rich in natural gas, crude oil bauxite, ceramic and has an agricultural resources percent arable soil. Its Boundaries are formed by Delta state to west, Imo state and Rivers state to South, Enugu state to the east and Kogi to the North.

Population of the study

The population of the study consists of all members of registered Fadama User Groups (FUGs) that benefited from Fadama III Community Infrastructure in Anambra State. There are 245 FUGs that benefited from Community Infrastructure of Fadama III. The FUGs have membership strength of 6,125 (ADP, Fadama III Office, Awka).

Determination of sample size

For the purpose of this research, multi-stage sampling was adopted. There are four (4) Agricultural zones in Anambra state (Anambra, Awka, Aguata and Onitsha). In the first stage, two (2) Agricultural Zones were randomly selected out of the four (4) agricultural zones in Anambra state. The two Agricultural zones that were studied are; Anambra and Awka agricultural zones because they are dominant in agricultural activities and for purpose of saving cost. In the second stage, three (3) local government areas were selected from each of the 2 agricultural zones, making a total of 6 LGAs. Third stage, three (3) communities were selected from each of the (6) LGAs, making a total of 18 communities. One FUG was randomly selected from each community.

Using Taro Yamane formulae $N = I+N (e)^2$ to determine the sample size from the population of 6,125, a sample size was established. The sample was apportioned to each of the selected FUGs on pro rata basis.

Table 1: FUG sample that benefited from Fadama III community infrastructure

S/No	Agricultural Zones	LGA	FUGs	Total Members	Pro Rata (Sample Size)
1	Awka	Awka North	Chikwelugo Farmers Cassava Mill (Achalla)	24	21
2	Awka	Awka North	Chidubem Cassava Mill (Ugbenu)	25	23
3	Awka	Awka North	Obioma (Ebenebe)	22	19
4	Awka	Awka South	Unweze Chukwu Women (Nibo)	25	23
5	Awka	Awka South	Bidis (Awka)	20	18
6	Awka	Awka South	Isiagu Cassava (Isiagu)	18	16
7	Awka	Anaocha	Hopeful group (Agulu)	25	23
8	Awka	Anaocha	Ozoh Farmer (Neni)	21	19
9	Awka	Anaocha	Ukpashodo (Nri)	25	23
10	Anambra	Anambra East	Ijeoma (Igbariam)	22	20
11	Anambra	Anambra East	Eziafa Cassava (Aguleri)	23	21
12	Anambra	Anambra East	Ofuobi (Nando)	25	23
13	Anambra	Anambra West	Ezianam Ofuobi (Ezianam)	25	23
14	Anambra	Anambra West	Ukwalla (Mbammili)	24	22
15	Anambra	Anambra West	All Youth (Nzam)	24	22
16	Anambra	Oyi	One Mind (Awkuzu)	25	23
17	Anambra	Oyi	Ikukuoma (Umunya)	20	18
18	Anambra	Oyi	Unique (Nteje)	18	17
				436	**375**

Source: ASADEP, FADAMA project office, 2016

Sources of data

The data for the study were sourced mainly from primary and secondary sources.

Primary data were sourced from the respondents through structured questionnaire. On the other hand, secondary data were sourced from published Journals, textbooks, unpublished materials, internet materials etc. This helped in reviewing the related literature of the study.

Administration and collection of data

The researchers used two trained enumerators to administer and collect the questionnaire from the respondents. 375 copies of questionnaire administered, and 351 were returned.

Method of data analysis

A Theoretical mean of 2.5 was taken as a criterion to judge the mean for all items. Therefore, any item that equals 2.5 and above was accepted, while item with less than 2.5 was rejected. The Hypothesis was tested using one way ANOVA, multiple regression was run to determine the influence of infrastructure on income of users. Descriptive statistics(mean, frequency counts, percentages) were employed to describe the socio-economic characteristics of the respondents, Also inferential statistics such as multiple regression analysis was employed to address issues raised in research questions and hypotheses 1 to 4. It was analyzed to determine the influence of Fadama III Community Infrastructure on income of members of Fadama User Groups Multiple regression models were used to test the entire hypotheses in order to ascertain the effect of Fadama III Community Infrastructure on income of Fadama User Groups. The regression was run using SPSS package to determine the effect of the independent variables on the dependent variable. The t test was used also to perform test of significance of the explanatory variables at the alpha level of 5%.

Community Infrastructure = Independent variables
Income = Dependent variable

The model is implicitly specified as follows;

$Y1 = f(X_1, X_2, X_3, X_4 \ldots X_n + e.i)$

The models are further explicitly specified as follows.

$Yi = b_0 + b_1X_{1i} + b_2X_{2i} + b_3 X_{3i} + b_4 X_{4i} + e.i$

Where

1 = Rural Market,
2 = Borehole facilities
3 = Processing facilities
4 = Credit support

Components of independent variables are; rural markets, water borehole facilities, cassava processing facilities, credit support.

Regression Analysis

Y = Income
$X = X_1$ = Rural markets
X_2 = Water borehole facilities
X_3 = Processing facilities
X_4 = Credit Support
ei = Error Term design to capture the effects of unspecified variables in the model.

Income (Y) = F (Fadama III community infrastructure).

RESULT AND DISCUSSION

Socioeconomic characteristics of respondent members

This section presents and analyzes the data collected during the course of this study. Research hypotheses were tested based on the data collected.

Table 2: Socio-Economic Characteristics of Respondents

Variables	Frequency N = 351	Percentage (%)	Mean
Gender			
Male	157	45.00	
Female	194	55.00	
Age (Years)			**45.18**
Less than 20yrs			
21 – 30	28	8.00	
31-40	53	15.00	
41-50	137	39.00	
51-60	98	28.00	
61-Above	35	10.00	
Mean (x)			
Marital status			
Single	84	24.00	
Married	253	72.00	
Divorced	8	2.3	
Widowed	6	1.7	
Educational status			
No Formal Education	53	15.00	
FSLC	163	46.00	
Senior Secondary School Certificate	123	35.00	
NCE/OND	10	3.00	

Variables	Frequency N = 351	Percentage (%)	Mean
HND/BSc	2	1.00	
Duration of Membership of FUG (years)			**3.35**
< or = 1	14	4.00	
1-3	123	35.00	
3-5	179	51.00	
> 5	35	10.00	
Farm experience (Years)			**11.36**
<5	63	18.00	
6 – 10	74	21.00	
11 - 15	154	44.00	
16- 20	42	12.00	
Above 20	18	5.00	
Monthly Income (N)			**26,105**
< 1000	0	0.0	
1,000 – 5,000	31	8.00	
6,000 – 10,000	48	14.00	
11,000 – 15,000	157	45.00	
16,000 – 20,000	80	23.00	
21,000 – 50,000	35	10.00	
Above 50,000	0	0.0	

Source: Field Survey August, 2016

Table 1 shows the socioeconomic characteristics of respondents. It shows the sex, age, marital status, educational qualification, monthly income, monthly farm output, Fadama Projects benefited from.

The Table shows that 55 % are females, while 45% are males. This shows that female folk are more involved in Fadama III projects.

Majority of the respondents fall within the age bracket of 41-50 years with highest percentage of 39%. This is followed by those that fall within the age bracket of 51-60 representing 28% of the respondents. This shows people in their productive age and carrying responsibility in their various households.

From the table, 72% of the respondents were married, 24% are single, and 2.3% were divorced while 1.7% was widowed. Majority of the respondents have First School Leaving Certificate which represents 46%, followed by those having SSCE with 35%. Fifteen percentages have no formal education and only 2% had B.Sc/HND.Majority of the of respondents have been in cooperative between 3 – 5 years which represent 51%, while 10% have stayed above 5 years. People believe there are benefits derivable from being a member of FUGs. Majority of respondents have had 11 – 5 years farming experience. This shows that agriculture has being a major and dominant occupation in the agricultural zones of Anambra state.On the average, 48% of respondents made income of 16,000-20,000 per month, 10% made above 50,000 monthly, while 31% made between 6,000 and 10,000 per month. The implication of this is that interventions of Fadama III really have a significant influence on income of members Fadama User Groups in Anambra State.

Table 3: Distribution of Responses on the various Fadama III Community Infrastructure Executed by members of FUGs

Fadama III community Infrastructure provided	Mean	Decision
Rural market		
Rural markets are established in each rural community.	3.87	Accepted
Programme managers see to the upliftment/maintenance of rural markets.	3.57	Accepted
Members of FUG are allocated stalls on the basis of equality.	3.34	Accepted
Members are exempted from paying market tolls	3.01	Accepted
FUG members/participants are permitted to transact every day	3.64	Accepted
Water Borehole facilities		
Water borehole facilities are established in every community.	3.32	Accepted
Members see to the maintenance of the facilities.	3.24	Accepted
Members of FUG are exempted from paying for the water	2.92	Accepted
Members benefit from the water facilities which they use in their processing and other Agricultural endeavour.	3.48	Accepted
The water rush all week day and members use them for domestic uses.	3.34	Accepted
The money realized are used for maintenance of the borehole facilities.	3.32	Accepted

Fadama III community Infrastructure provided	Mean	Decision
Cassava processing mills		
Processing facilities are established in each rural community.	3.5	Accepted
Managers/members see to the maintenance and upliftement of the processing facilities.	3.24	Accepted
Members are exempted from paying fees during processing	2.96	Accepted
Money realised from the processing mills are used in maintaining the machines thereby saving member the costs.	3.38	Accepted
Credit supportfacilities		
Members obtain credit facilities without collaterals.	3.78	Accepted
Members obtain facilities for productive activities.	3.66	Accepted
Rigorous documentation procedures are avoided unlike formal financial institutions.	3.20	Accepted
Repayment scheme is structured to lessen the burden on members.	3.56	Accepted
Loans to members are interest free	2.66	Accepted

Source: Field Survey August, 2016

The result on Table 4.2 was deducted from 4 point Likert-type Scale analysis. With mean of 2.5 which is considered accepted, where the responses on Fadama III Community Infrastructure executed that have mean of 2.5 and above has influence on income of the members of Fadama User Groups. The entire means were above 2.5 which show that Fadama III community infrastructure was executed in the study area. They equally have a positive influence on their socio-economic wellbeing.

Table 4: Regression estimates of effects of FADAMA III community infrastructure on rural income

Model	Coefficient estimates	t-value	Significance
Constant	-208231.941	-1.606	.109
X_1–Rural markets	59327.926	2.655	.008
X_2–Rural boreholes	26290.956	1.105	.053
X_3–Processing facilities	41579.487	1.936	.054
X_4–Credit support	44996.328	2.057	.040
R^2	0.060		
Adj R^2	0.049		
F	5.497 (Sig. @ 0.001)		

Dependent Variable: Rural Income

From the regression result in Table 4 above, it is seen that all the independent variables (rural markets, rural boreholes, processing facilities and credit support) had positive and significant influence on rural income. The coefficient of 59,327.93 for rural markets suggests that a one unit increase in rural markets will result in more than N59,000 increase in rural income; coefficient of 26,290.96 for water borehole suggests that a one unit increase in the establishment of water boreholes will result in an increase of more than N26,000 in rural income; a coefficient of 41,579.487 for cassava processing facilities suggests that an increase of one unit in cassava processing facilities will result of one unit in cassava processing facilities will result in an increase of more than N41,500 increase in rural income; and a coefficient of 44,996.328 for credit support suggests that an increase of one unit in credit support will lead to an increase of more than N45,000 in rural income. It was also observed that though the coefficient of multiple determinations was less than three percent, the F ratio of 5.50 was significant at 1% level, thus, suggesting that the independent variables had substantial influence on the dependent variable.

Tests of hypotheses

Test of hypothesis one

H_0 Establishment of rural markets has no significant influence on the income of FUG members.

H_1 Establishment of rural markets has significant influence on the income of FUG members.

In testing hypothesis one, which states that establishment of rural markets have no significant influence on the income of FUG members; it was been observed (Table 4) that the t-statistic of the coefficient of rural market variable (59,327.926) was significant at the 1% level. Therefore, the null hypothesis is rejected and the alternative hypothesis which states that establishment of rural markets has significant influence on the income of FUG members is accepted. This supports the submission of Olagunju (2012) which stressed that provision of market and road infrastructure will improve the income of the rural households in the rural areas and will reduce rural-urban migration. And equally corroborate with views of FAO (2003) which says that efficient market system can provide better prices for producers, reduces cost and increases income.

Test of hypothesis two

H_0 Establishment of water borehole has no significant influence on income of FUG members.

H_1 Establishment of water borehole has significant influence on the income of FUG members.

In testing hypothesis two, which states that establishment of water bore holes have no significant influence on the income of FUG members; it was been observed (in table 4) that the t-statistic of the coefficient of water boreholes variable (26,290.956) was significant at the 1% level. Therefore, the null hypothesis is rejected and the alternative hypothesis which states that establishment of water bore holes has significant influence on the income of FUG members is accepted.

Test of hypothesis three

H_0 Establishment of cassava processing facilities has no significant influence on income of FUG members.

H_1 Establishment of cassava processing facilities has significant influence on the income of FUG members.

In testing hypothesis three, which states that establishment of processing facilities have no significant influence on the income of FUG members; it was been observed (Table 4) that the t-statistic of the coefficient of cassava processing facilities variable (41,579.49) was significant at the 1% level. Therefore, the null hypothesis is rejected and the alternative hypothesis which states that establishment of cassava processing facilities has significant influence on the income of FUG members is accepted. This finding corroborates with the submissions of Oluwasola (2010) which states that cassava processing facilities enterprises help in development of sub-sector to generate income and employment for farmers household. He stressed further that it reduces post-harvest loss, add value to farm products and enhanced the food security of a nation.

Test of hypothesis four

H_0 Establishment of credit support facilities has no significant influence on income of FUG members.

H_1 Establishment of credit support facilities has significant influence on the income of FUG members.

In testing hypothesis four, which states that credit support have no significant influence on the income of FUG members; it was observed (Table 4) that the t-statistic of the coefficient of cassava processing facilities variable (44,996.328) was significant at the 1% level. Therefore, the null hypothesis is rejected and the alternative hypothesis which states that credit supports have significant influence on the income of FUG members is accepted. This is in line with the views of Ijere (1998), opined that agricultural credit is considered as catalyst that activates other factors of production and makes under-used capacities functional for increased production and income. Also, IFAD (2000) cited in Jumare (2006). Stressed that primary aim of credit programmes are to alleviate poverty by increasing borrowers' earnings.

CONCLUSION AND RECOMMENDATION

The result of the findings shows that Community infrastructure had a significant influence on the income of members of Fadama User Group in Anambra State. The result show that for a given unit of Community Infrastructure, income increases. Rural market, processing facilities and credit support facilities have been identified as indispensible in increasing the income of FUG members in Anambra State.

Accordingly the theory of Community Driven Development has been useful in actualizing Fadama III project because it provides control of development process, resources and decision making authority directly to the communities. In order to consolidate and strengthen this project, the researchers hereby recommend as follows

RECOMMENDATIONS

1. That, the project should be replicated to other rural areas and state that have not benefited from the project.
2. That, project tenure should be extended so that rural people would benefit immensely from the project.
3. That, Government should encourage rural farmers to join FUGs and take advantage of the project. Government should organize sensitization programme to advocate the need for people to take advantage of the project.
4. That other agricultural projects to be implemented should take cue from Fadama III Project. The management and the implementation processes have shown that it is beneficial to the Fadama users.

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EFFECTS OF QUARRY ACTIVITIES ON COCOA PRODUCTION IN YEWA NORTH LOCAL GOVERNMENT AREA OF OGUN STATE, NIGERIA

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ABSTRACT

There had been an increase in the number of quarries in Nigeria in the 19th centuries. The activities of the quarries have detrimental effects on the environment and more importantly on permanent crops; most especially cocoa which is a major commercial crop in the study area. Therefore, this study determined the perceived effects of quarries activities on cocoa production in Yewa north local government area of Ogun State, Nigeria. A multi-stage sampling procedure was used in selecting 120 cocoa farmers in the study area. Data collected were analyzed using descriptive statistical tools like mean, percentage, frequency counts, standard deviation and inferential statistics like chi-square, PPMC and t-test. All (100%) of the farmers were married, with mean age of 53years ±8.4. However, 42.5% of the cocoa farmers have a household size of between 5 and 6, while 86.7% of them had formal education with majority finishing secondary school. Environmental problems identified as being severed by respondents were soil erosion, air pollution and massive deforestation, while problems associated with quarry activities were rock blasting, rock powdering and transportation. There is significant difference in the yield of cocoa production before and after the establishment of the cement industry in 2011 in the study area (t=-20.851, p=0.0000). Environmental mitigation measures should be promulgated among communities and quarry industries.

Keywords: Quarry Activities, Cocoa Production, Environmental Problems

INTRODUCTION

Overcoming hunger remains one of the most daunting challenges facing humanity. The threat of starvation looms most seriously over Africa, where an estimated 33 percent of the population largely children and women suffer from hunger (USAID, 2006). Moreover, per capital food production in Africa has steadily declined by 33 percent over the past 25 years (FAO, 2012). Hunger and famine in some African regions have been particularly debilitating and widespread (Thrupp and Megateli, 1999). Environmental problems have become a key issue globally. The environment and its significance on human life have increasingly come to national and international dimension. Industrial pollution is a major environmental problem in Nigeria. It arises from lack of proper control of pollutant fro industries. Increased development of land for industrial use received greater impetus in the post-independence era when national industrial policy revolved around import substitution as a panacea for unfavourable terms of trade that Nigeria feature textile, breweries, leather, tanning, pulp and paper industries, detergent, steel, quarry activities, etc., of all which have implications for overall quality in the affected areas. Most industries that have the potential of seriously degrading the environment are largely urban-based (Magbagbeola, 2001). The past few years have witnessed the destructive effects of centuries of uncontrolled of used resources (Onasanya, 2007).

Ideally, the sitting of industries should achieve a balance between socio-economic and environmental consideration. Relevant factors that determine sitting of industries are access to raw materials, the proximity of water sources, a market for the products, the cost of effective transportation, and the location of major settlement, labour and infrastructural amenities. In developing countries such as Nigeria, the sitting of industries is determined by various criteria, some of which are environmentally unacceptable and pose serious threat to public health (UNEP, 1990).

The ministry of Solid Minerals in the country issued licenses for quarry activities in Ogun State, to exploit approximately 135 million tones of limestone deposit in the state (OMICC, 2000). Of these deposits, the Yewa area of the state has more than 80% of the deposit. This necessitated the concentration of many prospecting companies within the region. Coincidentally, this area is regarded as one of the food basket of the state which provides staple such as maize, cassava, yam, vegetables, and tree crops such as cocoa, oil palm, cashew and timber products with prospects for international markets.

Cocoa (*Theobroma cacao*) was introduced to West Africa sub region from Brazil and into Nigeria from Fernando Po in the year 1874 (Adegeye, 1996). It was first cultivated into the western region of Nigeria in 1890. Its cultivation gained prominence rapidly in Nigeria such that by 1965, Nigeria became the second largest producer of cocoa in the world (Adegeye, 1996). Cocoa produced mainly in the rainforest area of the country, known as cocoa belt. The main producing states are Ondo, Ekiti, Oyo, Osun, Ogun, Edo, Delta, Cross Rivers and AkwaIbom. According to Adegeye (1996). The discovery and exploitation of petroleum, the black gold led to decline in the importance attached to the golden crop cocoa. Nevertheless, cocoa still remains the second largest foreign earner after petroleum (Adegeye, 1996). In Nigeria, cocoa has been the main agricultural stake of the national economy until early 1970s when crude oil was discovered in the country in commercial quantity. However, cocoa has

remained a valuable crop and major foreign exchange earner among agricultural commodity exports of the country (Akinbola, 2001; Ogunleye and Oladeji, 2007).

Nigeria's cocoa production output has however decline from over 300,000 to 100,000 tones with average annual rate of 8.3% decline during 1992-1996 to 1.8% during the 1997-2001 and 1.2% during 2002-2006. Despite the dwindling production of cocoa in Nigeria, the crop still contributes to nation's economic development. In terms of foreign exchange, no single agricultural export commodity has earned more than cocoa. Apart from providing exchange to the exporting countries, cocoa is a means of conserving foreign exchange. This is achieved by producing cocoa based products, for instance cocoa-butter, cocoa cake, cocoa powder, cocoa wine and so on, locally instead of importing them. In recent years, Nigeria has lost her leading role in exportation of cocoa. This was due to downward trend in cocoa production (Adegeye, 1996). A number of reasons have been given for the decline in cocoa production and inability of cocoa industry to increase output. Some of these reasons include small farm holdings, transportation mode, unavailability of human labour, low capital and variation in climatic factors and so on.

Contribution of industries to national economy can never be over emphasized but it must bring more dividends to the host community than harm. The government must protect the interest of her citizens (host communities). However, the various quarry activities, such as rock blasting, rock crushing, rock grinding, rock powdering and transportation have adverse effect on the environment and which will have resultant effects on the agricultural production. There is paucity of information on the effect of quarry activities on cocoa production of erstwhile agrarian community, although several environmental related studies have been conducted on industrial pollution, it is necessary to determine environmental pollution that is usually associated with quarry activities and the effect on cocoa production in the study area. Therefore, the study determined the effects of quarry activities on cocoa production in Yewa North Local Government Area of Ogun State.

The specific objectives are to;

a) identify the socio-economic characteristics of cocoa farmers in the study area.
b) determine quarry activities that affect cocoa production in the study area
c) ascertain the environmental problem associated with quarry activities in the study area

Hypothesis of the study

H_0: There is no significant difference in the level of cocoa production before and after the establishment of quarry factories in the study area

METHODOLOGY

Study area

The study was conducted in Yewa North Local Government area of Ogun State. Yewa north local government is one of the twenty local government areas in Ogun State. It is located to the west of Ogun State bordering the Republic of Benin. Its headquarters is Ayetoro and it has an area of 2,087km2 and a population of 183,844 (NPC, 2006). It shares boundary with Abeokuta north, Yewa south Imekon-Afon local government and Republic of Benin in the north-east, south, north-west and west respectively. The study area is also blessed with mineral deposits such as limestone, clay and kaolin which remain untapped until recently when attention in being drawn to them (OMICC, 2000). Five of the fourteen major communities in Yewa North Local Government Area have limestone deposits in commercial quality and also in cocoa production. These communities are Ibese, KOmi-Oba, Imasai, Igbogila and Igua.

Sampling procedure and sample size

Five (5) communities that have limestone deposits and prominent in cocoa production were purposively selected out of the fourteen (14) major communities in the study area. These include Ibese, Imasai, Komi-Oba, Igbogila and Igua. Thereafter, Ibese was purposively selected because Dangote cement factory is located at Ibese. Three of remaining four (4) communities were randomly selected, which are Igbogila, Imasai, and Komi-Oba. These communities have their cocoa farm close to where quarry activities take place.

Thirty (30) cocoa farmers were randomly selected from each of these four (4) communities to give one hundred and twenty (120) cocoa farmers.

Measurement of Variables

Both dependent and independent variables were measured as follows:

Independent Variables:

Socio-economic characteristics

Age: The respondents were asked to indicate their actual age in years.

Sex: The respondents were asked to indicate their sex. A score of 1 for male and a score of 2 for female.

Marital status: Respondents were asked to indicate their marital status; married =1, single =2, divorced =3, widow or widower =4. Scores were assigned stating no major difference.

Religion: Respondents were asked to indicate their religion. Christianity =1, Islam =2, Traditional =3, Others =4. Scores were assigned stating no major difference.

Household size: Respondents were asked to indicate how many persons were in their household.

Education status: Respondents were asked to indicate their level of education from the following;

No formal education =1, Primary school =2, Secondary school =3, Tertiary education =4.

Farming experience: Respondents were asked to indicate their farming experience in years.

Farm size: Respondents were asked to state the total land area for cocoa production in hectares.

Occupation: Respondents were asked to indicate their primary occupation.

Quarry activities that affect cocoa production

Respondents were presented with list of quarry activities that affect cocoa production in the study area, the respondents were asked to indicate the level of severity on a three point scale of very severe, severe and not a constraint; with score of 2, 1, and 0 respectively. Grand mean was 2.90. The mean value of the score was used to categorize the activities as severe and not severe. Activities with mean above the grand mean were regarded as severe while those with mean below grand mean were regarded as not severe.

Environmental problems associated with quarry activities

Respondents were presented with list of environmental problems associated with quarry activities in the study area, the respondents were asked to indicate the level of severity on a three point scale of very severe, severe and not a constraint; with score of 2, 1, and 0 respectively. Grand mean was 2.80. The mean value of the score was used to categorize the environmental problems as severe and not severe. Activities with mean above the grand mean were regarded as severe while those with mean below grand mean were regarded as not severe.

Dependent Variable

The dependent variable is the level of cocoa production; that is the yield. Respondents were asked to indicate their cocoa farm annual yields in kilogram from 2007 to 2014. Student t-test was used to test the significant difference in the cocoa production (yields) before and after the establishment of quarry factories in the study area. The result showed a consistence decrease in the yield over the period between 2011 and 2014.

RESULT AND DISCUSSIONS

Personal characteristics

Table 1 shows that majority (59.2%) of the farmers were between the ages of 46 and 61 years. Mean age of 52 ±8.4. This implies that many of the farmers were old, in which above average (53.4%) still fell within active ages. This result corroborates the findings of Onasanya (2007) that farmers are in their active years when they are within the age range of 20-50 years. The implication of this result is that the youth in the study area are not much involved in cocoa farming, as time goes on there could be decline in cocoa production in the study area as youths are not interested in cocoa farming. The table also reveals that majority (98.3%) of the cocoa farmers in the study area were male. This implies that men are more dominant in cocoa production; this is because cocoa farming is somehow tedious and very few female can afford to take the task.

The table also revealed that all the cocoa farmers were married. This result corroborates Onasanya (2007) that reported that 94.6% of the farmers in Ogun State are married and also by Dipelu (2003) that reported that 89.2% of the farmers in Ogun State are married.

Almost half (42.5%) of the cocoa farmers in the study area had between 5-6 members in their household. With the mean score of 6.3 household sizes, it implies that most of the cocoa farmers in the study area have more than three members to cater for in their households. This corroborates the findings of Oyesola and Oladeji (2002) that 59.59.8% of agro-pastoralist in Ogun State have between 4 and 9 children in their households. The implication of this result is that the more members in the household, the more readily available family labour who will assist the farmer on his or her farms and this could lead to increase in agricultural production. Also the more the household members: the more responsibilities on the part of the farmers.

The table reveals that only 13.3% of the cocoa farmers in the study area do not have formal education. The remaining had one form of formal education or the other. This implies that cocoa farmers in the study area are well educated and this could have assisted them to have knowledge about the effect of environmental pollution on their crop and the way out. The result corroborates Akinbile, (2007) that reported that only 10.6% of the household heads in Yewa North Local Government Area do not have formal education. Table 1 also shows that majority (69.2%) of the cocoa farmers in the study area are not into any other occupation, that is they are solely engaged in farming. This corroborates the findings of Agbelemoge (2003) that reported that majority of the farmers in south-west of Nigeria have no other occupation.

Table 1 further reveals that majority (57.5%) of the cocoa farmers were within 20 – 39 years of farming experience, with mean of 26.6 ±9.7. This implies that they have being in cocoa farming for long, they must have gathered enough experience related to cocoa production so as to be able to attribute whether their level of production now, is being affected by the environmental problems associated with quarry activities or not.

Table 1 also shows that majority (65.8%) of the cocoa farmers in the study area have between 1-2 cocoa farm locations. However, the table reveals that majority (69.2%) of the cocoa farmers in the study area have between 3-6 hectares of farm land with mean of 3.9 ±1.7. This finding corroborates the findings of Adegeye (1996) who

attributed small holdings as one of the reasons for inability of cocoa industry to increase output.

Table 1: distribution of cocoa farmers based on socioeconomic characteristics

Variable	Frequency	Percentage	Mean
Age			
38 – 45	26	21.7	
46 – 53	38	31.7	52.9
54 – 61	33	27.5	
62 – 69	22	18.3	
70 – 77	1	0.8	
SD = 8.4			
Sex			
Male	118	98.3	
Female	2	1.7	
Marital status			
Married	120	100.0	
Household size			
3 – 4	15	12.5	
5 – 6	51	42.5	6.3
7 – 8	47	39.2	
9 – 10	7	5.8	
SD = 1.5			
Education Status			
No formal education	16	13.3	
Primary education	41	34.2	
Secondary education	62	51.7	
Tertiary education	1	0.8	
Occupation			
Farming	83	69.2	
Trading	18	15.0	
Artisan	17	14.2	
Clergy	1	0.8	
Civil servant	1	0.8	
Farming experience			
10 – 19	26	21.7	
20 – 29	46	38.3	26.6
30 – 39	23	19.2	
40 – 49	25	20.8	
SD = 9.7			
Farm locations			
1-2	79	65.8	
3-4	29	24.2	2.3
5-6	11	9.2	
7-8	1	2.8	
SD = 1.3			
Farm size			
1-2	30	25.0	
3-4	47	39.2	
5-6	36	30.0	3.9
7-8	6	5.0	
9-10	1	0.8	
SD = 1.7			

Source: Field Survey, 2016

Environmental problems of quarry activities

Result of analysis on Table 2 shows that air pollution ($\bar{x}$ = 2.96), massive deforestation ($\bar{x}$ = 2.95) and soil erosion ($\bar{x}$ = 2.92) were the most severe environmental problems faced by the cocoa farmers in the study area. The finding corroborates Onasanya (2007) who reported that air pollution is the most prominent problem in cement production in Ogun State.

Table 2: Distribution of severity of listed environmental problems of quarry activities

Environmental factors	Very severe		Severe		Not a const.		Mean
	F	%	F	%	F	%	
Land degradation	100	83.3	20	16.7	0	0.0	2.83
Soil erosion	110	91.7	10	8.3	0	0.0	2.92
Water contamination	102	85.0	18	15.0	0	0.0	2.85
Air pollution	116	96.7	4	3.3	0	0.0	2.96
Bush burning	108	90.0	10	10.0	2	1.7	2.88
Massive deforestation	115	95.8	5	4.2	0	0.0	2.95
Grand mean							**2.90**

Source: Field Survey, 2016

Quarry activities

Result of analysis on Table 3 shows that rock blasting ($\bar{x}$ = 2.94), rock powdering ($\bar{x}$ = 2.82) and transportation ($\bar{x}$ = 2.80) were the most dangerous quarry activities affecting the production of the cocoa farmers in the study area.This corroborate the view of cocoa farmers during the Focus Group Discussion that rock blasting, rock powdering and transportation are seriously affecting their cocoa production.

Table 3: Distribution of severity of listed quarry activities

Environmental factors	Very Severe		Severe		Not a const.		Mean
	F	%	F	%	F	%	
Rock blasting	113	94.2	7	5.8	0	0.0	2.94
Rock crushing	100	83.3	12	10.0	8	6.7	2.76
Rock grinding	100	83.3	3	2.5	17	14.2	2.69
Rock powdering	108	90.0	2	1.7	10	8.3	2.82
Transportation	99	82.5	18	15.0	3	2.5	2.80
Grand mean							**2.80**

Source: Field Survey, 2016

Hypothesis testing

Test of difference between cocoa yield before and after the establishment quarry industries

Table 4 shows that there exist a significant difference between cocoa yield before (t=-20.851, p=0.000) and yield of cocoa after the establishment of quarry industries. This implies that cocoa production was stable before the establishment of quarry factories; the result also implies that there was consistent decrease in the production cocoa yield after the establishment of quarry factories. This means that the establishment of quarry industries in the study area has direct negative influence on cocoa production in particular and on farming in general.

Table 4: Result of test of difference between cocoa yield before and after the establishment quarry industries.

Variables	Mean	Sd	t value	df	p value	Decision
Yield 2007- 2010 Yield 2011-2014	-873.292	458.78974	-20.851	119	0.0000	Significant

Source: Field Survey, 2016

CONCLUSIONS AND RECOMMENDATIONS

CONCLUSION

The study investigated the effects of quarry activities on cocoa production among cocoa farmers in Yewa North Local Government in Ogun State. Consequent upon empirical evidence in the study, it could be affirmed that quarry activities in the study area have negative effect on cocoa production. This shows that the government failed to provide grassroots developmental programmes that will improve the productivity of the farmers in the study area. Under the present democratic dispensation, the cocoa farmers in the study area have not enjoy the dividends of democracy, but experiencing low production due to industrialization.

Recommendations

Based on the findings of this study, the discussion involved and the conclusions thereafter drawn, the following recommendations are proposed in ensuring that cocoa farmers in cocoa production remain productive and maintain a better conserved environment:

- The agricultural development agency in the state and Cocoa Development Unit should encourage the cocoa farmers in the study area to adopt improved technologies in cocoa production. This will go a long way in sustaining cocoa

farming and other agricultural activities in the area.

- There should be an avenue through which the communities in the study area can demand a check on the use of resources in their environment.
- Environmental mitigation measures should be promulgated among communities and quarry industries.

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EVALUATION OF INORGANIC FERTILISER USE INTENSITY ON ARABLE CROPS FARMS IN AFIKPO NORTH LOCAL GOVERNMENT AREA OF EBONYI STATE, NIGERIA

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ABSTRACT

The study centered on the evaluation of inorganic fertiliser use intensity on arable crops farm in the southern part of the State, approximately on longitude 6° 50[1] North and 8° 55[1] East. The specific objectives of the study were to analyze the determinants of inorganic fertiliser use intensity in the study area, examine the effects of inorganic fertiliser use on arable crops output and describe the constraints associated with inorganic fertiliser utilization. Multistage sampling technique was used for the study. Six autonomous communities were purposively chosen, out of which 10 arable crop farmers each were randomly selected to give a total of 60 respondents. Data were collected with questionnaire and, were analyzed with OLS estimators and descriptive statistics. The analyses revealed that farm size, farming experience, labor cost, cost of planting materials and fertiliser costs were the significant determinants of inorganic fertiliser use among the farmers. Fertiliser use intensity statistically affected arable crops output at 10.0% level of significance, while majority of the respondents (34.2%) complained of insufficient fund, 28.4% faced the challenges of land tenure system, and 13.7% has little or no access to markets due to the distance of their farmlands to the markets as constraints associated with inorganic fertiliser utilization. It was recommended that farmers should diversify their income sources in order to increase the quantity, rate and intensity of applied inorganic fertiliser, and should adopt sustainable farming practices.

Keywords: Inorganic Fertiliser Use, Arable Crops and Afikpo Ebonyi State.

INTRODUCTION

Arable crops farming in Ebonyi State, Nigeria has continued to be an essential activity for sustainable development, rural poverty reduction and a reliable source of self-food sufficiency (Olawande *et al.,* 2009). The topography of the area makes for wide valleys and deep swamps in which arable crops are typically grown. Traditionally, farmers in the region practice mixed cropping in swamp fields, and this is achieved by making mounds on which a mixture of crops is planted; rice being planted in the furrows between the mounds while other arable crops are being planted on the mounds.

Inorganic fertiliser is a source of plant nutrient that nourishes crops when the soil cannot supply the total crop nutrient requirements. Two general categories of inorganic fertilisers exit, namely: macronutrient fertilisers and micronutrient fertilisers. Each supplies plants with different nutrient. Macronutrient fertiliser supply primary nutrients such as nitrogen (N), phosphate (P) and soluble potash or potassium (K) while micronutrient fertilisers supply plants with calcium (Ca), magnesium (M), sulfur (S), etc. Example of secondary fertiliser product includes calcium chloride, calcium chelate and magnesium chelate. Micronutrient fertilisers supply plant with boron, chloride, cobalt, iron, manganese, sodium and zinc. In addition, fertiliser exists in different forms (Olayide, *et al*., 2009; Olawande *et al*., 2009; Tanko and Mbanasor, 2000; Wanyama *et al.,* 2009).

Farming in the Afikpo North has being declining over the last decades (Olwande *et al.,* 2009), and currently, arable crops farming in the area lags behind than other areas of Ebonyi State. Many farmers in the region are facing declining crop yields, which has accrued adverse effects on the region's economic growth (Hassan, 2008). A prominent constraint to higher crop productivity among farmers in Afikpo North is low soil infertility resulting mainly from continuous soil cultivation without planned replenishment of depleted soil nutrients leading to low nutrient status of the soils. Again, farmers in the area traditionally grow unimproved varieties of rice, maize and other arable crops. As a result, their yields are usually low, thus, keeping the farmers at a subsistence level of production.

Objectives of the Study

The broad objective of the study was to analyze inorganic fertiliser use intensity on arable crops farms among farmers in Afikpo North Local Government Area of Ebonyi State. The specific objectives were to;

i. analyze determinants of inorganic fertiliser use intensity in the study area.
ii. examine the effect of inorganic fertiliser use intensity on arable crops output.
iii. identify constraints associated with inorganic fertiliser utilization in the study area

METHODOLOGY

The study was conducted in Afikpo North Local Government Area which is one of the local governments areas in Ebonyi state, Nigeria situated on the southern part of the State. It lies approximately on longitude 6° 50[1] North and 8° 55[1] East. It covers an area of approximately 64 square miles (164sq km) and it is densely populated (NPC. 2006). It has eleven autonomous communities namely, Opi, Unwana, Isaka, Ozizza, Amasiri, Ekuma Ubaghala, Ohaisu, Itim, Nkpoghoro, Ugwuegu an lbii. It has an average

annual rainfall of about 77inches evenly distribute. Relative humidity varies from maximum of 92.6% to minimum of 52%. Farming is the major occupation in this area. The major crops produced in the area are cassava, rice, vegetables, yam, oil palm, maize, etc. Poultry, goats and sheep are the major livestock kept in this area. Apart from farming, trading is also widely practiced.

Multistage sampling technique was used for the study. Six autonomous communities were purposively selected for the study out of the eleven autonomous communities in the study area, based on population density, intensity of crop production and fertiliser use. They include; Akpoha, Amasiri, Ekuma, Ubaghala, lbii and Ozziza. The second stage involved a simple random selection of 10 arable crop farmers from each autonomous community making up a total of 60 respondents.

Primary data were used for the study, and information were gathered with the use of well-structured questionnaire distributed to 60 respondents.

Objectives 'i' and 'ii' were analyzed using Ordinary Least Squares estimators while descriptive statistics was used for objective 'iii', and using the fertiliser use intensity (FUI) formula adopted from Maingwa *et al.*(2007), Olayide *et al.* (2009) and Offor *et al.* (2016).

$$FUI = \frac{\text{Quantity of fertiliser used by } i^{th} \text{ farmer (kg)}}{\text{Area of land cultivated bv } i^{th} \text{ farmer (Ha)}}$$

The determinants of inorganic fertiliser use intensity realized with OLS estimators were as follows:

$$FUI = B0 + B_1FMSZ + B_2EXPR + B_3LABC + B_4CRED + B_5COPM + B_6COIF + B_7LABU + U_i$$

Where:

FUI = Fertiliser Use Intensity (kg/ha)
FMSZ = Farm Size (ha)
EXPR = Farming Experience (number of years)
LABC = Labor Cost (Naira)
CRED = Access to Credit (Yes =1, No =0)
COPM = Cost of improved planting materials (Naira)
COIF = Cost of Fertiliser (Naira)
LABU = Labor Use (Number of Labor)
U_i = Stochastic error term

RESULTS AND DISCUSSION

Determinants of Inorganic Fertiliser Use Intensity on Arable Crops

The determinants of inorganic fertiliser use intensity are presented in table 1. Based on the magnitude of the coefficient of multiple determinations (R^2) (0.930), the number of significance variables and the value of F-ratio, the double-log functional form was chosen as the lead equation. The model showed that the independent variables included in the model explained about 93.7 percent of the observed variation in inorganic fertiliser use intensity in the study area. Farm size, arable crops farming experience, labor cost, cost of improving planting materials and cost of fertiliser were the significant variables that influenced inorganic fertiliser use intensity among the farmers in the study area. Farm size was negatively related to fertiliser use intensity at 10% significance level, an indication that fertiliser use intensity increased with a decrease in farm size. Knowing that farm size determines the extent of other production resources to be employed in farm, the increase in farm size while fertiliser use intensity decreased could mean that the farmer could not afford to buy the right quantity of fertiliser needed for their crops considering the farm large size. Arable crops farming experience was positively related to fertiliser use intensity at 10% significance level. This implies that fertiliser use intensity of the farmers increases with arable crops farming experience and vice versa. Experience in arable crops farming will influence the decision of a farmer on the need to use fertiliser or not, knowing that some crops will require more fertiliser than others, and also that some farmlands are more fertile than others. Therefore, these experiences will guide a farmer to know the right quantity of fertiliser to use. This findings is consistent with the findings of Madu (20013) and Sanni and Werner (2007) who averred that household who are more experience in arable crops farming are supposed to be knowledgeable on the need for greater use of fertiliser in order to boost arable crops output. Labor cost was negatively related to fertiliser use intensity at 1% significance level. This implies that fertiliser use intensity decreases with increase in labor cost and vice versa. At limited capital, a farmer who spent much of his capital on labor will have little left to spend on purchasing fertiliser, again, most farmers considers labor cost as more important to fertiliser and pesticide usage (Nwagbo and Achoja, 2001), such preference will cause a farmer to invest more of his funds on labor usage rather than on purchase of fertiliser especially when the price of fertiliser is high. This finding conforms to Madu (2013). Cost of planting materials was positively related to fertiliser use intensity at 1% significance level, an indication that fertiliser use intensity increased with increase in the cost of planting materials. This means that considering high cost of purchasing planting materials fortified to be resistance to pests and diseases attack in order to have increased yield, farmers will be compelled to spend more in purchasing inorganic fertilisers in order to actually achieve their aim of increased yield. Cost of fertiliser was negatively related to fertiliser use intensity at 1% level of significance. This implies that increase in the price of fertiliser decreased the quantity of fertiliser used by farmers. According to Obisesan (2013), farmers use more fertiliser when price of fertiliser is low than when the price is high. This contradicts with the findings

of Offor *et al.* (2016) which stated that fertiliser is an essential commodity to farmers and as its demand increases, its price also increases and would not stop farmers from using them.

Table 1. Determinant of inorganic fertiliser use intensity in the study area

Parameters	Linear	Exponential	Semi-log	Double-log +
Constant	15.824	5.388	-5278.124	-1.404
	(0.936)	(27.957)	(-8.230)***	(-3.400)***
Farm size	1.787	0.010	-52.560	-0.055
	(1.751)*	(0.852)	(-1.106)	(-1.793)*
Arable crops farming experience	0.049	0.001	60.896	0.051
	(0.194)	(0.279)	(1.286)*	(1.672)*
Labour cost	0.076	9.451E-5	293.868	-0.420
	(59.976)***	(6.500)***	(3.960)***	(-8.785)***
Access to credit	- 2.256	0.129	-134.992	0.034
	(-0.344)	(1.727)*	(-1.170)	(0.458)
Cost of planting materials	0.076	8.100E-5	452.446	0.541
	(151.759)***	(14.153)***	(11.302)***	(20.992)***
Cost of fertiliser	0.004	-7.440E-6	1.787	-8.100E5
	(6.293)***	(-1.060)	(0.751)	(-11.203)***
Labour use	-6.667	0.003	14.329	0.012
	(-0.639)	(0.028)	(0.077)	(0.099)
R-Squared	0.999	0.890	0.814	0.937
Adjusted R-Squared	0.999	0.874	0.793	0.930
F-ratio	6.677E3	55.374	38.625	131.302

Source: Survey data, 2016

Key: *** = Significant at 1%, ** = Significant at 5% and * = Significant at 10%
+ = Lead equation

Effect of inorganic fertiliser use intensity on arable crops output

The effect of inorganic fertiliser use intensity on arable crops output is presented in Table 2. The t-value is significant at 10%, this indicates the overall fit of the model to the variable of interest, but the R^2 (0.055) indicated that just 5.5% of the variation is more or less dependent on arable crops output. This means that inorganic fertiliser use affected arable crops output. This is similar to the work Likita (2005).

Table 2. Simple regression result on effect of inorganic fertiliser use intensity on arable crops output

Parameter	Co-efficient	Standard error	t-value
Constant	893.746	563.918	1.585
Fertiliser use intensity	0.637	0.348	1.831*
R^2	0.055		
R^{-2}	0.038		
F	3.352		

Source: Survey data, 2016

Key: * = Significant at 10%

Constraints associated with inorganic fertiliser utilization on arable crops farms in Afikpo North

According to Table 3, majority of the respondents, 34.2% complained of insufficient fund to purchase fertiliser and carry out their farming activities in a large scale, thus conforming to Offor *et al.* (2016), while 28.4% of them faced the challenge of land tenure system. 13.7% had little or no access to markets due to the distance of their farmlands to the markets; 5.8% and 4.7% of the respondents said that lack of funds from government and lack of support from government were some of the negligence felts by arable crop farmers in Afikpo North Local Government Area of Ebonyi State. 5.3% of the respondents had poor communication medium which hampered the dissemination of information among the farmers. Notwithstanding, 4.2% has little or no-formal education, while very few, 3.7%, of the farmers lack sensitization on fertiliser use on arable crops.

Table 3. Constraints Associated with Inorganic Fertiliser Utilization

Constraints	Frequency	Percent
Illiteracy of farmers	8	4.2
Lack of fund from government	11	5.8
Lack of sensitization on fertiliser	7	3.7
Lack of support from government	9	4.7
Land tenure system	54	28.4
Little access to market	26	13.7
Poor communication medium	10	5.3
Insufficient fund	65	34.2
Total	**190**	**100**

Source: Survey data, 2016

CONCLUSION

In conclusion, inorganic fertiliser is an essential commodity to arable crops farmers though, but increase in its price will lead to decrease in its demand. More experienced farmers tend to use more inorganic fertilisers than their less experienced counterparts, and insufficiency of funds, land tenure system as well as little access to fertiliser markets are the major constraints to inorganic fertiliser utilization.

RECOMMENDATION

Inorganic fertiliser should always be available in the rural markets at a reduced price so as to encourage rural arable crops farmers' access to more of it at the right time and quantity. This will in turn lead to a massive grassroots development in terms of high arable crops yield.

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EVALUATION OF SOCIAL CAPITALON MARKET WOMEN WELLBEING IN IBADAN NORTH LOCAL GOVERNMENT AREA, OYO-STATE

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INTRODUCTION

Wellbeing as synonymous with good quality of life which include material wellbeing often expressed as having enough bodily, which include being strong, being in the right frame of mind and looking good; social wellbeing which include caring for children, having self-respect, peace and good relations in the family and community and as well as having security, including civil security and confidence in the future especially being able to act in helping other people in the community (Narayan, Chambers, Shah and Petesch, 2000).The importance of social wellbeing is recognized by governments and policy makers who have potentials to influence outcomes in social policy areas including education, health, employment and family. Whereas, the human development report of United Nations Development Programme (UNDP, 2014) reported that Nigeria ranked 152nd out of 187 countries implying that Nigeria is one of the poorest of the world's countries regardless of the huge Gross Domestic Profit (GDP) growth of over 8 per cent in the last decade (World Bank,2013) thus, afflicted to those in the grassroots of Nigeria as a nation, having asserted that people living below the poverty line constitute the highest population (World Bank, 2014). Nevertheless, the Micro Small and Medium Enterprises (MSMEs) and Small and Medium Enterprises (SMEs) are globally referred to as the oil required to lubricate the engine of socioeconomic transformation of any nation, as a building blocks of an economy, which could accounts for about 60 per cent Nigerian markets. Hence, women constitute the bulk of small and medium enterprises owners in Nigeria both in rural and urban areas. Yet,they are being faced with various challenges which serve as threat to their wellbeing.

Yusuf (2008), reveals the impact of social capital on the welfare of households in a community, he opined that local institutional strengthening through the active participation of the poor in project design and implementation as a necessity to factor poverty reduction in Nigeria, thus group formation is now seen as an important requirement for the poor to benefit from some of the public instituted poverty reduction programmes. Similarly, Akintola(2007) asserted that Nigerian women devised a means of organising local informal savings and credit associations to pool resources and provide loans to members.Therefore, the relationships and networks that exist among business people in an economic centre marked by initiative, reciprocity, trust and support could be useful in times of need and through cooperative planning centre to assist them remain viable and active. Whereas, theextension of the above relationship between formal and informal flow of information aiming at drawing networks within businesses, government agencies and community groups together as an important means in contributing to local communities' wellbeing especially in terms of solving problems relatively to development of the people in the grassroots. It is against this background that this study was designed to ascertain its specified objectives by providing answers to the following research questions:

1. What are the socioeconomic characteristics of the market women in the study area?
2. What are their dimensions of social capital (i.e social group membership, attendance and position held)?
3. What benefits do they derive from being members of social group?
4. What is the wellbeing status of respondent in the study area?
5. What is the significant relationship that exists between selected socioeconomic characteristics and level of wellbeing status of market women in the study area?
6. What is the significant relationship between social capital and the level of wellbeing status of market women in the study area?

METHODOLOGY

Study Area

This study was carried out in Ibadan North Local Government Area, Ibadan Oyo State. The target population wasmarket women who trade agricultural produce and products. Purposive sampling technique was used to select Bodija market due to an open-air location in the district and also trade peculiarities and commodities.A list of registered traders from the five categories was generated from the head of the association. 35% percent of registered traders were randomly selected to give a total of 120 respondents.

Table 1: Sampling

S/N	Categories of respondents	Numbers of registered traders	35% of the selected respondents
1.	Beverages and household goods, spices and condiments trader	126	44.1
2.	Grains and cereal trader	72	25.2
3.	Tuber trader (yam and potatoes)	53	18.9
4.	Animal products (meat, fish, turkey, chicken)	52	18
5.	Vegetables and Fruits	40	14
Total		120 respondents	

Interview schedule was used in collecting the data for this study. Also, the variables were measured as follows:

Socioeconomic characteristics was measured by age (interval scale); Marital status (Nominal scale- Single-1, Married-2, Divorced-3 and Widowed-4); Educational qualification (Ordinal scale- Primary-1, Vocational-2 Secondary-3, Tertiary-4, vocational-4); Religion (Nominal scale- Christianity-1, Islam-2, Traditional-3); kind of trade (Nominal scale); level of income (interval scale). Social Organization participation was measured by asking the respondents to tick from the list of organizations provided using the response option of yes and no with a score of 1 and 0. Respondents with response option will be further asked to indicate their membership attendance having a response option of regularly-3, occassionally-2and rarely-1 (ordinal scale) and position held having a response option of ordinary-1, committee-2 and executive-3 member. Benefits derived from participation were measured by asking the respondents to tick the appropriate benefits applicable from the items provided (nominal scale). Wellbeing was operationalized using a 5 points Likert scale of Agree, Strongly Agree, Undecided, Disagree, Strongly Disagree having a score of 5,4,3,2,1 for positively warded statement while a reverse score for negatively warded statement (Ordinal scale).Descriptive statistical tools such as frequency counts, percentages and means were used to describe the data collected, while inferential statistical (Pearson's Product Moment Correlation- PPMC) was used to test hypotheses.

RESULTS AND DISCUSSION

Socioeconomic characteristics of Market women

Age is an important factor when considering the involvement of people in economic activities and social capital in ascertaining a better wellbeing. Table 1 depicts that 70.8% of the respondents were within the age range of 21-40 years while the mean age was 34.97 and the standard deviation was 11.5809.This shows that the respondent falls within the active age range as this could be a function of being a key player in participating in social groups and economic activities. The result of analysis in Table 2 also shows that substantial numbers of the respondents were married which represented 54.2% of the sample while 33.3% were single, 10% were divorced and 2.5% widowed. This is an indication that majority of the respondents are youths and young adults. However married people that are young have the ability and capability to participate and associate with people. This implies that married people tend to acquire much more social capital as a means to better their wellbeing since the place of marital status cannot be undermined when studying social relationship with people in ascertaining wellbeing. This is because of spousal influence is one of the determining factor to check the level of relationship that existed among individuals. Results from analysis corroborate the findings of Oludipe (2009) that states that majority of rural work force are married.

Education exposes people and modifies the attitude of people. Therefore it plays a role in the lives of people thereby helping them to meet and teach how to relate with people. Table 2further reveals that the level of education of the respondents is quiet encouraging since the result reveals high literacy rate among the respondents. 36.7% had tertiary level of education, 23.3% had secondary education, 20.8% had vocational education, 17.5% had primary education while only few (1.7%) had no formal educational. This implies that apart from social capital, the respondents have a considerable level of human capital and have something to offer the group members and the market at large because apart from most of them having tertiary level of education, most of them also have vocational knowledge about how their business run. Hence, respondents will be more comfortable with changes and thereby, they tend to have high potentiality for growth and development.

Religious centre are avenues where people come together mostly, information are easily disseminated and the wellbeing of every member is everybody's concern especially the leaders. The result from Table 2 also shows that 60.8% were Christians, 37.5% were Muslims while a few (1.6%) of the respondents were Traditionalists with the percentage of Christians being majority. The implication of this to extension work is that

religious centres are very resourceful in information sharing and it goes a long way in determining the participation in religious gathering as a means of improving the social capital of an individual.

The result from Table 4.1 reveals that majority (36.7%) of the market women are involved in selling of beverage, spice, condiments and household goods. Followed by grain and cereal traders were 20.8%, tuber traders (15.8%)and animal products traders(15.8%) while the least (11.7%) in the distribution were vegetables and fruits traders. This is so because the categories of traders with higher percentage were domiciled in the study area and with less capital intensive. This implies that people make use of goods they sell on daily basis and so people get involved in selling of those goods except vegetables and fruits traders which happen to be the least in the distribution and this may be traceable to high perishable nature of the farm produce.

Table 2: Distribution of respondent's based on personal characteristics. (n=120)

Items	Frequency	Percentage
Age:		
11-20	8	6.7
21-30	46	38.3
31-40	39	32.5
41-50	18	15.0
51-60	6	5.0
61 and above	3	2.5
Marital status		
Married	65	54.2
Single	40	33.3
Divorced	12	10.0
widowed	3	2.5
Religion		
Christian	73	60.8
Muslim	45	37.5
Traditionalist	2	1.6
Level of education		
No formal education	2	1.7
Primary	21	17.5
Secondary	28	23.3
Tertiary	44	36.7
Vocational	25	20.8
Kind of trade		
Tuber trader	19	15.8
Beverage, spice, condiments and household goods	44	36.7
Grains and cereal	25	20.8
Animal product (fish and meat)	18	15.0
Vegetables and fruits	14	11.7

Source: Field survey, 2016

Dimensions of social capital

The result from Table 4.2 reveals that 55.8% of the respondents participated in saving and credit group, 51.7% participated in religious group, 44.2% participated in marketing group, 44.2% also participated in cooperative, 35.0% participated in thrift group. 8.3% participated in farmers association while a few (3.3%) participated in other groups like ethnic groups such as Igbo women group.

Savings and credit group being the most participated group among the market women is such that, they benefitted more in the group since, they get to contribute and save their daily profit on a regular basis with little or no stress at all due to the nature of their business The result from the analysis corroborates Oludipe (2009) that Esusu and Ajo remains the major source of finance of people in the communities especially rural inhabitants. Furthermore, the result from Table 4 depicts that 52.5% had low social group dimension while 47.5% of the respondents had high social group dimension. This implies that majority in the distribution had low level of social group participation. This may be due to the extent of activeness in the social group they belong as most of them are just ordinary member and with low functionality in the group. This could also be traced to results on Table 3 that majority participated in saving and credit group (Esusu or Ajo) as this does not necessarily involve meetings especially if it is

on a daily basis since the head will collate the money solely.

Table 3: Distribution of Respondents based on dimensions of social capital

Social group	Participation	Membership attendance			Position held		
	Yes	Never	Regularly	Occasionally	Ordinary member	Committee member	Executive member
Cooperative group	44.2	55.8	3.3	40.8	35.0	5.8	3.3
Farmers association	8.3	92.5	1.7	5.8	6.7	1.7	0.8
Thrift group	35.0	67.5	2.5	30.0	29.2	2.5	0.8
Saving and credit group	55.8	44.2	1.7	54.2	44.2	9.2	2.5
Marketing group	46.7	56.7	2.5	40.8	32.5	8.3	4.2
Commodity specific group	44.2	56.7	5.0	38.3	35.8	7.5	1.7
Religious group	51.7	51.7	0.8	47.5	26.7	14.2	9.2
Others (ethnic group)	3.3	97.5	0.0	2.5	2.5	0.0	0.0

Source: Field survey, 2016

Table 4: Distribution of respondent based level of Social capital

	Frequency	%
Low	63	52.5
High	57	47.5
Total	120	100

Source: Field survey, 2016

Benefits derived from participation in Social group

The result from the Table 5 shows the benefits the market women derived from their participation in social group. The table further reveals that Security of goods (57.5%) and access to credit and loan(56.7%) are the most beneficial to the market women. This is so because every member of the market collectively ensures the security of their goods by contributing money to pay guards and also assist them to access credit loan for them to secure marketable goods in order to boost the income. Having access credit and loan as one of the main benefitsfrom group participation, also tends towards boosting their economic activities and resources.

Table 5 also shows that participation in social groups increase the respondents' subjective wellbeing as a good number of them develop a sense of belonging and friendship (51.7%) among group member, likewise the women also derive pleasure in attending social gatherings like wedding ceremony, burial (51.7%) and so on and they get support from group members. The women also have equal chances in participating in decision making (50.0%) in the market and among the groups they participate in. And it correlates with the central idea of social capital that it focuses on social relations and network that have productive benefits. The least in this distribution was easy access to policy makers, this may be due to the respondents having little knowledge about the relevance of policy making as per the benefit it brings to them and it may also be because most of them remain at the level of ordinary membership and therefore might not able to gain access to policymakers. Since, Taga, (2013) asserts that social capital is not a name of a tangible good but rather it is a collective intelligence of a society that functions collectively for the solution of the problem and welfare of individuals.

Table 5: Distribution of respondents based on benefits derived from participation in social group

List of benefits derived from participation	Yes		No	
	F	%	F	%
Access to credits and loan	68	56.7	52	43.3
Developing a sense of belonging and friendship among group members	62	51.7	58	48.3
Invitation to social function by group members, e.g. ceremonies like wedding, burial etc.	62	51.7	58	48.3

List of benefits derived from participation	Yes		No	
	F	%	F	%
Access to manufacturing companies or cheaper source of goods	51	42.5	68	56.7
Easy access to policy makers	44	36.7	76	63.3
Involvement in decision making	60	50.0	60	50.0
Satisfaction from involving in developmental activities in the market	57	47.5	63	52.5
Security of goods	69	57.5	51	42.5

Source: Field Survey, 2016

Distribution of respondents based on their wellbeing status

The result from table asserts that majority (70%) in the subjective dimension distribution strongly agreed that they expect more good things in their lives than bad, meaning that they areoptimistic about their future with the highest mean score of 4.61. followed by 67.5% who strongly agreed that they have confidence about the future. Though only 30.0% strongly agreed that they are satisfied with their life and their life is going well respectively while the least (7.5%) in the distribution strongly agreed that they do experience unhappy feeling most times. This implies that their subjective wellbeing is quite positive because they still expect to be better than what they are at present. This is a reflection of change occurrence that could exist between now and future as long as they live and work.

As regards to their health, 15% strongly agreed, 34.2% agreed and 13.5% strongly disagreed, 4.2% disagreed that their personal health condition was normal and good. 34% also agreed that they are able to get good quality health care from their participation in social groups and in relating with people in the market. Also 29.2% strongly agreed and 22.5% agreed that they have one form of chronic or lasting health problem that their group members know of and help them to overcome. This implies that their participation in social groups and relationship with other market women in the market helps them improve on their health. This correlates with studies (Stephen *et al.,* 2004; Viswanath *et al.,* 2006) that found membership organisations as conduits of health information.

Also as regards security of the respondents and their goods, 38.3% strongly agreed and 39.2% agreed that with the cooperation of other market women and others, their goods are secure, while 37.5% agreed and 28.3% strongly agreed that the market is safe and secure. This implies that security is better and efficiently achieved collectively. The result also shows that 20% strongly agreed and 38.3% agreed that criminal activities were minimal in the market and if there are, they are easily apprehended through collective efforts.

The market women perceived the market environment to be clean and conducive as 7.5% strongly agreed, 35%agreed that their environment is clean and conducive, 26.7% were undecided while 15.8% strongly disagreed and 15% disagreed. This is due to the existence of collective action in ensuring the sanity of the market environment

As pertaining the earning of the market women, 23% strongly agreed, 45% agreed that they could afford their basic need from the work they do while 7.5% strongly disagreed and 2.5% disagreed. 24.2% strongly agreed, 40.8% agreed that their business gives them joy and satisfaction while 5.0% agreed and 4.2% strongly disagreed. According to Human Development Index 2015(HDI), work and human development is synergetic, as work enhances human development by providing incomes and livelihoods by reducing poverty and by ensuring equitable growth, women's empowerment, participation and voice. In correlation with this, the result of this study shows that women's standard of living and wellbeing is enhanced by their job and earnings as most of them can afford to get their basic needs from the work they do and also most of them derive joy and satisfaction from the business they do.

Concerning the income of the market women, 12.5% strongly agreed and 30% agreed that they were satisfied with their level of income while 12.5% agreed and 20% strongly agreed. 1.7% strongly agreed, 6.7% agreed that they need more income generating activities to improve their income level while 48.3% strongly disagreed, 25.8% disagreed. And this is because most the respondents need improvement in their current business than having more income generating activities.

Table 6: Distribution of respondents based on their wellbeing status

Statements	SA	A	UD	D	SD	MEAN
Subjective	%	%	%	%	%	
I have confidence about the future	67.5	22.5	6.7	0.0	3.3	4.51
I expect more good things in my life than bad	70.0	22.5	6.7	0.0	0.8	4.61
I feel happy most times	40.0	37.5	9.2	8.3	5.0	3.99

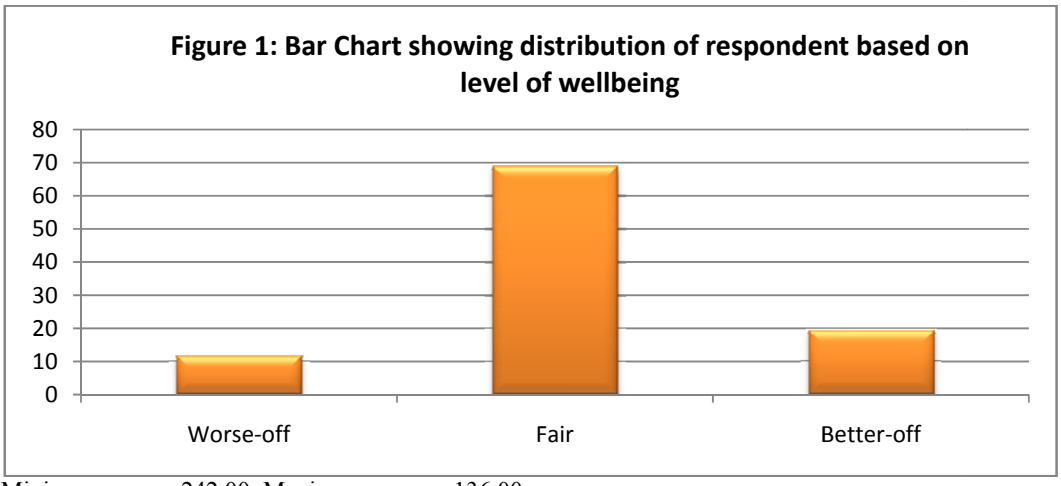
Statements	SA	A	UD	D	SD	MEAN
I have lost hope about the future	44.2	28.3	10.8	6.7	10.0	3.90
I am satisfied with my life	30.0	19.2	26.7	13.3	10.8	3.44
My life is going on well	30	47.5	10	9.2	3.3	3.92
I do experience unhappy feeling most times	7.5	24.3	27.5	30.0	10.8	2.88
I worry a lot about the future of my children	17.5	9.2	19.9	38.3	15.8	2.74
I am optimistic about the future of my children	16.7	36.7	34.2	5.0	7.5	3.50
Health						
My personal health condition is normal and good with the help of other market women	15.0	34.2	33.3	13.3	4.2	3.43
My state of health makes me worry about the future	16.7	33.3	33.3	10.0	6.7	3.43
I am able to get good quality medical care from my participation in social groups and in relating with people in the market	13.3	34.2	26.7	20.8	5.0	3.30
I often worry about my family's health	11.7	20.8	33.3	28.3	5.8	3.04
I rarely feel troubled or stressed because of my relationship with people in social groups	10.8	25.8	34.2	20.8	8.3	3.10
I have one form of chronic or lasting health problem that my group members know of and help me to overcome.	29.2	22.5	28.3	13.3	6.7	3.54
Civic engagement						
I have good relationship with others in the market	35.8	39.2	15.8	5.8	3.3	3.98
I participate actively in decision making in the market	20.0	30.0	18.3	25.0	6.7	3.32
I don't see any role for myself in decision making and community affairs	9.2	26.7	35.0	22.5	6.7	3.09
I look for ways to help others in the market	29.2	47.5	16.7	4.2	2.5	3.97
I am not concerned with other people in the market	32.5	28.3	22.5	9.2	7.5	3.69
I am very selective in joining and participating in social groups in the market.	5.0	3.3	25.0	43.3	23.3	2.23
I trust the participants in the social group or groups I belong to with my money and other resources	15.8	48.3	25.8	4.2	5.8	3.64
Environment quality						
The market environment can be wet and messy mostly during the raining season and thus not conducive enough and hygienic	7.5	10.0	19.2	35.0	28.3	2.33
The market environment is clean and conducive	7.5	35.0	26.7	15.8	15.0	3.04
Health issues like catarrh and other airborne disease are common in the market	5.0	10.0	31.7	37.5	15.8	2.51
The noise in the market is unhealthy	5.8	7.5	31.7	34.2	20.8	2.43
The activities in the market pollute the air and make us vulnerable to diseases	2.5	14.2	28.3	34.2	20.8	2.43
With cooperation of other market women and others, my goods are secure	38.3	39.2	21.7	0.8	0.0	4.15
The market is safe and secure	28.3	37.5	21.7	7.5	5.0	3.77
I live in fear of harm and chaos in the market	10.8	32.5	37.5	11.7	7.5	3.28
Criminal activities are minimal and when there is any they are easily apprehended	20.0	38.3	24.2	13.3	4.2	3.57
Education and skills						
I am well skilled in my occupational activities	44.2	45.0	9.2	0.0	1.7	4.30
I need to acquire more skill to better enhance my business	2.5	12.5	18.3	32.5	34.2	2.17

Statements	SA	A	UD	D	SD	MEAN
My educational level is satisfactory	21.7	36.7	24.2	8.3	9.2	3.53
My children's education is satisfactory	21.7	31.7	25.0	11.7	10.0	3.43
I need more fund to give my children better education	4.2	5.0	22.5	36.7	31.7	2.13
Yields from my business affords me opportunity to give my children the best education	13.3	29.2	44.2	6.7	6.7	3.36
Social connections						
I am close to influential and important people in the market and it is beneficial	10.0	29.2	33.3	21.7	5.8	3.16
I have people I can go to for advice and help	35.0	32.5	24.2	7.5	0.8	3.93
When there is something important I always get to know	24.2	43.3	20.0	6.7	5.8	3.73
I don't know anyone important	11.7	30.0	38.3	9.2	10.8	3.23
I hardly get information in the market	9.2	34.2	29.2	20.8	6.7	3.18
I belong to a group that helps and support each other	20.0	47.5	17.5	10.0	5.0	3.68
Income						
I am satisfied with my income level	12.5	30.0	25.0	20.0	12.5	3.10
I need more income generating activities to improve my income level	1.7	6.7	17.5	48.3	25.8	2.10
Job earning						
I am dealing with my business challenges well with the help of other market women	12.5	38.3	30.8	14.2	4.2	3.41
I have savings to fall back to in hard times	12.5	34.2	33.3	15.0	5.0	3.34
I need to borrow money to make ends meet	17.5	20.8	28.3	22.5	10.8	3.12
I can afford	23.3	45.0	21.7	7.5	2.5	3.79
to get my basic needs from the work I do						
My business gives me joy and satisfaction	24.2	40.8	25.8	4.2	5.0	3.75
My business gives me less stress	20.8	32.5	25.0	14.2	7.5	3.45
I live in a comfortable house and environment through the help of people I relate with	25.8	34.2	22.5	9.2	8.3	3.60
My room is well furnished and comfortable	25.0	29.2	25.8	7.5	12.5	3.47
The infrastructure of the house is bad and needs repair	12.5	25.0	35.0	15.8	11.7	3.11
Source of water is close and clean	11.7	39.2	30.8	8.3	10.0	3.34
I could afford my self-owned house through participation in social groups	11.7	17.5	50.8	7.5	12.5	3.08
I live in a rented apartment	19.2	14.2	22.5	15.0	29.2	2.79

Source: Field survey, 2016

Distribution of respondents according to their level of wellbeing

The result from figure 6 shows that majority (69.2%) of the respondents had fair level of wellbeing status, 19.2% had better off wellbeing status while few (11.7%) had worse-off wellbeing status having a mean score of 190.04 ± 18.65. This implies that most of the respondents are of average quality of life, as this could be an indication that majority of respondents are in the middle class of social stratification, reflecting that they are neither poor nor rich but can utilise their resources judiciously to respond to difficult circumstances, to innovate and constructively engage with other people around them to ascertain a better wellbeing in the future.



Minimum score =242.00; Maximum score = 136.00

The result from table 7 shows that significant relationship existed between benefit derived from social capital and level of wellbeing. This implies that benefit derived from social group participation had a positive influence on their wellbeing status. This is because the majority had benefitted in accessing security of goods and credits and loan to boost the economic life as revealed in Table 5 as this could translates to their overall wellbeing.

Table 7: PPMC test of relationship between benefit derived from social capital and the level of wellbeing of market women in the study area

Variable	r-value	p-value	Decision	Remark
Benefit derived	0.215	0.018	Significant	Reject Ho

Source: Field survey, 2016

The result from Table 8 shows that significant relationship existed between social capital represented with the indicators of membership participation status (r=0.464, p=0.000), membership attendance (r=0.491, p=0.000) and position held (r=0.499, p=0.000) and the level of wellbeing of the market women. This implies that social capital has a positive influence on wellbeing status of the respondents. This affirmation could be traced to the results on Figure 1 that majority had average quality of life due to their little involvement in savings and credit group and also social connection among the religious settings in order to boost their standard of living. This is in accordance with World Happiness Report (2015) which stated that social capital facilitates economic cooperation, efficient contracting the division of labour and provision of social insurance against shocks. When people are united in trust, shared value and assistance, they are well able to cooperate and carry out greater social collective action in terms of communication and/or information sharing and securing the interest of the members which in turn enhances wellbeing.

Table 8: PPMC test of relationship between social capital and the level of wellbeing of market women in the study area

Variable	r-value	p-value	Decision	Remark
Membership participation status	0.464	0.000	Significant	Reject Ho
Member attendance	0.491	0.000	Significant	Reject Ho
Position held	0.499	0.000	Significant	Reject Ho

Source: Field survey, 2016

CONCLUSION AND RECOMMENDATION

It was deduced from this study that majority of the respondents were in their active age range, married, practiced Christianity, have the ability to read and write since majority had tertiary education and involved in selling of beverage, spice, condiments and household goods. Majority of the respondents participated in savings and credit group with low level of social capital dimension. Majority benefitted security of goods in the social group they participated in. In overall, majority had an average level of wellbeing. It wastherefore recommended that group formation should be more encouraged especially in developing nation as an effective channel to minimize financial instability among the poor since

it serves as a tool for financial/social support among the social being centered around those in the grassroots which could translates to a better wellbeing and a better democracy since, good quality of life of any jurisdiction is dependable on the quality of governance of such territory.

GENDER ANALYSIS OF RURAL DWELLERS' PARTICIPATION IN COMMUNITY DEVELOPMENT ACTIVITIES IN KWARA STATE, NIGERIA

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ABSTRACT

People's participation in self-help projects is an age long approach to community development and gender disaggregated data is of paramount importance to sustainable development therefore; this study conducted a gender analysis of rural dwellers participation in community development activities in Kwara state Nigeria. Multi-stage sampling technique was used to select 60 female and 60 male members of the community for the study and duly validated interview schedule was used to collect information on the stated specific objectives of the study. Relevant descriptive and inferential statistics were used to analyse the data collected. Results of the study revealed that the mean age of male and female respondents was 43.57±9.22 and 40.03±8.41 years respectively. Also, the average household size of the respondents was approximately 8±2.5 and 4±1.6 for male and female respectively while the average year of formal education for the respondents were 7.98±3.11 and 6.68±2.42 years for male and female respectively. Some of the CDAs at different level of implementation in the communities studied include construction of schools, boreholes and religious centres, rural electrification, afforestation and organisation of vigilante group among others. Furthermore, participation of people in CDAs ranges from monetary support, advisory role, provision of labour to decision making. The finding of the study also showed that cosmopoliteness (b = 3.171, $p \leq 0.05$), organisation participation score (b = 3.191, $p \leq 0.01$), perception on community development (b =0.221, $p \leq 0.005$) and total monthly income (b =0.000, $p \leq 0.05$) are the gender specific factors influencing male participation in CDAs while organisation participation score (b =2.686, $p \leq 0.01$) is the only gender specific factor influencing female participation. The study concluded that although different factors influenced the participation of male and female in CDAs yet, there is no significant difference in the participation (t =0.693, df =118) of male and female respondents in CDAs in the study area.

Keywords: Gender, rural, participation, community development activity

INTRODUCTION

The concept of people participation is an age long one in community development across the globe. It is borne out of the fact that government cannot be expected to do everything – build every infrastructure, provide every amenity and solve every problem that will improve the standard of living of all people in every community within a given country. Therefore, community or people participation could be defined as a process through which people responds to public issues by making their opinion known about decisions concerning them and taking responsibilities for improving their communities (Armitage, 1988). In other words, participation is an avenue for stakeholders to influence and share control over development initiatives and the decisions and resources that affect them (World Bank, 1995).

There are different types/kinds of participation according to Biggs (1989) and Pretty (1995). This include passive participation which occurs when people are been told what is going to happen or had happened in a project, participation in giving information in which people are consulted but the consultation does not allow for people participation in decision making. Another kind of participation occur when people provide resources in return for material incentives like cash, food and so on. There is functional participation in which people come together to meet already stated objectives related to an on-going project after these decisions had been made by the external bodies initiating and facilitating the project. Interactive participation involves joint analysis of the situation by the people and the foreign donor or agency and results in action plans and establishment of new local institutions and or strengthening existing ones. Self-mobilization is the highest form of people participation. In this form, people participate by taking initiatives independent of external institution to change systems. People often contact external institutions for resources and technical support they need as touching a particular project but they retain control over how and when resources are used.

Government in the current democratic dispensation (1999 till date) had been very active in development planning and action towards sustainable development. Specifically, the Obasanjo led administration introduced National Economic Direction (1999-2003) and National Economic Empowerment and Development Strategy (NEEDS) (2003-2007). These were meant to engender prosperity for the nation. The State and Local government also had their counterpart plans of State Economic Empowerment and Development Strategy and Local Economic Empowerment Development Strategy respectively. The plan also involved the organised private sector (OPS), the non-governmental organizations (NGOs) and the general public in cooperative activity in pursuit of developmental goals. NEEDS amongst all emphasized four strategies of wealth creation, employment generation, poverty reduction and value orientation. The programme recorded some level of success in deregulating the economy, reducing bureaucratic bottle-neck in governance, job creation, poverty alleviation and

improved welfare alongside infrastructural development like water, improved health care, electricity and roads construction.

Furthermore, the Yar 'Adua administration introduced the Seven Point Agenda (2008-2011) for critical infrastructural development; land reform; human capital development; law, order and security; food security and agriculture; wealth creation and Niger Delta. The death of Mr. President truncated the implementation of this plans but good success was recorded in the amnesty programme for Niger Delta militants. The Jonathan led administration (2009-2015) also introduced the Transformation Agenda. The Agricultural Transformation Agenda which is a sector programme recorded a level of success through the implementation of Growth Enhancement Support Scheme meant to reduce the poverty level of small holder farmers (Agricultural Transformation Blueprint, 2011). Agricultural transformation agenda also looked into improving the value chain of selected crops like rice, maize and so on. This also recorded a level of success in improving the wellbeing of farmers and others involved in these crops.

As good as these developmental programmes and endeavours of the democratic governments are since 1999, these programmes with their recorded levels of successes and failures had not in any way cancelled the involvement of people in self-help projects in their communities to help improve their standard of living by harnessing voluntary private effort to supplement government's effort. Self-help projects could range from construction works like building of schools, market stalls, hospitals/maternity centres/dispensaries, places of worship, town halls and culverts/bridges to digging of wells or boreholes to constituting several "vigilante" groups to see to the security needs of the community. It could also include provision of settlement scheme and feeder roads (Onibokun, 1976).

People participation depends on various factors like age, gender, level of education, association membership, source of information on community development activities and income (Pratheeprukmanee, 2003 and Babafemi, 2015). Gender issues are germane in any development thinking and practice (Osuka, 2015). It is evident that in Nigeria and by extension in many developing nations across the globe, many gender related issues still hinder people especially females in maximising their potential in virtually every aspect of life including community development activities. This hindrance might include poverty which ultimately has a feminine face or time constraints or lack of education or lack of adequate information or other cultural restrictions. It is therefore very important to take a cursory look into the issue of participation of male and female community dwellers to gain insight into their level of participation in various community development activities and also isolate the various crucial factors influencing both gender participation in community development activities.

Objectives of the study

The study seeks to consider mainly the gender participation of community dwellers in community development activities in Kwara State, Nigeria. Specifically, the study tried to

1. gender disaggregate the socio-economic characteristics of community dwellers in Kwara State,
2. determine the various community development activities on-going, completed or about to start in the study area,
3. describe the kind and level of participation of the people in these community development activities in the study area, and
4. isolate crucial factors influencing male and female participation in community development activities in the study area.

The study further hypothesized that there is no significant difference in the participation of male and female respondents in community development activities in the study area.

METHODOLOGY

The study area was Kwara state in North central geopolitical zone of Nigeria. Multi-stage sampling technique was used to select the respondents for the study. At the first stage, 4 Local Government Areas (LGAs) (Asa, Ilorin west, Moro and Ifelodun) were selected. At the second stage, proportionate sampling was used to select 20 percent of the communities in each LGAs selected. In the third stage, random sampling technique was used to carefully select 120 respondents (60 males and 60 females) from the selected communities based on their perceived sizes. Data was collected using a well-structured interview schedule. The information collected included selected socio-economic characteristics of the respondents, types of Community Development Activities (CDAs) in their communities, their types and levels of participation in the CDAs.

Some of the socio-economic characteristics were measured by their absolute numbers and a list of various CDAs were given to the respondents for them to decide which one had been completed, on-going or about to start in their communities. Respondents were asked to indicate their types of participation in the respective CDAs like monetary support, advisory role, manual labour and decision making on a scale of 0, 1, 2, 3, in which 0 signifies never, 1 signifies rarely, 2 signifies sometimes and 3 signifies regularly. Total

participation score was calculated and subjected to independent sample t-test for the difference in the participation of male and female respondents. Also, multiple regression analysis was used to isolate the crucial factors influencing male and female participation in CDAs in the study area. Furthermore, descriptive statistics: frequency and percentages were used to summarise the data collected.

RESULTS AND DISCUSSION

Gender disaggregated socio-economic characteristics of the respondents

Results presented in Table 1 revealed that 53.3 percent and 48.3 percent of the male and female respondents respectively are married while 33.3 percent and 23.3 percent of the male and female respondents are single. The result revealed that 6.7 percent a piece of the male and female respondents are divorced while 6.7 percent and 21.7 percent of the male and female respondents are separated. This result showed that marriage is still an important issue in the communities studied and this could have an influence on peoples' outlook on life. Also, the result presented in Table 1 showed that 40.0 percent and 33.3 percent of the female and male respondents respectively are between 31 and 45 years of age while 28.3 percent and 21.7 percent of the female and male respondents are less or equal to 30 years of age. Furthermore, 33.3 percent and 21.7 percent of the male and female respondents respectively are between ages 46 to 60 years while 10.0 percent apiece of the male and female respondents respectively are between 61 and 75 years of age. The average age of the male and female respondents was given as 43.6 years and 40 years respectively. It could therefore be concluded that majority of the male and female respondents possess the strength needed for participation in community development activities.

The result presented in Table 1 revealed that 80.0 percent and 60.0 percent respectively of the female and male respondents has household size less or equal to 6 while 31.7 percent and 16.7 percent of the male and female respondents has household size of between 7 and 12. The average household size of the male and female respondents was 8 and 4 respectively. The result deviated from the average household size of 6 presented by Ekong (2003) for rural Nigeria. Furthermore, results presented in Table 1 also showed that 21.7 percent apiece of the respondents alongside 31.7 percent and 26.7 percent of the female and male respondents respectively had primary and secondary school education. Also, 28.3 percent and 20.0 percent of the male and female respondents had tertiary education respectively. The result also showed that 26.7 percent and 23.3 percent of the female and male respondents had no formal education. This implies that majority of the male and female respondent had either primary, secondary or tertiary education. This attribute might aid their participation in development activities in their communities.

Also, the results in Table 1 revealed that majority (86.7% female and 70.0% male) of the respondents made less or equal to N50,000 naira in a month while 21.7 percent and 6.7 percent of both male and female respondents made between N50,001 and N100,000 monthly. The highest income range for the male respondent was N200,000 and above while the highest income range for the female respondents was between N150,001 and N200,000. The average monthly income of the male and female respondents was N 42, 358.33 and N 32, 325.10 respectively. This shows that the male respondents made more money monthly than their female counterparts in the communities studied. The result presented in Table 1 further showed that about 35.0 percent and 28.3 percent of the male and female respondents are civil servants while 15.0 percent and 10.0 percent of the male and female respondents were involved in artisan work respectively. Also, 21.7 percent and 11.7 percent of the female and male respondents were traders and 22.0 percent and 26.0 percent of the female and male respondents are farmers. Furthermore, 18.0 percent and 12.4 percent of the female and male respondents are involved in other income generating activities like driving (vehicles and motorcycle), security work and so on.

Table 1: Gender disaggregated socio-economic characteristics of the respondents

Variables	Male (n=60)		Female (n=60)	
	N	%	N	%
Age in years				
≤ 30	13	21.7	17	28.3
31 0.0 45	20	33.3	24	40.0
46 – 60	20	33.3	13	21.7
61 – 75	6	10.0	6	10.0
76 +	1	1.7	0.0	0.0
Monthly income ₦				
≤ 50,000	42	70.0	52	86.7
50,001 – 100,000	13	21.7	4	6.7
100,001 – 150,000	4	6.7	2	3.3

Variables	Male (n=60)		Female (n=60)	
	N	%	N	%
150,001 – 200,000	0.0	0.0	2	3.3
200,001 +	1	1.7	0.0	0.0
Household size				
≤ 6	36	60.0	48	80.0
7 – 12	19	31.7	10	16.7
13 – 18	4	6.7	1	1.7
19 – 24	1	1.7	-	0.0
25 +	0.0	0.0	1	1.7
Marital status				
Single	20	33.3	14	23.3
Married	32	53.3	29	48.3
Divorced	4	6.7	4	6.7
Separated	4	6.7	13	21.7
Level of Education				
No formal education	14	23.3	16	26.7
Primary	13	21.7	13	21.7
Secondary	16	26.7	19	31.7
Tertiary	17	28.3	12	20.0
Occupation (Major)				
Civil Service	21	35.0	17	28.3
Artisan work	9	15.0	6	10.0
Trading	7	11.7	13	21.7
Others	23	12.4	24	18.0

Results in Table 2 showed that more than half (55.0% male and 51.7% female) of the respondents practice Islamic religion while 36.7 percent and 30.0 percent of the female and male respondents respectively practice Christianity and 15.0 percent and 11.7 percent of the male and female respondents practice indigenous religion. This shows the wide acceptance of Islamic and Christian religions among the rural dwellers in Nigeria. As seen in Table 2, majority (70.0%) of the male respondents and many (60.0%) of the female respondents have lived in the various communities for less or equal to 10 years while 20.0 percent and 15.0 percent of the female and male respondents have stayed in the various communities for between 11 to 20 years. About 13.3 percent and 8.3 percent of the female and male respondents respectively have stayed in the community for between 21 to 30 years. The average length of time of stay in the communities is 9.3 years and 11.3 years for the male and female respondents respectively.

The results presented in Table 2 also revealed the association membership of the respondents. The result showed that many (60.0%) of the male respondents and more than half (56.7%) of the female respondents' participate in religious associations while 38.3 percent and 35.0 percent of the male and female respondents participate in cooperative associations respectively. Furthermore, 36.7 percent and 31.7 percent of the female and male respondents respectively participate in traders' association and 41.7 percent and 23.3 percent of the male and female respondents participate in other associations. This characteristic of the respondents could be useful in information dissemination, decision making and in taking collective action on community development activities.

Table 2: Gender disaggregated socio-economic characteristics of the respondents

Variables	Male (n=60)		Female (n=60)	
	N	%	N	%
Religion				
Christianity	18	30.0	22	36.7
Islam	33	55.0	31	51.7
Traditionalist	9	15.0	7	11.7
Length of stay in community				
≤ 10	42	70.0	36	60.0
11 – 20	9	15.0	12	20.0
21 – 30	5	8.3	8	13.3
31 +	4	6.7	4	6.7
Association membership				

Variables	Male (n=60)		Female (n=60)	
	N	%	N	%
Religious association	36	60.0	34	56.7
Cooperative	23	38.3	21	35.0
Traders association	19	31.7	22	36.7
Farmers association	25	41.7	14	23.3

Results presented in Table 3 revealed that majority (90.0% female and 88.3% male) of the respondents have heard of community development activities. Many (63.3% male and 58.3%) of the respondents heard about CDAs from the radio while 45.0 percent and 28.3 percent of the male and female respondents heard of CDAs from the television. About 36.7 percent and 33.3 percent of the male and female respondents heard of CDAs from their friends/neighbours respectively. Furthermore, majority (73.3%) of the male respondents and many (66.7%) of the female respondents heard of CDAs from their religions centres while 53.3 percent and 26.7 percent of male and female respondents heard of CDAs from print media. This shows that male and female respondents had various sources of information on community development activities in their various communities. This also reveals that various information sources are available for use in reaching people about CDAs in the study area.

Table 3: Gender disaggregated socio-economic characteristics of the respondents

Variables	Male (n=60)		Female (n=60)	
	N	%	N	%
Heard of community development				
Yes	53	88.3	54	90.0
No	7	11.7	6	10.0
Source of information				
Radio	38	63.3	35	58.3
Television	27	45.0	17	28.3
Friends/Neighbours	22	36.7	20	33.3
Extension agents	18	30.0	11	18.3
Print media	32	53.3	16	26.7
Religious centre	44	73.3	40	66.7

Stages of various community development activities in the study area

The results presented in Table 4 showed the various stages of selected community development activities in the communities studied. The community development activities visible in the study area included various construction works, provision of water, electrification works and security. From the table, about half (46.7% male and female) of the respondents opined that school buildings had been completed as community development (CD) project in their communities while 5.0 percent and 3.3 percent of female and male respondents said it is still on-going in their communities. Also, many (66.7% male and 60.0% female) of the respondents opined that construction of borehole had been completed as a CD project in their communities' while 16.7 percent and 11.7 percent of male and female respondents said construction of borehole is on-going in their communities by people's joint effort. Furthermore, majority (81.7%) of female and 73.3% of male respondents opined that construction of religious centre as a CD project had been completed in their communities while 8.3 percent and 3.3 percent of the male and female respondents said construction of religious centres as a CD project is still on-going in their communities. Only 1.7 percent of the female respondents opined that construction of religious centres as a CD project is about to start in their communities.

Result presented in Table 4 also revealed that 40.0 percent and 36.6 percent of the female and male respondents respectively opined that construction of market stall had been completed in their communities while 20.0 percent and 18.3 percent of them said the construction of market stall is still on-going in their communities. Only 5.0 percent apiece of the male and female respondents concluded that the construction of market stall is about to start in their communities. Furthermore, half (50.0%) of the female respondents and 45.0 percent of the male respondents opined that construction of culverts/bridges had been completed in their communities while 13.3 percent apiece of the male and female respondents said construction of bridges/culverts are on-going in their communities and 5.0 percent and 3.3 percent of the male and female respondents said construction of bridges/culverts is about to start in their communities.

Result presented in Table 4 further revealed that more than half (58.3%) of the male respondents and 36.7 percent of the female

respondents respectively opined that community vigilante group had been established in their communities while almost half (45.0%) of the female respondents and 26.7 percent of the male respondents said the process of establishing community vigilante group is on-going in their communities. Also, 5.0 percent and 1.7 percent of the female and male respondents respectively opined that community vigilante group is about to be established in their respective communities. Penultimately, result presented in Table 4 showed that more than half (53.3%) of the female and male respondents respectively, opined that rural electrification project had been completed in their countries while 18.3 percent and 13.3 percent of the male and female respondents respectively said that electrification project is on-going in their communities. Only 6.7 percent apiece of the male and female respondents said rural electrification project is about to start in their communities.

Lastly, results in Table 4 also revealed that 25.0 percent apiece of the male and female respondents opined that construction of primary health centre has been completed in their communities while 13.3 percent and 5.0 percent of the male and female respondents said construction of primary health centre is on-going in their communities and about 5.0 percent and 1.7 percent of the female and male respondents concluded that construction of primary health centre is about to start in their communities respectively. The findings of the study therefore showed that community development projects are visible in the various communities of the respondents and that they are at different levels of completion.

Table 4: Community development activities available in the study area

Variables	Male (n=60)		Female (n=60)	
	N	%	N	%
Building of school				
About to start	1	1.7	0.0	0.0
On0.0going	2	3.3	3	5.0
Completed	28	46.7	28	46.7
Digging of borehole				
About to start	0.0	0.0	2	3.3
On0.0going	10	16.7	7	11.7
Completed	40	66.7	36	60.0
Establishment of vigilante				
About to start	1	1.7	3	5.0
On0.0going	16	26.7	27	45.0
Completed	35	58.3	22	36.7
Rural electricity				
About to start	4	6.7	4	6.7
On0.0going	11	18.3	8	13.3
Completed	32	53.3	32	53.3
Religious centre				
About to start	0.0	0.0	1	1.7
On0.0going	5	8.3	2	3.3
Completed	44	73.3	49	81.7
Market stall				
About to start	3	5.0	3	5.0
On0.0going	12	20.0	11	18.3
Completed	22	36.6	24	40.0
Bridge/culverts				
About to start	3	5.0	2	3.3
On0.0going	8	13.3	8	13.3
Completed	27	45.0	30	50.0
Primary Health centre				
About to start	1	1.7	3	5.0
On0.0going	8	13.3	3	5.0
Completed	15	25.0	15	25.0

Respondents types of participation in community development activities in the study area

Results presented in Table 5 revealed the various types of participation of the respondents in the various CDAs in the communities studied. From the table, 36.7 percent and 25.0 percent of the male and female respondents contributed money for the construction of schools in their communities while 30.0 percent apiece of the male and female

respondents gave advise during the construction of schools in their communities. Also, 26.7 percent and 25.0 percent of the female and male respondents provided labour during construction of school in their communities and 30.0 percent and 25.0 percent of the male and female respondents participated in decision making towards construction of school in their communities respectively.

Also, many (65.0%) of the male respondents and about half (46.3%) of the female respondents respectively gave money to construction of borehole in their communities while more than half (57.7%) of the male respondents and 35.0 percent of the female respondents gave advise during construction of borehole in their communities respectively. Also, 33.3 percent and 20.0 percent of the male and female respondents provided labour for borehole construction in their communities while 35.0 percent and 20.0 percent of the male and female respondents participated in decision making during borehole construction in their communities. As seen in Table 5, many (65.0%) of the male respondents and more than half (55.0%) of the female respondents gave money for vigilante group establishment in their communities while half (50.0%) of the male respondents and 76.7 percent of the female respondents gave their advice during vigilante group establishment in their communities respectively. Also, 28.3 percent and 20.0 percent of the male and female respondents provided the labour (moving around) needed for vigilante group establishment in their communities and 31.7 percent and 26.7 percent of the female and male respondents participated in decision making during vigilante group establishment in their communities respectively.

Results presented in Table 5 further revealed that many (68.3% male and 58.3% female) of the respondents gave money towards electrification of their communities while many (60.0%) of the male respondents and 40.0 percent of the female respondents gave advice towards the electrification of their communities respectively. Also, 40.0 percent and 26.7 percent of the female and male respondents respectively provided labour during the electrification of their communities and half (50.0%) of the male respondents and 35.0 percent of the female respondents participated in decision making toward the electrification of their communities respectively. Furthermore, the results presented in Table 5 showed that majority (70.0%) of the female respondents and many (65.0%) of the male respondents gave money towards the construction of religious centres in their communities while many (65.0%) of the male and female respondents gave advice during the construction of religious centres in their communities. Also more than half (56.7% male and 58.3% female) of the respondents provided labour for construction of religious centre in their communities and more than half (53.3%) apiece of the male and female respondents participated in decision making towards construction of religious centres in their communities respectively.

Also from the table, 20.0 percent and 18.3 percent of the female and male respondents respectively gave money for the construction of market stall in their communities while 21.7 percent apiece of the male and female respondent gave advice towards construction of market stalls in their communities. Likewise, 18.3 percent and 13.3 percent of the female and male respondents respectively provided labour for construction of market stall in their communities and 16.7 percent and 15.0 percent of the female and male respondents participated in decision making towards construction of market stall in their communities respectively. Furthermore, the results presented in Table 5 revealed that 26.7 percent and 25.0 percent of the male and female respondents gave money towards construction of bridges/culverts in their respective communities while 23.3 percent and 20.0 percent of the male and female respondents gave advice during the construction of bridges/culverts in their communities respectively. Also, 21.7 percent and 20.0 percent of the female and male respondents provided labour for the construction of bridges/culverts in their communities and 15.0 percent and 13.3 percent of the female and male respondents participated in decision making towards the construction of bridges/culverts in their communities respectively.

Lastly from the table, result presented showed that 25.0 percent apiece of male and female respondents gave money towards the construction of primary health centre in their communities while 21.7 percent and 20.0 percent of the male and female respondents gave advice during construction of primary health centre in their communities. Also 26.7 percent and 20.0 percent of the male and female respondents provided labour during construction of primary health centre and 25.0 percent and 18.3 percent of the female and male respondents participated in decision making during construction of health centre in their communities respectively. Summarily, it could be seen from the findings of the study that the various types of people participation are most pronounced in community development activities like construction of borehole, construction of religious centre, establishment of vigilante group and community electrification. All these activities revealed specific areas of needs: rural infrastructure, security and religion which plays significant roles in improving the wellbeing of people in the rural communities.

Table 5: Types of participation of respondents in various community development activities

Variables	Male (n=60)		Female (n=60)	
	N	%	N	%
School				
Monetary support	22	36.7	15	25.0
Advisory role	18	30.0	18	30.0
Labour	15	25.0	16	26.7
Decision making	18	30.0	15	25.0
Borehole				
Monetary support	39	65.0	29	46.3
Advisory role	31	51.7	21	35.0
Labour	20	33.3	12	20.0
Decision making	21	35.0	12	20.0
Vigilante				
Monetary support	39	65.0	33	55.0
Advisory role	30	50.0	22	26.7
Labour	17	28.3	12	20.0
Decision making	22	26.7	19	31.7
Rural electricity				
Monetary support	41	68.3	35	58.3
Advisory role	36	60.0	24	40.0
Labour	22	26.7	24	40.0
Decision making	30	50.0	21	35.0
Religious centre				
Monetary support	39	65.0	42	70.0
Advisory role	39	65.0	39	65.0
Labour	34	56.7	35	58.3
Decision making	32	53.3	32	53.3
Market stall				
Monetary support	11	18.3	12	20.0
Advisory role	13	21.7	13	21.7
Labour	8	13.3	11	18.3
Decision making	9	15.0	10	16.7
Bridge/culvert				
Monetary support	16	26.7	15	25.0
Advisory role	14	23.3	12	20.0
Labour	12	20.0	13	21.7
Decision making	8	13.3	9	15.0
Primary Health centre				
Monetary support	15	25.0	15	25.0
Advisory role	13	21.7	12	20.0
Labour	16	26.7	12	20.0
Decision making	11	18.3	15	25.0

Gender specific factors influencing male and female participation in community development activities

Results in Table 6 and 7 showed the outcome of the Regression analysis carried out to determine the gender specific factors influencing male and female participation in CDAs. Result in Table 6 revealed that three variables: total income (b = 0.000), cosmopoliteness (b = 3-171) at p = 0.05 level of significance and association membership score (b = 3.191) at P = 0.01 level of significance explained 48.8 percent of the variance in male respondents' participation in community development activities in the study area. Also, as seen in Table 7, only association membership score (b = 2.686) at P = 0.05 is the only variable explaining 30.7 percent of the variance in female respondent participation in community development activities in the study area. The F-statistics were 5.298 and 2.458 respectively for the male and female regression models respectively and both were significant. This implies that the variables considered in both models were significant in explaining the variance in the male and female respondents' participation in community development activities.

Table 6: Gender specific factors influencing male participation in CDAs

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
	(Constant)	-25.010	12.903		-1.938	.058
	Age in years	.175	.193	.109	.908	.368
	Household size	-.581	.525	-.130	-1.105	.274
	Length of stay in the community	-.005	.212	-.002	-.023	.982
	Year of formal education	.072	.398	.019	.180	.858
	Total monthly income	.000	.000	.257	2.381	.021
	Information utilization score	.929	.664	.161	1.398	.168
	Association membership score	3.191	.870	.413	3.667	.001
	Cosmopoliteness score	3.171	1.484	.222	2.136	.038

a. SEX OF RESPONDENTS = MALE b. Dependent Variable: Participation score

R = 0.699, R^2 = 0.488, Adj. R^2 = 0.396, Std. Error of Estimate = 17. 75787, F = 5.298, Sig = 0.000

Table 7: Gender specific factors influencing female participation in CDAs

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	9.773	13.199		.740	.462
	Age in years	.005	.171	.003	.026	.979
	Household size	.290	.490	.075	.591	.557
	Length of stay in the community	-.090	.195	-.060	-.460	.648
	Year of formal education	-.146	.421	-.046	-.346	.731
	Total monthly income	3.069E-005	.000	.064	.508	.614
	Information utilization score	.615	.704	.126	.873	.387
	Association membership score	2.686	.850	.456	3.160	.003
	Cosmopoliteness	-.609	1.143	-.067	-.533	.597

a. SEX OF RESPONDENTS = FEMALE b. Dependent Variable: Participation score

R = 0. 554, R^2 = 0. 307, Adj. R^2 = 0.182, Std. Error of Estimate = 15.68506, F = 2.458, Sig = 0.021

Test of hypothesis

Furthermore, result of the t-test carried out and presented in Table 8 revealed that there is no significant difference in the participation of male and female respondents in community development activities (t=0.693, d*f*=118) in the study area. This implies that the participation of the male and female respondents in CDAs could be adjudged similar and that any difference witnessed in their levels of participation is due to chance.

Table 8: Result of t-test on the difference in participation of male and female on CDAs

	Levene's for Equality of Variances		Testt-test for Equality of Means						
	F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
								Lower	Upper
Participation score	1.618	.206	.693	118	.490	2.56667	3.70320	-4.76667	9.90000
			.693	110.038	.490	2.56667	3.70320	-4.77217	9.90550

CONCLUSIONS AND RECOMMENDATIONS

Based on the findings of the study, the following conclusions were made. Almost half of the male and female respondents were married and the average age of the male and female respondents were 44 and 40 years respectively. Majority of the male and female respondents had household size less or equal to 6 and majority of both male and female respondents had either primary, secondary or tertiary education. The average income of the male and female respondents were N42,358.33 and N32,325.10 respectively. Also, many of the male and female respondents were members of associations such as religious, cooperatives, among others. Radio was the most used source of information for respondents on Community Development Activities. Community Development Activities prominent in the communities studied

include: constructions of religious centres, market stall, bridges and establishment of vigilante group. Further, the study concluded that the participation of male and female respondents ranges from giving advice, contributing money, participating in decision making and provision of labour in respects of the various Community Development Activities in their community.

The three variables: total income, cosmopoliteness and association membership were the gender specific factors influencing male respondent's participation in Community Development Activities while one variable, association membership, was the only gender specific factor influencing female respondent's participation in Community Development Activities. Finally, there was no significant difference between the participation of both male and female gender in Community Development Activities.

Based on the conclusions of the study, the following recommendations were made. Gender specific factors influencing male and female participation in community development activities should be considered whenever programme that will improve the participation of both gender in community development activities is being designed. Also, specific programme that will motivate women in participating the more in various association should be encouraged so as to continue to sustain their participation in various community development activities. Finally, male and female should be encouraged to keep participating in community development activities in any type convenient for them.

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IMPACT OF DEVELOPMENT EXCHANGE CENTRE MICROCREDIT PROGRAMME ON POVERTY ALLEVIATION AMONG WOMEN FARMERS IN KADUNA STATE, NIGERIA

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ABSTRACT

Grassroots development can only be achieved through collective efforts of stakeholders in alleviating poverty among rural women. Development Exchange Centre (DEC) is a typical agent of grassroots development. This study assessed the impact of Development Exchange Centre microcredit programme on poverty alleviation among women farmers in Kaduna State, Nigeria. The study was carried out in three local government areas of Kaduna State (Sabon-Gari, Kaduna-south, and Jema'a). The study involved a simple random sampling selection of three Local Government Areas and purposive selection of two communities from each of selected LGAs. This selection was based on the intensity and concentration of DEC microcredit activities in the study area. Four hundred and twenty (420) respondents comprising two hundred and ten (210) participants and non-participants were randomly selected for the study. Primary data were collected through validated structured interview schedule and Focus Group Discussion (FGD).The result of the Foster, Greer and Thorbecke (FGT) Poverty model revealed that the incidence poverty among of participants show 0.04 representing 4% were poor while 0.96 representing 96% of the participants were non-poor. The result of the study reveal that DEC microcredit made a significant impact on poverty alleviation among the participants in the areas of poverty status (t=16.26, P≤ .01), income (t=value of 22.93, P≤ .01), crops output(t=14.74, P≤ .01), crops yield (t=12.14, P≤ .01) and level of living (t=28.28, P≤ .01).Chow test result show that poverty status, income, crop output and level of living had their F-chow calculated greater than the tabulated F-chow at 5% level of probability, which implied DEC microcredit had impact on poverty status, income, crop output and level of living of the participants. It is thus recommended that, increase in access to credit by the farmers; Access to farm inputs at subsidized rate and the need for partnership with governments; private sectors; international donors, and philanthropy organisations; toward making reasonable contributions in poverty alleviation among rural women.

Keywords: Impact assessment, poverty alleviation, DEC, Microcredit, Kaduna State

INTRODUCTION

The issue of poverty has been a major concern to many nations, particularly, the developing countries including Nigeria. Thus poverty refers to a situation and process of serious deprivation or lack of resources and materials necessary for living within a minimum standard conducive to human dignity and well-being. Poverty connotes deprivation of the means of subsistence (Tinuke, 2012). Nigeria is the most populous country in sub Saharan Africa, with a population of about 170 million in 2012 (World Bank, 2012). The country is endowed with a variety of natural resources; a member of the Organization of Petroleum Exporting Countries (OPEC), and a leading producer of palm oil, cocoa, rubber and cassava (Nnazor, 2005). The country has the potentials to be a rich country due to all these resources, however, it is still a poor country. The per capita income of Nigeria dropped from $ 1000 in 1985 to $ 275 in 1997and to $75 in 2007. The country has a high unemployment rate(Moore, 2007). Between 69 and 70 percent of Nigerian living in rural areas are poor women. (National Bureau for Statistics (NBS)(2012). Over half the population lives on less than one US dollar per day, (IMF,2007); Nigeria's poor are predominantly rural, female, very young or old, live in the Northern part of the country and mostly depend on renewable natural resources for their livelihoods (World Bank/Department for International Development (WB/DFID), 2005). Concerned groups such as Non-Governmental Organizations, the government, Women Activists and private individuals have made significant efforts to alleviate poverty especially among women, but the problem still persists (Tinuke, 2012**)**

Impact of a social intervention refers to as the outputs of that organization which are related to the achievement of the programme objective (Baker, 2000),. Impact is synonymous with end, outcome or result. Measurement of impact can be done objectively and subjectively or both ways. Impact study involves the study of population, villages or communities that benefited from the project and those that did not benefit. It is a method that gives the researcher a clear difference between participants and non – participants (Baker, 2000). Development Exchange Centre (DEC) is an Non-Governmental Organisations (NGOs), established in 1987 by the Canadian University Services Oversea (CUSO) and Adult Non-formal Educational Agency,(ANFEA) in Bauchi State. A non-religious, non-political organization, providing social and micro financial services to women groups to enhance their capacity for sustainable development(DEC Women Newsletter, 2014). These women invest their loans in farming, livestock rearing/fattening, grain and petty trading.(DEC Newsletter,2014).

Microcredit plays an important role in increasing women's employment in micro enterprises and improving the productivity of women's income generating activities. With regard to overcoming gender inequality, provision of micro credit to women is expected to play effective

role in enhancing their self-confidence and status in the family as independent producers and providers of valuable cash resources to the household economy.Kaduna state being one of the poorest state in north- west of the country(WB/DFID, 2005. DEC programme aimed at improving the standard of living of the rural women and indeed alleviating their poverty. DEC microcredit took-off in Kaduna State with quest to providing social and micro financial services to women groups and youth in various communities to enhance their capacity for sustainable development. Despite DEC microcredit involvement in providing social and micro financial service in the study area, no systematic effort has been made so far to investigate its impacts on poverty status, income, crop yield, output and level of living of the target women farmers. The result is that there is a dearth need of basic information about the impact of DEC microcredit. Therefore, the questions which this research sought to answer are:

i. What is the poverty status among DEC women participants and non-participant in the study area?
ii. What is the impact of DEC microcredit on poverty status, income, crop output, crop yield and level of living among participants and non-participants in the study area and
iii. What are the constraints encountered in accessing DEC microcredit by participants in the study area?

The aim and objective of the study is to assess the impact of DEC microcredit on poverty alleviation among women farmers in Kaduna State.

The specific objectives are to:

i. determine the poverty status among DEC women participants and non-participant in the study area
ii. determine the impact of DEC microcredit on poverty status, income, crop output, crop
iii. yield and level of living among participants and non-participants in the study area; and
iv. identify the constraints encountered in accessing DEC microcredit by women participants in the study area.

Hypothesis

Ho: There is no significant difference between the poverty status, income, crop output, crop yield and level of living) of theparticipants and non-participants.

METHODOLOGY

Study area

The study was carried out in three local government areas of Kaduna State (Sabon-Gari, Kaduna-south, and Jema'a). These LGAs were randomly selected out of nine LGAs participating in DEC microcredit programme in state. Kaduna State is in North-West Nigeria. Located between Latitudes 9^o and 12^oN and Longitudes 6^o and 9^oE of Greenwich Meridian. The mean annual rainfall is between 1500mm and 2000mm North and South respectively. The state has an estimated population of 6,066,562(out of an estimated female population is 2,954, 534(48.7%). (National commission for mass literacy Adult and Non-formal education, 2008). The state cover an area land mass of about 45,786 km^2, Federal Office of Statistics (FOS, 2006). It isestimated that the population will increase to 359,752 by 2014 based on the National Population Commission (NPC) annual growth rate of 3.2%.

Sample size and sampling technique

Multi-stage technique was employed in selecting the respondents. The first stage involved simple random selection of one local government area from the three senatorial districts that participated in DEC microcredit. This was followed by purposive selection of two villages, each from the three selected Local Government Areas. This selection was based on the intensity and concentration of DEC microcredit activities in the study area. The third stage was random selection of the DEC microcredit programme women from the sampling frame of DEC beneficiaries register lists. In the fourth stage, four thousand, two hundred and six (4,206) was taken because the farmers in the study area were homogeneous in their mode of operations. A total population of four hundred and twenty (420) comprising two hundred and ten (210) DEC microcredit women participants and non-participants respectively was selected for this research work.

Method of data collection

Primary data was used for this study; the data was collected through the use of structured questionnaire from the women farmers' participants and non-participants. Data was collected on socio-economic variables (age, educational level, farm size, farming experience and non-farm activities of the respondents); farm output, yield, food and non-food expenditure; respondents perception of poverty,income, level of living and problems faced by DEC participants.

Analytical technique

Data were analyzed from the field using descriptive statistics, Foster, Greer and Thorbek (FGT) index, Pair t-test andchow test. FGT was used to achieved objective i while pair t-test and chow test were applied to achieved objective ii

FGT poverty model (Foster, Greer and Thorbecke model)

This was used to determine the poverty status of the farmers. The Foster, Greer and Thorbecke (FGT) measures of poverty are widely used because they are consistent and additively decomposable (Foster *et al.,* 1984). Poverty head

count index, poverty gap index and squared poverty gap index were computed to measure the incidence, depth and severity of poverty of the DEC participants and non-participants. A relative poverty line was constructed based on theMean Per Capita Household Expenditure (MPCHE) of the farmers.The General Foster, Greer and Thorbecke (FGT) poverty index
(Pαi) can be expressed as:
Poverty gap index/intensity of poverty = Depth of poverty

$$p_{\alpha} = \left(\frac{1}{n}\right)\sum_{i-i}^{\Sigma}\left(\frac{L - Ci}{L}\right) \text{ ---------- (1)}$$

P_{α} = PG for poverty gap or depth $\alpha = 1$
L = poverty line
C = Average consumption expenses for adult equivalent/person
i = Individual person
n = Total number of person
q = number of person with average consumption expenses per adult equivalent lower than poverty line
= Headcount Ratio or incidence = number of people below poverty line in a given population = poor
= to % pop below the poverty line

$$p_{\alpha} = \frac{1}{N}\sum_{\Sigma-1}^{N} 1(yi < Z) \text{ ---------- (2)}$$

P_o = Proportion of poor people in the population
N = Total population
Np = Number of people below the poverty line
Z = Z = Poverty line (two-third of Mean Per Capita Household Expenditure (MPCHE) of DEC participants and non-participants)
Yi = Total HH expenditure for i^{th}
I = 1 = Poor household; 0
Otherwise 0 = non-poor household

Paired t-statistics

Paired t-test was used to analysed objective ii
Paired t-statistics is often used to test significant difference between two populations (Frank and Althorn, 1994). The difference between the mean of the socio-economic characteristic, impact of DEC microcredit on poverty status, income, crops yield, output and level of living among participants and non-participants. The paired t-statistics model is specified as follows:

$$t_{p1} - t_{p2} = \frac{\bar{X}_1 - \bar{X}_2}{\sqrt{\frac{P_q(N_1+N_2)}{N_1 N_2}}} \text{ ---------- (3)}$$

Where:
T_{p1} = 2 calculated paired t-value
X_1 = mean value of non poor respondents
X_2 = mean value of poor respondents
P_q = expected value of co-variance of participants and non-participants.
N_1 and N_2 = corresponding sample size of participants and non-participants respectively.

Chow test statistics

According to Dougherty (2007), chow test statistics is often used in program evaluation to determine whether the program has impacts on different subgroups population. The chow test statistics is an application of the F- distribution test it requires the sum of squared errors from three regressions, one from each sample group and one for the pooled data. If chow calculated is greater than the critical value. Then there was DEC impact on participants otherwise no impact. This was used to test the general hypothesis.
The model is specified as follows:

$$F - Chow = \left[\frac{RSS_0 - (RSS_1 + RSS_2)/K}{RSS_1 + \frac{RSS_2}{n_1} + n_2 - 2K}\right] \text{ ---------- (4)}$$

Where
RSS_0 = sum of squared residual from the pooled data.
RSS_1 = sum of squares from the first group (i.e. participants)
RSS_2 = sum of squares from the second group (i.e. non participants)
$n_1$and n_2 = are the number of observations in each group
K = total number of parameters

The variables were measured by either single or composite measure technique. The single measure technique uses only one question or indicator to measure the domain of a concept. The composite measure on the other

RESULTS AND DISCUSSION

Poverty Status of DEC Participants and Non-Participants in Kaduna State, Nigeria

Determination of poverty line

The result in Table 1 gives a clear presentation of the estimation ofthe poverty line that was used to determine the poverty status ofthe farmers in the study area. The poverty line formed the basis forfurther analysis. The Foster-Greer-Thorbecke (FGT) class ofpoverty measures was employed to estimate the poverty status of the participants and non-participants in the study area. Following the adoption of Foster,Greer and Thorbecke measures, households' total expenditure wasused to determine households' poverty status. The result presentedin Table 1 shows the households food and non-food expenditure,total expenditure, Per capita and mean per capita householdexpenditure and the poverty line. The poverty line was constructedas two-thirds of the mean per capita household expenditure(MPCHE) of all households. This approach has been used byseveral researchers and institutions (NBS, 2005;

Oni and Yusuf,2008) as a measure of welfare. Households were then classifiedinto their poverty status based on the poverty line.Hence, non-poor households were those whose per capitaexpenditure was above or was equal to two-third of the mean percapita expenditure of all households while those whose per capitaexpenditure was below two-third of the mean per capitaexpenditure were classified as poor. Based on this, the poverty lineconstructed as two-third of the mean per-capita expenditure of all participants and non-participants households was ₦159.880. This implies that households whosemonthly per capita expenditure fell below ₦159.880 wereclassified as poor while households whose per capita expenditureequaled or was above the poverty line were classified as non- poor.

Table 1: Determination of poverty line

Items	Participants	Non-participants
Household food expenditure	230283.708	152766.367
Household non-food expenditure	184729.51	71300.94
Household total expenditure	415013.222	224067.310
Per capita household expenditure (PCHE)	104033.467841	66717.225510
Mean Per capita household expenditure (MPCHE)	292.228842	187.407937
2/3 MPCHE (Poverty line)	159.8800	159.8800

Source: Field Survey, 2015

Poverty indices of participants and non-participants households

The result presented in Table 2 shows the values for the poverty measures, (poverty headcount (H), poverty gap and severity of poverty). Based on the poverty line, households were classified into their poverty status as either non-poor or poor as presented in Table 2. The headcount index (incidence of poverty) computed for the study area was 0.4 for proportion of participants households' whose per capita expenditures fell below the poverty line was 4%. The table shows that 96% of participants households in the study area are non- poor while non-participants whose per capita expenditure fell below the poverty line was 0.48 in the study area. This implies that 48%% are poor while 52% are non-poor. The result is in line with the findings of Nwaobiala, 2014). Determinant of poverty levels among IFAD and non IFAD participating farmers in Abia State, Nigeria. The result indicated that, the incidence of poverty otherwise known as the head count ratio (Eze,2007) was 0.333% for Abia IFAD farmers and for non IFAD farmers. This implies that 33.33% and 45.21% of IFAD and non IFAD farmers respectively were poor because their incomes fell short of the means household expenditure used as the poverty line. Poverty gap (depth) represents the depth of poverty, it is the mean distance that separates the population from the poverty line. Poverty gap was 0.04 for participants and 0.48 for non-participants, and this implies that the poor of participants and non-participants households require 4%and 48% respectively of the poverty line to get out of poverty group. It is a measure of the poverty deficit of the entire participants and non-participants. This findings agrees with the findings of (Nwaobiala, 2014). Who assessed the poverty depth among IFAD participating farmers, showing that the poverty gap of IFAD farmers was 0.2187 percent and 0.3259, meaning that IFAD and non-IFAD farmers requires 21.87% for farmer and 32.59% respectively of poverty lines to get out of poverty. Poverty severity value was 0.12 and 0.42; this implies that the severity of poverty among the poor participants and non-participants households in the study area was 12% and 42%. The poverty severity takes into account not only the distance separating the poor from the poverty line, but also the inequality among the poor. The result conforms to the findings of Asogwa *et al*. (2012) who reported a poverty gap of 0.27 and poverty severity of 0.15 in a study on poverty and efficiency among farming households in Nigeria.

Table 2: Poverty measures for the farm households

Items	Participants	Non-participants
Poverty line (N)	159.8800	159.8800
Poverty headcount	0.4	0.48
Poverty gap	0.04	0.48
Poverty severity	0.12	0.42
Poor (%)	4	48
Non-poor (%)	96.	52

Source: Field Survey, 2015

Impact of development exchange centre microcredit programme on participants and non-participants among women farmers in Kaduna state, Nigeria

The result of impact on poverty status, income, crop output, crop yield and level of living of Kaduna State DEC participants and non-participants women farmers is presented.

Poverty status

The result of the pair t-test in Table 3 reveals that the mean poverty status of participants was 0.96 and 0.04 for non-participants. The mean difference was significant with a t-value of 16.26 in favour of participants. This finding implies that DEC microcredit has alleviate the poverty status of participants i.e. there is increase in their income, crop output, yield and level of living.

Income

Income generated from the sales of farm produce from both groups of farmers in Table 3 indicates that the mean annual farm income of participating farmers was N653, 039.00 while that of non-participating farmers wasN201, 045.10. The means difference was significant with a t-value of 23.8372 in favour of participants. This implies that the participants had higher income than the non-participants. This study is in line with Kiva (2005) who reported that the income of Grameen members was 43% higher than incomes of non-programme villages, and that implies there was an impact of the program on participants' income.

Crop output

The result in Table 3 shows that the mean number of crops grown of participants was 2.53333 and 2.57619 for non-participants. The mean difference was not significant with a t-value of -0.3523. This result indicated that there was no difference between participants and non-participants in term of numbers of crops grown. The total crops output shown in Table 3 revealed that the mean total crops output of participants was 437,807 (tonnes) and 145,571 (tonnes) for non-participants respectively. The mean difference was significant with t-value of 14.7442 in favour of participants. This study corroborates Usman (2016) who stated, that 990.16 and 6,609.96 were the output (tonnes) in the treated communities before and after the intervention while 632.52 and 990.69 were the output (tonnes) in the control communities before and after the intervention.The credit received has increased their agricultural productivity in term of crop yield, output, income and thereby alleviating the poverty of rural women.

Crop yield

The respondents' distribution according to their mean crop yield inTable 3, reveals that the mean crop yield of participants was 7,846 (tonnes) and 3,048 (tonnes) for non-participants. The mean difference was significant with a t-value of 12.1413 in favour of participants. Furthermore the result of total land area cultivated in Table 3 shows that the mean of total land area cultivated of participants and non-participants was significant with a t-value of 1.7583 in favour of participants. This result is in agreement with the findings of Nwaobiala (2010) where Agip Green River Project farmers farm output were significantly higher than the non-GRP farmers in Rivers State, Nigeria.

Level of living

Level of living refers to all things contributing to the quality of human existence, this include material possessions of farmers such as radios, television, bicycles, motorcycles, cars, livestock and other valuables by participants and non-participants in the state were statistically compared.

The result in Table 3 shows that the mean annual household expenditure for participants was 242,694 and 87,950 for non-participants, the mean difference was significant with a t-value 24.288; mean value of total assets for participants was 279,437 and 78,074 for non-participants with a t-value of 8.902 and the mean value for level of living of participants was .80950 and -.80951 for non-participants with a t-value of 28.288. The finding revealed that DEC had a significant impact on the life of participants. The variables were household expenditure, asset value and level of living. This finding is in line with Madukwe *et al* (2015) who conducted a research on the impact of the United State Agency for International Development rice project phase 1 on rice farmers in Anambra and Ebonyi State.The result of their finding reveals that there was significant change (x^2 = 52.00, $p \leq .5$) in the standard of living, before and after the commencement of the project. This implies that there is significant change in the standard of living of the project participant farmers (PPFs) from low to high. It is therefore concluded that the project had positive impact on improved standard of living of the PPFs.

Table 3: Result of paired t-test for the difference in poverty status, income, crop output, crop yield and level of living of DEC Participants and Non-participants women farmers in Kaduna State, Nigeria.

Variable	Respondents	N	X	SE	SD	T	df	p-value	Sig.
Poverty	Participants	210	.66666	.032607	.472530	16.26	418	0.000	***S
Status	Non-partici	210	.66666	.017254	.250039				
Income									
Annual	Participants	210	310095.	1154.53	167267.	15.16	418	0.000	***S
income Per	Non-partici	210	116990	5373.43	77868.4				

Variable	Respondents	N	X	SE	SD	T	df	p-value	Sig.
Head									
Total HH income	Participants	210	653038.	17295.1	250630.	23.83	418	0.000	***S
	Non-partici	210	201045.	7773.22	112644.				
Crop output									
Crops grown	Participants	210	2.53333	.072432	1.04964	-0.3523	418	.7248	NS
	Non-partici	210	2.57619	.097739	1.41637				
Total crop output	Participants	210	437807.	18960.7	274766.	14.74	418	0.000	***S
	Non-partici	210	145571.	5773.78	83670.1				
Crop yield									
Average crop yield	Participants	210	7846.26	383.795	5561.72	12.14	418	0.000	***S
	Non-partici	210	3047	94.3045	1366.60				
Level of living									
Annual household Expenditure	Participants	210	242,694.	5561.38	80592.0	24.28	418	0.000	***S
	Non-partici	210	87,949.9	2873.66	41643.3				
Total Value assets	Participants	210	278,437	21124.8	306127.	8.9018	418	0.000	***S
	Non-partici	210	78.073.8	8088.51	117213.				
`Level of living	Participants	210	.809509	.0525435	.761428	28.28	418	0.000	***S
	Non-partici	210	-.809509	.022691	.328832				

Asterisk indicate significant * = 1; ** = 5% and * = 10% levels of probability respectively.**

Result of Chow test analysis of the impact of dec microcredit on poverty status, income, crop output, crop yield and level of living among dec participants and non-participants

The chow test statistics was applied to ascertain DEC microcredit impact on poverty status, income, crop output, crop yield and level of living among DEC participants and non-participants. The application of the chow test statistics involved obtaining the residual sum of squares from regression analysis which involved participants and non-participants separately and pooled as the third regression. If F-chow calculated value was greater than table value then impact was from DEC microcredit otherwise impact was outside the project.

The result in Table 3, show the F- chow calculated value for poverty status was 13.26 while that of tabulated F-value was 3.84, the difference was significant. Also for income, the F- chow calculated value of 9.84 and tabulated F-value was 3.84. The different was significant. The crop output had F- chow calculated value was 14.86 and tabulated F- value was 3.84 the difference was significant. As regard to crop yield, the F- chow calculated value was 2.31 and tabulated F-value was 3.84. The different was not significant. Similarly for the level of living, F- chow calculated value was 8.37 while tabulated F-value was 3.84, the difference was significant. The analysis shows that four variables (poverty status, income, crop output and level of living) had their F-chow calculated greater than the tabulated F-chow at 5% level of probability, which implied that DEC microcredit had impact on poverty status, income, crop output and level of living of the participants. The hypotheses were also tested and it was discovered that all the variables were significant at 1% level of probability. Therefore, the null hypotheses were rejected and the alternate accepted. It can be concluded that the Development Exchange Centre Microcredit had positive impact on the participants. These results again supports the findings of Jiriko(2012) who reported that the participation in Project Agape Microcredit(NGO) had significantly impacted the life of participants by alleviating their poverty; improved their income, crop output and level of living.

Table 4: Chow test showing the impact of DEC microcredit on poverty status, income, crops output, yield and level of living among DEC participants and non-participants in Kaduna State, Nigeria

Variable	RSS	RSS1	RSS2	N1	N2	F-chow	F-crit.
Poverty Status	411310937.615	74800.091	75686.358	208	208	13.26803	3.840
Farm Income	3134337589.865	765967.779	712419.891	208	208	10.2916	3.840
Non- farm Income	4773063542.406	609257.022	731406.948	208	208	17.28308	3.840
Total Income	2946588572.930	752302.369	699965.905	208	208	9.849127	3.840
Crops Output	4423926620.712	771567.460	673169.427	208	208	14.86423	3.840
Average Crop yield	657499376.603	698780.978	679355.500	208	208	2.315917	3.840

Variable	RSS	RSS1	RSS2	N1	N2	F-chow	F-crit.
Monthly HH Expenditure	342441956.417	767696.696	737403.117	208	208	1.104374	3.840
Annual HH Expenditure	2765646629.821	656430.680	771516.606	208	208	9.402327	3.840

Source: Field Survey, 2016

Constraints Encountered by participating in Accessing DEC Microcredit Programme

Table 8 indicates that 81% of participants reported that there was severe inadequate access to credit. Gilbert (2006) posited that despite the enhanced and visible roles assumed by women due to the microcredit schemes, there were operational lapses; the loan given to the women were inadequate to start and run any viable income generating activity.

Table 8: Distribution of respondents according to constraints encounter by DEC participants, N=210

Participants	Less severe		Severe		Very severe		Not severe	
Variables	**Freq**	**Percent**	**Freq**	**percent**	**Freq**	**percent**	**Freq**	**Percent**
High interest rate	2	1.0	38	18.1	7	3.3	163	77.6
Inadequate inform	2	1.0	39	18.6	7	3.3	162	77.1
Bureaucracy	2	1.0	50	23.8	16	7.6	142	67.6
Inadequate credit	2	1.0	170	80.9	30	14.3	8	3.8

Source: Field Survey, 2016

CONCLUSION AND RECMMENDATION

Development Exchange Centre programme made a significant impact on the socioeconomic life of participating rural women by alleviating their poverty, increased in income, crop output, crop yield and improvement in the level of living of the participants. The findings recommended that: DEC microcredit programme should be extended to others Local Government areas of the state; amount of credit should increased, provision of farm inputs at subsidized rate; government, private sectors, international donors, and philanthropic organization should contribute towards alleviating the poverty of rural women farmers in the state and the country at large.

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IMPACT OF MICRO ECONOMIC EMPOWERMENT SCHEMES ON POVERTY ALLEVIATION AMONG RURAL FARMERS IN ABAK LOCAL GOVERNMENT AREA IN AKWA IBOM STATE, NIGERIA

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INTRODUCTION

Micro economic empowerment schemes have been playing an increasing role in the financing of agriculture. While in 1974, micro finance bank only provided re-financing facilities for agricultural export commodities; by 1980 the scope of its involvement in agricultural finance had been considerably widened into such areas as direct financing of commodity boards, equity participation in specialized agricultural lending to rural farmers. Today, micro economic empowerment schemes are charged with giving practical effect to its programme of assistance to agriculture. These measures were introduced as a result of the growing awareness of the significance of the agricultural sector in the attainment of the goals of economic development (Ogunnusi, 2002).

Lack of access to credit plagues poor farmers and rural dwellers for many years. Rural farmers need credit to allow investment in their farms and small businesses, to smooth consumption, and to reduce their vulnerability to weather and economic shocks. Because they have little access to formal financing institutions, rural farmers follow sub-optimal risk management and consumption strategies and rely on costly informal credit sources. Recognizing this, government and international agencies created banks and lending programmes targeted at rural farmers. The track record of these programmes is mixed, especially with regard to reaching the poor. Reforms and innovations have emerged in recent years to improve credit market opportunities for the rural farmers and increase the efficacy of rural finance (FAO).

Micro credit helps the farmers to escape poverty by increasing their farm sizes and investing in some businesses. Micro credit schemes overcome some of the problems of delivering rural credit to poor farmers by offering collateral-free loans at near market interest rates, through community based programmes operated by financing institutions or non-governmental organizations. Micro credit in its most modest form fills the gaps in credit delivery that are addressed by other providers and attempts to catalyze economic development that will reduce rural poverty (Warrant, 2002).

Akinwolewa (1999) reported that the serious problem facing the micro credit schemes in Nigeria is that of default by the rural farmers reflected in delinquency in loan repayment and in bad debt losses. In certain cases, default has been so serious that affected credit agencies have had to go through financial re-organization in order to survive (Ike, 2004).

There is also the endemic problem with most rural farmers concerning their lack of knowledge on availability of micro credit as well as the sources and terms of loans owning to the low literacy level among the preponderance of the full time farmers, and most of the farmers are not in a position to indicate or understand the names, locations and types of micro credit scheme and the interest rates which is due for such micro credit (Inyang, 2003).

Akwa Ibom State, in the past five years has been one of the best performing states in Nigeria in terms of provision of infrastructural and social amenities and development of human power. Nonetheless, agricultural production in the state has not been impressive due to lack of capital on the part of the farmers to go into various sectors of agriculture such as poultry, piggery, fishery and large scale crop production. Low performance of farmers in Akwa Ibom State, particularly in Abak Local Government Area was heightened by their inability to access the loan made available by the State Government due to some complexities the people in charge have brought into the scheme. Consequently, the contribution of government micro credit schemes to increase agricultural production among Abak farmers has been on the decline.

To resolve the issue of inaccessibility of government micro credit scheme, government resorted into organizing an accelerated training for the farmers to get the know-how of certain agricultural enterprises as well as get the basic information necessary for each farmer to benefit from the micro credit scheme instituted.

Despite the good aspect of giving credit to farmers to help them enhance the farming activities, government credit schemes is still not reachable by the rural farmers that mostly needed it, thus farmers in this Local Government Area are seriously battling with the problem of dearth of capital to expand their farms. It is therefore imperative to beam research light on the impact of micro economic empowerment on poverty alleviation among rural farmers in Abak Local Government Area so as to stimulate the farmers to get the loan from government in order to increase their scale of agricultural productions as well as making the area self sufficiency in domestic and commercial food productions.

Specifically, the objectives of the study were to identify the socio-economic characteristics of the respondents in the study area, identify the

various sources of micro credit schemes available for the farmers in the study area, and examine the role of micro credit on poverty alleviation among rural farmers in the study area.

METHODOLOGY

The study was carried out in Abak Local Government Area of Akwa Ibom State. Abak Local Government Area lies on the South West of Akwa Ibom State. Abak town, the Local Government Area is located about 18 Kilometers from Uyo, the state capital. It lies between latitude 4^0 31^1 and 5^0 31^1 North and longitude 7^0 25^1 and 8^0 25^1 East. It has a land mass of 304 square kilometers, with population of 139,090 (NPC, 2006). The major occupation of the people here is agriculture and the major crops cultivated include cassava, yam, maize, okro, plantain and banana, melon, pepper, vegetables, garden eggs, as well as cash crops like oil palm, rubber, cocoa, cola etc.

The population for the study consists of the beneficiaries of micro credit schemes drawn from the five clans of the Abak Local Government Area. Purposive and simple random sampling techniques were employed in selecting the sample for the study. 4 out of the 5 Micro credit finance banks in Abak Local Government Area were purposively selected based on their proximity to the rural areas, low interest rate and quick loan delivery system. 30 beneficiaries from the list of micro credit schemes and 30 non-beneficiaries from the Local Government were randomly selected. This gives a total of 60 respondents for the study.

The primary data used for the study were obtained using a well structured questionnaire. Data generated were analyzed using descriptive statistics such as frequency, percentages and Freeman's *et al* model. The hypothesis was tested using student t-test. Freeman's model is given as:

$O_1 = E_2 - E_1$ (Income of farmers)

Where O_1 = the difference in income of the target group (farmers)

E_1 = scores of measurement before intervention by micro credit

E_2 = scores of measurement after the intervention by micro credit.

T-test analysis on differences in income of the beneficiaries and non-beneficiaries of micro credit scheme is given as:

$$t = \frac{x_1 - x_2}{Sj\frac{1}{n_1} + \frac{1}{n_2}}$$

Where Sj = Standard groups of data deviation of the two groups of data defined as

$$\frac{n_1 S_{1+}^2 n_2 S_2^2}{n_1 + n_2^{-2}}$$

$x_1 - x_2$ = Sample means for groups 1 (beneficiaries) and 2 (non-beneficiaries) respectively

n_1 and n_2 = number of observations for groups 1 (beneficiaries) and 2 (non-beneficiaries) respectively.

S_{1+}^2 S_2^2 = Variance

RESULTS AND DISCUSSION

Socio-economic Characteristics of Respondents

Table 1 presents the result of the socio-economic characteristics of the Respondents. The socio-economic characteristics considered include age, sex, marital status, household size, educational status, occupation, and years of farming experience.

Table 1: Distribution of Respondents according to their Socio-economic Characteristics

Socio-economic Characteristics	Frequency	Percentage
Age (years)		
21-30	7	11.67
31-40	30	50.00
41-50	17	28.33
51-60	14	6.67
61 and above	2	3.33
Sex		
Male	40	66.7
Female	20	33.33
Marital status		
Single	13	21.67
Married	46	76.67
Divorced	1	1.67
Household size		
1 – 5	27	45
6 – 10	30	50
11 and above	3	5.0
Educational status		
No formal education	4	6.67
Primary education	15	25.00

Socio-economic Characteristics	Frequency	Percentage
Secondary education	30	50.00
Tertiary education	11	18.33
Occupation		
Farming/Trading	46	54.12
Farming/Civil service	14	16.47
Farming alone	12	14.12
Years of farming experience		
1 – 5	7	11.67
6 – 10	13	21.67
11 – 15	7	11.67
16 – 20	46	76.67
25 and above	7	11.67

Source: Field survey, 2013

Table 1 revealed that most of the respondents were in their youthful middle age of 40 (50%). And 28.33% of the respondents were within the age of 50. This clearly shows that the respondents in the study area were within in the youthful age range, and it is believed that they possessed the much needed strength and energy required to perform their farming activities. Similarly, majority of the respondents (66.7%) were male while 33.33% were female. This indicates that more males participated in the micro-economic empowerment scheme than the females. More also, 76.67% of the respondents were married, while 21.67% were single. This implies that majority of the respondents that participated in the micro-economic scheme were married. Furthermore, 50% of the respondents had household size that ranges from 6 – 10; 45% and 5% had household size ranging from 1 - 5 and 11 and above respectively. This conforms to Farrington (1999), who stated that, farmers' household size may be a blessing to such a farmer, since most of the farm labour will be performed by members of his household. Moreover, 50% of the respondents had secondary education; 25% and 18.33% had primary and tertiary education respectively, while 6.67 had no formal education. This implies that majority of the respondents had formal education which makes adoption of improved technologies, communication easy and facilitates their participation in micro-economic empowerment schemes. Similarly, 80% of the respondents depend on farming alone as their last resort, while 10% each depend on farming/trading and farming/civil service respectively. This implies that majority of the beneficiaries of micro economic empowerment schemes are farmers and this could help to improve food sufficiency and poverty alleviation in the study area. More so, 76.67% of the respondents had farming experience ranging from 16-20 years while 21.67% had farming experience within 6- 10 years. This implies that the respondents had been into farming for a long period of time, which would have gone a long way in ensuring food sufficiency, better standard of living and poverty alleviation in the study area.

Types of Micro-Credit Schemes Operating in Abak Local Government Area

Table 2 presents the various types of micro-credit schemes operating in Abak Local Government Area.

Table 2: Distribution Respondents according to the various Micro-credit Schemes being operated

Types of Micro-credit Schemes	Frequency	Percentage
Active Point MFB	10	16.66
Nsekhe MFB	6	10.00
Akwa Saving and Loan	40	66.67
Pillar of Hope MFB	4	6.67
Total	**60**	**100**

Source: Field survey, 2013

Table 2 revealed that there are four types of micro credit schemes currently operating in Abak Local Government Area of Akwa Ibom state. Out of these four, Akwa Savings and Loan Bank was found to be the most used Micro finance bank by the respondents as indicated by majority (66.67%) of the respondents. 16.66% of the respondents used the Active Point Micro Finance Bank, and 10% used the Nsekhe Micro Finance Bank, while 6.67% used Pillar of Hope Micro Finance Bank. The majority of farmers using Akwa Savings and Loans Banks among the four micro finance banks provided by Government and Non-Governmental Organizations could be attributed to the low collateral security and interest rate charged by the bank.

The Role of Micro Credit on Poverty Alleviation among Rural Farmers in the Study Area using Freeman's Model

E_1 = N63,51833

E_2 = N14,678,333

Thus $O_1 = E_2 – E_1$

N14,678,333 – N63,51833 = N8,326,500.

From the above analysis, the gross outcome of government interventions on the income of farmers was N8,326,500. This implies that there was a positive impact of government micro credit scheme on the income and output of farmers in Abak Local Government Area. This corroborates with Agba et al, (2014) where microfinance credit scheme was found to be significantly related to poverty reduction in Akwa Ibom state. Agba et al (2014) further asserted that by helping low-income workers access credit facilities and promoting micro-enterprise among them would make them economically active to meet their basic needs and overcome the scourge of poverty. Similarly, Ediomo-Ubong and Iboro (2010) posited that the credit scheme has contributed significantly to improvement in the livelihood of the beneficiaries and their households. The credits were used by the beneficiaries augment their capital base, and this enabled them to increase the scope of their businesses. Nwigwe et al (2012) observe that microcredit scheme create universal access for low-income workers to access institutional financial assistance that enables their families to graduate from poverty cycle.

Difference in income of the beneficiaries and non-beneficiaries of micro-credit scheme

Table 3 presents the test of analysis on difference in income of the beneficiaries and non-beneficiaries of micro credit scheme.

Table 3: Differences in Income of the Beneficiaries and Non-beneficiaries of Micro- credit Scheme

Variables	**Sample size**	**Mean (in N)**	**STD**	Decision Rule
Beneficiaries	30	164,120	2.313	t-cal = 40.624**
Non-beneficiaries	30	60,850	1.957	t-tab = 1.960
Difference		103,270	0.356	P < 0.05

Source: Field survey, 2013. ***= significant at 1% alpha level.

Table 3 revealed that the beneficiaries of micro credit scheme had more income than the non-beneficiaries in the study area. With t-calculated of 40.624 which is greater than the t-tabulated of 1.960 at $p \geq 0.05$, it showed a significant difference between the income of beneficiaries and the non-beneficiaries. Therefore, the null hypothesis which stated no difference between income of beneficiaries and non-beneficiaries is hereby rejected and the.

CONCLUSION AND RECOMMENDATION

The study showed that four micro credit schemes are functioning in the study area. Majority of the respondents got their micro credit through Akwa Savings and Loans Bank. Micro credit scheme has impacted positively on the output and income level of respondents and has contributed in poverty reduction in the study area. The study therefore recommends that adequate awareness be made on the existence and benefits of micro economic empowerment schemes especially via the media (radio and television) and Agricultural Extension Agents in order to reach wide range of farmers and increase participation. Government should regulate the minimal level of collateral security and interest rate charged per annum for every operating Micro Finance Bank as this will encourage many farmers to participate on this scheme. Also, Government should provide proper monitoring agency in the state to monitor and supervise the activities of the scheme in order to check some of the common problems faced by these schemes, such as embezzlement, corruption and loan diversion.

INVOLVEMENT OF MALE AND FEMALE FARMERS IN GINGER PRODUCTION IN ABIA AND IMO STATES, NIGERIA

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ABSTRACT

This study investigated the level of involvement of male and female farmers in gingerproduction in Abia and Imo States, Nigeria. Multi-stage sampling technique was used to select 60 ginger farmers for the study. Focus Group Discussion and interview schedule with structured questionnaire was used to elicit information on involvement of male and female farmers in ginger production from the respondents. Data obtained were analysed with descriptive and inferential statistic like frequency table, Pearson chi-squareand logit regression model. The result indicated that majority (65%) of the respondents were male while 35% were female.The result also revealed that Area of ginger cultivated is significant at (P=0.10). Decision on use of labour, inputs and participation in farm operations were significant at (P=0.01) level of probability each. This infers also that there is significant difference between men involvement in ginger production than women. It was also discovered that Farming experience and Farm operations were significant at (P=0.05)and (P=0.025) levels respectively. The study therefore recommended that research institutes and other input agencies should advance their training on the best agronomic practices in ginger production for increased yield in the study area..

Keywords: Male, Female , Involvement, Ginger Production

INTRODUCTION

Ginger (*Zingiber officinale*)) is an important and widely grown spice of the over 90 species of perennial rhizomatous herbs. It is a root crop and a typical herb extensively grown across the world for its pungent aromatic under-ground stem or rhizome which makes it an important export commodity in world trade (NEPC1999; Erinle 1989; Ajibade&Dauda 2005).

It is a spice grown across many climates in the world. In the world market, the current major five exporting countries have been China, Nigeria, India, Jamaica, and Brazil Asumugha (2003)Ginger is produced in several parts of Nigeria particularly in the guinea savanna zone (southern part of Kaduna State) and to a little extent in Keffi and Akwanga local government areas of Nasarawa State (Dauda and Waziri, 2006).In recent times, ginger cultivation has been introduced into south eastern and south western agricultural zones of Nigeria. Ginger is being produce now in Abia, Anambra, Cross River,Ebonyi and Imo.

Nigeria produces an average of50,000 metric tonnes of fresh weight ginger per annum(Ezeagu,2006). About 10% of the produce is consumed locally as fresh ginger while the remaining 90% is dried for both local consumption and export. According to Ezeagu(2006) 20% of the dried ginger is consumed locally for various uses and 80% is exported. Traditionally, ginger is used in Nigeria for both medicinal and culinary (kitchen) purposes as well as in confectionery industry. Ginger throughout the world is used as a spice or fresh herb in cooking and a range of other value added products including flavoring in candies, beverages. In both modern and traditional medicine, Ginger has been used in treating health problems such as Nausea in pregnancy, Motion sickness, prevention of Diabetes, cold/flu prevention and treatment, menstrual cramp relief, digestive problems, fights ovarian cancer, Migraine relief. It also serves as Antibiotics. The oil property in Ginger can help relief arthritis due to its Anti-inflammatory properties.

The plant has fibrous roots that emerge from the branches rhizomes. It takes about 6 weeks for shoots to emerge after ginger planted. Vegetative growth is maximized until flowering begins in September – October flowering marks the beginning of rhizomes maturity and increasing fibrous tissue development (Valenzuela *et al.,* 2005).According to the United Nations Food and Agriculture Organization (FAO, 2004), there are two major varieties of ginger grown in Nigeria which differ in the colour of their rhizomes namely, the reddish and yellow varieties. The yellow variety appears to be widely planted than the reddish variety. According to Chukwu*et al.,* (2003), the various cultivars available include UG1, UG2 and Maran. The UG1 (locally called Tafingiwa meaning elephant‘s foot type) yield higher than UG2 (Yatsunbiri meaning monkey‘s finger type) which was reported to be more pungent. Ginger is usually cultivated vegetative through its rhizome.

In southern Kaduna where ginger is extensively grown in Nigeria, beds are preferred for rain fed ginger production while planting on ridges is recommended for irrigated ginger. (NAERLS, 2004) recommended that rhizome for planting be cut into small pieces, each having at least 2 good buds or growing points and weigh 5 - 10 g. The recommended planting depth is 4 - 5 cm and distance of 20 by 20 cm to give a plant population of 250,000/ ha. It is expected that ginger should be planted early, March/April in the rainforest zone and April/May in the savannah zone of Nigeria to have enough rain for its 7 - 8 months of field life(NAERLS, 2004).

In most societies, men and women have distinct roles within the farming system. Men perform major role in physical activities like land

clearing and tilling, while women major roles were in planting and marketing with almost equal task in weeding operations. In ginger production, men and women play different roles, have different needs and face different challenges in Abia and Imo states.

According to Mohammed and Abdulquadri **(**2012) activities such as bush clearing, land preparation, felling of trees, planting of certain crops, hunting, fishing, tending of pasture and care of domestic animals traditionally are often performed by men; whereas, women grow certain crops traditionally, they are also responsible for hoeing, weeding, harvesting, transportation of harvest from farms to their homes, processing, preservation and marketing of crops. They also participate in the care of domestic animals. Review of literatures indicated increase information on ginger production but there seems to be an information gap on the level of involvement of gender in the production of the crop, that is what necessitated this study. The objectives of this study are to assess the levels of involvement of male and female respondents in ginger production in Abia and Imo states, Nigeria and to examine factors influencing production of ginger on gender basis.

METHODOLOGY

Multi stage sampling techniques was used for the study. In the first stage, one local government area each was randomly selected from two ginger producing states, Abia and Imo states namely Isialangwa south from Abia and Ngor-okpala from Imo state. In the second stage, four communities from Abia state that are noted for ginger production were purposively selected they are isieketa, Uvokwu, Ngwobi and Umuojima efere. Two communities in Imo namely Nnorie and Logara were also purposively selected. Four communities were purposive selected in Abia state unlike two in Imo state because of the predominance of more ginger farmers in Abia state.

In the third stage, 10 ginger farmers were randomly selected from the six communities, of the two states, making a total of sixty ginger farmers selected as respondents.

Data were collected with the use of structured questionnaire and interview schedule. Analysis of data was done using descriptive and inferential statistics.

Data analysis

Data were collected on socioeconomic characteristics of farmers, factors and constraints affecting ginger production through the use of structured questionnaire and interview schedule. Analysis of data was done using descriptive, Pearson chi-square test and logit model analysis from the SPSS

Pearson Chi-square is expressed as

$X^2 = \sum \frac{(O-E)^2}{E}$

$\sum$ = Summation

O = Observed frequency

E = Expected frequency

Contingency coefficient C is given as

$$C = \sqrt{X2/(N + X2)}$$

Where C = Contingency coefficient

X^2 = Chi-square

N = Ground total of Cases.

Logit Regression Model

The logit of a number p between 0 and 1 is given by the formula

$P = \frac{p_i}{1-p_i} = \log\left(\frac{p_i}{1-p_i}\right) = \log(p_i) - \log(1-p).$

The model is expressed implicitly as

$Y=F(X_1,X_2,X_3,X_4,X_5,X_6,X_7,X_8,X_9,X_{10},X_{11},X_{12},X_{13},X_{14})$

Explicitly the model is specified as

$Y(\text{Involvement})=b0+b_1X_1+b_2X_2+b_3X_3+b_4X_4+b_5X_5+b_6X_6+b_7X_7+b_8X_8+b_9X_9+b_{10}X_{10}+b_{11}X_{11}+U$

Where,

Y (Involvement) = (1 for involve, 0 otherwise)

X_1: Household size (Number of people feeding from the same pot)

X_2: Level of Education (years of formal schooling)

X_3:Farming experience (years)

X_4: Area cultivated (hectares)

X_5: Women ownership of land

X_6: Decision on input use

X_7: Contact with Organisations

X_8:Access to loan

X_9: Farm Operations

X_{10}:Gender Factors

X_{11}: Decision on Labour

Nagalkelke R^2

-2loglikelihood

Where:

Y & X_1–X_{11} as defined above.

b_0 = constant

b_1 –b_{11} = coefficient to be estimated.

U: Error term.

RESULT AND DISCUSSIONS

The result in table 1 revealed that majority (60%) of the farmers were within the age range of 31-50 years, 35% of the farmers were above 50 years. This implies that ginger farming inAbia state and Imo state were mostly carried out by young people. This agrees with (Adesina, 2003) who reported that to enhance agricultural productivity, farming in Nigeria should comprise mostly youths. The result further indicated that majority (65%) of the respondents were male while 35% were females. This implies that ginger farming in the study area is dominated by men. This agrees with the findings of Shehu *et al.* (2013) who suggest that most of the ginger farm work are undertaken by men in the study area, as ginger production is labour demanding more so that most of the operations are manually done at this level. The

findings also showed that most of the respondents were educated up to secondary level, they constituted 46.7%. About 26% had primary education while 25% had tertiary education. This implies that farmers in the study area are educated. With more education, they are expected to access information on innovations that will enhance productivity.

Majority (45%) of the respondents had farming experience of 1-10 years, 31.7% had between 16 -20 years of experience while 18.3% had 11- 15years of farming experience. The high level of farming experience among farmers in Abia and Imo states are expected to have a positive influence on the farm. Result of the analysis indicated that 48.3% of the respondents had household size of between 1-5 persons, 45% had 6-10 persons. Large household size is expected to have positive effect on supply of cheap labour. Efiong (2005) reported that relatively large household size enhances the availability of labour. Study found out that majority (85%) of the respondents were married while 15% were single. This implies that ginger productions in the study area were dominated by married people.

Table1: Socio-economic characteristics of the farmers in Abia and Imo states

Variables	Frequency	Percentage (%)
Age		
21-30	3	5.0
31-40	15	25.0
41-50	21	35.0
51+	21	35.0
Total	**60**	**100**
Sex		
Male	39	65.0
Female	21	35.0
Total	**60**	**100**
Marital Status		
Single	6	10.0
Married	51	85.0
Widow	3	5.0
Total	**60**	**100**
Household Size		
1-5	29	48.3
6-10	27	45.0
11-15	2	3.3
21+	2	3.3
Total	**60**	**100**
Level of Education		`
Tertiary	15	25.0
Primary	16	26.7
Secondary	28	46.7
Adult	1	1.7
Total	**60**	**100**
Farming Experience		
1-5	14	23.3
6-10	13	21.7
11-15	11	18.3
16-20	19	31.7
20+	3	5.0
Total	**60**	**100**

Source: Field Survey, 2016

Table 2: classified the performance of the logistic regression model by cross tabulating the observed response categories with the predicted response categories. The model correctly predicted the response with No involvement 94.6 percent and Yes involvement 86.7%. The model overall correctly predicted percentage is 92.3%.This implies that the choice of the model was correct, also the farmers responded correctly depending on their involvement.

Table 2: Sensitivity test of the logistic model prediction of involvement in ginger production in Abia and Imo States

Observed		Predicted Involvement		Percentage correct
		No	Yes	
Involvement in ginger production	No	35	2	94.6
	Yes	2	13	86.7
Overall percentage				92.3

Table 3 showed Pearson chi-square test of Involvement of male and female respondents in ginger production in the study area. The result revealed that Area of ginger cultivated by male and female farmer is significantly different at 10% level of probability which implies that there is significant difference between men involvement in ginger production than women. Men involvement in ginger farming is higher than female. Also decision on use of labour, and other input and participation in farm operation were significantly different at 1% level of probability each in favour of male farmers. This infers also that there is significant difference between men involvement in ginger production than women. This finding may be explained with the reasoning, that probably the cost of rhizome seed and other inputs for ginger production per hectare is higher than other crops cultivated in the areas, thereby making it difficult for women to acquire sufficient quantities for production due to lack of funding.

Table 3: Pearson chi-square test of Involvement of male and female respondents in ginger production in Abia and Imo States

Variables	**Involvement**		**Total Response**	**Pearson Chi-square**
	Male	**Female**		
Farming experience (yrs).				
1-10 yrs.	19	8	27	
11-20 yrs.	19	11	30	
> 20 yrs.	1	2	3	
Total	**39**	**21**	**60**	**7.319 ns**
Area of ginger cultivated (ha)				
< 1 ha	7	9	16	
1-2 ha	31	11	42	
>5 ha	1	1	2	
Total	**39**	**21**	**60**	**4.806 ***
Decision on use of labour for ginger production				
Husband	34	2	36	
Wife	1	19	20	
others	4	0	4	
Total	**39**	**21**	**60**	**47.521 *****
Decision on use of inputs for ginger production				
Husband	35	3	38	
Wife	0	18	18	
Others	4	0	4	
Total	**39**	**21**	**60**	**47.854*****
Access to contact organisation				
ADP	7	2	9	
Extension Agent	3	2	5	
Research	28	10	38	
Total	**38**	**14**	**52**	**0.543 ns**
Participation in farm Operation				
Land preparation	25	3	28	
Bed making	13	0	13	
Planting	1	16	17	
Mulching	0	1	1	
Weeding	0	1	1	
Total	**39**	**21**	**60**	**44.089*****

Ns = Not significant * significant @ 10 percent probability level, ***significant @ 1percent probability level

Table 4 shows the logit estimates of the factors influencing ginger production. The ratio of the coefficients to SE squared is called the Wald statistics and Exp (B) is the predicted change in odds of the choice of event. It was found that Ginger farming experience is significant at 5% probability level, implying that farming experience is a useful parameter in involvement in ginger production.The more experience a farmer has on a crop production the changes of higher productivity. The result is an indication that inexperience farmers find it difficult to go into ginger production, moreover the crop is not popular in the area. The successful carrying out of farm operations is also significant at P= (0.025). A lot of agronomic practices are carried out in ginger production such as planting, weeding, fertilisation, mulching and harvesting, there is a correlation between effective carrying out this operations and yield. This probably explains why farm operation is a significant factor in deciding involvement in ginger production. For predicted change in odd of the choice in changes in variables; Household size, Area of land cultivated, women ownership of land, Decision on input to use, Access to loan, Farm operations, Decision of labour to use are greater than 1 signifying that they increased the likelihood of involvement in ginger production. The NagalkelkeR^2 is0.783 imply that the variables used explained correctly involvement of gender in ginger production by 78.3%. The goodness of fit measured by -2loglikelihood is also significant at 1% probability level, implying the model chosen is good in the estimation of the parameters.

Table 4: Logit estimates of the factors influencing production of ginger

Variables	Coefficient (B)	Standard Error	Wald	Exp(B)
Household size	.215	.855	.063	1.239
Level of Education	-1.322	1.102	1.440	.267
Farming Experience	-4.147	2.109	3.865**	.016
Area cultivated	2.203	1.431	2.370	9.049
Women ownership of land	20.765	19447.357	.000	1E+009
Decision on input use	-23.862	21875.734	.000	.000
Contact with organisations	-2.088	1.776	1.382	.124
Access to loan	26.051	18309.692	.000	2E+011
Farm Operations	3.430	1.529	5.032**	30.868
Gender Factors	1.849	1.195	2.382	6.351
Decision on Labour	26.016	21875.734	.000	2E+011
Constant	-99.184	53420.761	.000	.000
Nagalkelke R^2	0.783***			
-2loglikelihood	21.209***			

** Significant at 5% probability level *** Significant at 1% probability level;

CONCLUSION

It was obvious in the findings that the level of education attained by a farmer eases the ability to get involved in ginger farming innovation hence greater output.It was also observed that the level of involvement in ginger production in the study area was higher in men than women farmers. The variables area of land cultivated, decision on use of inputs and labour, farming experience as well as participation in farm operations are significant determinants of involvement in ginger production. It was therefore recommended that research institutes and other input agencies should advance their training on the best agronomic practices in ginger production for increased yield in the study area.

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ORGANIC AND INORGANIC FERTILISER USE AMONGARABLE CROP FARMERS IN ISIALA NGWA NORTH LOCAL GOVERNMENT AREA ABIA STATE, NIGERIA

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ABSTRACT

The study analyzed organic and inorganic fertilisers use among crop farmers in IsialaNgwa North Local Government Area of Abia State, Nigeria. IsialaNgwa North Local Government Area of Abia State was purposively selected because of their involvement in crop production. sixty(60) farmers were randomly selected using structured questionnaire. Descriptive and inferential statistics such as percentages mean and regression model were used to analyze data collected for the study. The findings showed that majority (73.3%) of the respondents were using inorganic fertiliser only, (3.3%) of the respondents were using organic fertiliser only while (23.3%) of the respondents were using both organic and inorganic fertiliser. The result from the regression analysis on organic fertiliser shows that age, educational level, fertiliser prize, farm size, gender have negative influence on organic fertiliser use. From the result on regression analysis on inorganic fertiliser use, educational level, fertiliser price, farm size and farming experience are the significant variables that determine the use of inorganic fertiliser use in the study area. The study concluded that majority (46.7%) of farmers in the study area uses inorganic fertiliser but high price of fertiliser, lack of credit facilities and subsidy are limiting factors to the use of fertiliser by the farmers in the study area.

Keywords: organic, inorganic, fertiliser, arable crop and farmers

INTRODUCTION

The population of Nigeria is at an increasing rate and more demand for food is placed on farmers to feed the growing population. The country`s rapid population growth has exceeded the nation`s ability to produce food (Afodu *et al*., 2014). Small-scale farm producers (Oladeebo, 2004) dominate agriculture in Nigeria as in most developing countries. Smallholder farmers constitute about 80% of the farming population in Nigeria (Awoke and Okorji, 2004).

Agriculture is the deliberate effort to modify a portion of earth`s surface through the cultivation of crops and the raising of livestock for sustenance or economic growth (Rubenstein, 2003). Government at different regime initiated agricultural programmes to meet the growing population of the Nation, but the nation is not food secure because farmers are not involve in the planning and execution of some of these projects. An effective participation for grassroots development would only be realized where the grassroots have the freedom to make their own decisions and set their own development priorities, draw their own plans and be build up in the monitoring and evaluation system.

Besides, agriculture supplies food, raw materials and generates household income for the majority of the people. Igwe and Onyenweaku, (2013) opined that mixed crop livestock system constitutes the back bone of agriculture not only in the tropics in general, but also in Abia State in particular. Peasant farmers who produce the bulk of food requirement in the country have dominated Nigerian agriculture. The smallholder farmers whose role are vital, belong to the poorest segment of the populace in the county and cannot invest much in their farms, which has led to the unimpressive performance of the agricultural sector in Nigeria (Afodu *et al*, 2013).

Low use of fertiliser and degraded soils are the major factors limiting agriculture productivity, where soil nutrient outflows far exceed inflows in most farming systems resulting in negative nutrient balances (Sanchez *et al.,* 1997; Vanlauwe and Giller, 2006; Vanlauwe*et al.,* 2010).

The pressure for more food from a less and low quality soil has seriously increased soil degradation and the output of many staple crops have fallen. Due to constantly increasing pressure on available land because of high population densities, fallow periods have significantly reduced, and at presently rarely exceed six years (Onyebinama, 2006).

According to Cantero *et al.,*(2006), fallow shorter than ten years will allow the soil to recover adequately and the quality of the soil decreases with frequent exploitation. Smallholder farmer no longer produce a surplus sufficient food to feed the ever-increasing population as a result of the diminishing fertility is inevitable for the substitute of soil nutrients that are mined through harvest annually.

Soil productivity and fertility can be maintained by the use of fertilisers and by using fertilisers, farmers can reach optimum output that their land can produce and feed more mouths at lower cost (Afodu *et al.,*2014).

The broad objective is to analyze the organic and inorganic fertiliser use by farmers in Abia State, Nigeria.

The specific objectives are to:

a. examine the socio-economic characteristics of respondents
b. estimate the level of the use of organic and inorganic fertiliser by the farmers
c. estimate the determinants of use of organic and inorganic fertiliser by the farmers

d. describe constraints militating against the use of fertiliser among respondents.

Hypothesis

H_0: Quantity of Fertiliser use is significantly influenced by age, gender, educational level, fertiliser price etc.

METHODOLOGY

Study area

This was carried out in Isiala Ngwa North Local Government Area of Abia State. Isiala Ngwa North is a Local Government in Abia state, Nigeria. Its headquarter is in the town of Okpuala-Ngwa. It has an area of land of 283 km_2 and a population of 153,734 at the 2006 census. IsialaNgwa lies between longitudes $7^0 1^0$ and latitudes $4^0 4^0$. It is located midway between Aba and Umuahia on the Enugu-Port Harcourt express way. It is regarded as the ancestral home of Ngwa people and is bounded in the North by Umuahia South and Ikwuano Local Government Areas, in the south by Isiala Ngwa South Local Government Area with Akwa-Ibom State in the East and in the West by Imo State.

Isiala Ngwa is endowed with abundant agricultural products, which make raw materials easily available for agro-based industries. They have a vast fertile plain land and every piece of land is cultivable, because of this, the people attach much importance to farming activities, they predominantly farmers. The cash and food crops that thrive well in the area include palm produce, raffle-palm, yam, cassava, maize, three-leaf yam, coco-yam, melon, a variety of edible fruits ;banana, plantain, kola nuts, coconut, garden egg, Indian bamboo and even timber and cocoa. Given fine topography of the land, it is most suitable for large mechanized farming.

Sampling Techniques

IsialaNgwa North has six (6) autonomous communities. Multi stage sampling technique was employed. Two (2) villages were chosen randomly from each community giving twelve (12) villages. From each of the villages, five (5) farmers was randomly chosen, which gave a total of sixty (60) respondents

Data collection

Data for this study was collected using structured questionnaires and personal interviews (primary data).

Data analysis

The data collected were analyzed using descriptive statistics (percentages, frequency distribution and means) and inferential statistics such as multiple regression models.

The model is implicitly specified as follows:

$Y= f(X_1, X_2, X_3, X_4, X_5, X_6, X_7, X_8 + ei)$

Where;

Y = Quantity of fertiliser use (kg)
X_1 = Farm output (kg)
X_2 = Family size (Number)
X_3 = Level of education (Years)
X_4 = Age of the farmer (Years)
X_5 = Farm size (hectares)
X_6 = Gender (male (1) and female (0)
X_7 = Fertiliser price (N)
X_8 = Transportation cost (N)
e_i = Stochastic error term.

RESULTS AND DISCUSSION

Level of use of organic and inorganic fertiliser in the study area

The distribution of the respondents by their level of use of organic and inorganic fertiliser is presented on the Table 1

Table 1: Distribution of Respondents According to their Level Use of Organic and Inorganic Fertiliser

Fertiliser use (kg)	Organic		Inorganic	
	Frequency	Percentage	Frequency	Percentage
1-50	35	58.33	28	46.7
51-100	10	16.67	15	25.0
101-150	1	1.67	04	6.7
151-200	10	16.67	03	5.0
201-250	-	-	01	1.7
251-300	2	3.33	03	6.7
301-350	-	-	06	10.0
531-400	2	3.33	-	-
Total	**60**	**100.0**	**60**	**100.0**

Source: Field survey, 2016

The Table showed the level of usage of organic and inorganic fertiliser in the study area. About 58.33% of the respondents used 1-50kg of organic and 46.7% of them used 1-50kg of inorganic fertiliser, 16.67% of the respondents used 51-200kg of organic fertiliser in crop production and only 25% of the farmers were able to use about over 100kg of inorganic fertiliser in crop production. The implication is that crop farmers in the study area used more of inorganic fertiliser than organic fertiliser in production, although, the farmers in the study area used both organic and inorganic fertilisers.

Determinant of organic fertiliser use among farmers in the study area

The summary of the determinant of organic fertiliser use is presented on Table 2

Table 2: Regression results on Use of Organic Fertiliser by the Farmers

Variables	Linear	Exponential	Semi log	Double log
Constant	458.608	2014.96	5.629	17.9
Age	(4.608)***	(4.768)***	(2.941)**	(2.386)*
	-. 209	-0.107	0.027	0.075
Educational level	(-1.865)*	(-1.480)*	(. 199)	-0.909
	-0.129	-0.114	-0.085	-0.099
Fertiliser price	(-1.669)*	(-1.701)*	(-.917)	(-1.287)
	-0.938	-0.995	-0.828	-0.0899
Farm size	(-13.880)***	(-13.544)***	(-10.266)***	(-10.727) ***
	-0.002	-0.016	0.136	0.087
Gender	(-.026)	(-.183)	-1.299	-0.901
	-. 145	-0.139	0.001	-0.014
Household size	(-1.854)*	(-1.824)*	-0.01	(-.156)
	0.058	0.133	-. 007	. 050
Farming experience	-0.623	(1.693)*	(-.063)	-0.552
	. 077	0.07	0.36	-0.032
R2 -value	-1.152	-1.091	(. 457)	(-.439)
F-Ratio	0.842	. 860	0.775	0.818
	38.880***	37.68***	25.165***	27.584***

Source; *field survey 2016*
*** = Significant at 1% level
** = Significant at 5% level
* = Significant at 10% level

The exponential function was chosen as the lead equation because it has the highest R^{-2} value (coefficient of multiple determinations), the number and levels of significant variables and their conformity to *apriori* expectation.

Age, educational level, fertiliser price, gender and household size were all the significant factors affecting the level of fertiliser use in the study area. Age was significant at 10% level and was negatively related to the level of use of fertiliser. This implies that as the farmers advance in age, the level of their fertiliser use decreases. Age is one of the factors affecting decisions and actions made in agriculture, because people's thoughts, behaviors and needs are primarily related to their ages (Simsek and Karkacur, 1996).

Educational level of the respondents was significant at 10% and was inversely related to quantity of fertiliser used; this implies that the higher the educational level of the farmers, the less of organic fertiliser used in crop production. This could be as a result of the importance of inorganic fertiliser through educational awareness and the bulkiness of organic fertiliser, the farmer is concerned about what will increase yield. This is in alliance with Masarirambi (2010); Commercial and subsistence farming has been and is still relying on the use of inorganic fertilisers for growing crops. Fertiliser price was highly significant at 1% level and was inversely related to the quantity of fertiliser used. This indicates that an increase in the price of fertiliser will decrease the quantity of fertiliser used in the study area. The result also showed that female uses more of fertiliser than male. Hence, gender was significant at 10% and negatively related to the quantity of fertiliser used.

Household size was positively significant at 10% level of probability, implying that an increase in household will increase the quantity of fertiliser use. Increased household size will increase family labour and reduce the cost of hire labour. Family and hired labour plays an important role in agricultural production especially in developing economies where capital is less significant (Meier, 1989).

Determinant of inorganic fertiliser use among farmers in the study area

The summary of the determinant of inorganic fertiliser use is presented on the Table 3

Table 3: Regression Results on Use of Inorganic Fertiliser by the Farmers in the Study Area

Variable	Linear	Semi-log	Exponential	Double log
Constant	173.699	2.869	682.807	11.833
	(1.104)	(2.204)	(.282)	(.879)
Age	.056	-.267	.083	-.040

Variable	Linear	Semi-log	Exponential	Double log
	(.239)	(-1.099)	(.598)	(-.259)
Educational level	.395	533	.365	.563
	(2.390)**	(3.096)***	(2.293)**	(3.170)***
Fertiliser price	-.154	-.292	-.111	-.210
	(-.861)	(-.574)	(-1.787)*	(-1.333)
Farm size	-.190	.045	.303	-.055
	(-1.040)	(.236)	(1.679)*	(-.278)
Gender	-.182	-.094	.003	.098
	(-1.0113)	(-.502)	(.019)	(.529)
Household size	-.338	-.198	-.126	-.028
	(-1.740)*	(-.977)	(-.855)	(-.167)
Farming experience	-.435	-.273	-.517	-.400
	(-3.03)***	(-1.818)*	(-3.844)***	(-2.666)**
R-2 value	.393	.341	.536	.423
F-Ratio	3.889***	3.109*	5.768***	3.667**

Source: Field survey, 2016

*** = Significant at 1% level

** = Significant at 5% level

* = Significant at 10% level

The exponential function was chosen as the lead equation based on the high R^2 -value, levels and signs of significant variables and their conformity to *apriori* expectation.

Four out of seven variables were significant factors that determine the use of Inorganic fertiliser. Educational level, fertiliser price and farm size of the respondents were significant at 5% and 10% respectively. Educational level of the respondents was significant at 5% level and was positively related to the use of Inorganic fertiliser. This implies that Inorganic fertiliser use increases with an increase in educational level. This result satisfies *apriori* expectation because increase in education would tend to enhance adoption of agricultural innovation. The result corroborates the finding of Chianu and Tsujii (2004) who reported that an increase in the educational level of the farmers would increase their level of usage of farm inputs.

Fertiliser price was significant at 10% and was negatively related to the use of Inorganic fertiliser in the study area. This implies that an increase in fertiliser price leads to decrease in use of fertiliser which is in accordance with Aluko (1981) who reported that the price of the fertiliser influences the use of fertiliser by farmers. Farm size was significant and positively related to use of Inorganic fertiliser, this implies that an increase in farm size will increase the use of Inorganic fertiliser in the study area.

Constraints militating against the use of fertiliser among the respondents

The summary of the constraints militating against the use of fertiliser among the respondents is presented on the Table 4

Table 4: Distribution of respondents according constraints militating against the use of fertiliser among the respondents

Militating constraints	Frequency	Percentage
Lack of Extension services	55	91.6
High price of Fertiliser	58	96.6
Lack of credit facilities and subsidy	57	95.0
High transportation cost	21	35.0
Unavailability of fertiliser	13	21.6

Source: Field survey, 2016

The Table showed the constraints militating against the use of organic and inorganic fertiliser in the study area. High price of fertiliser (96.6%), lack of credit facilities and subsidy (95.5%), and lack of extension services to the farmers (91.6%) were the major constraints militating against the use of organic and inorganic fertiliser in the study area. Extension services affects fertiliser use by farmers, contacts with extension agents as well as acquisition of formal education exposes the farmers to the availability of technical knowledge of innovations and increases their desirability for acquiring it (Daramola and Aturamu, 2000).

CONCLUSION

The study concludes that arable crop farmers in the study area use more of organic fertiliser in crop production than inorganic fertiliser. Although, the farmers are faced with

some challenges militating against the use of both organic and inorganic fertiliser in the study area. The study therefore recommends that rural credit should be emphasized in order to mobilize savings and maximize the availability of credit to the farmers.

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PARTICIPATION OF RURAL YOUTHS IN COMMUNITY DEVELOPMENT PROCESS IN OSUN STATE, NIGERIA

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INTRODUCTION

Youth can be seen to form a basic bedrock of the community, they are regarded as the future leaders of the community therefore it is essential to include them in any developmental project or programs that may be available in the community from the planning stage to the implementation stage through the evaluation stage. According to reports from United Nations (2008) and World Bank (2010), about 50 percent of the developing world populations are youths estimated at about 1.2 billion of age between 15 and 24 years. Of this number, about one billion live in developing countries alone. In developing countries, up to 75 percent of the young people between the ages 15-25years live in rural areas with few primary schools and poorly qualified teachers. Youths in Nigeria includes people between the ages of 18-35. Older youth especially in poor rural household are matured enough to make major contributions to development in their various communities. Udensi *et al;*.2013 opines that 'the role of the youths to accelerate Community Development Program has been recognized, particularly, in local communities where they have played pivotal role in education, health, environmental sanitation, mass mobilization, religious activities etc. The imperative of youth participation in community development program considering their numerical strength is an unlimited window in which a larger and younger workforce who can drive economic development faster and play a significant role in national security, leadership and social development of their communities can be enhanced'.

According to United Nations Development Group (2014) UNDG, community development is a process where community members come together to take collective action and generate solutions to common problems. Community development is an opportunity for people living in a community to come together, identify the problems and needs which they share, help them to discover the resources that they already have and the resources they need to source for, promote knowledge, skill, confidence and the capacity to work together, strengthen contacts between members of the community. Rural community development is a process conducted by community members. It is a process where local people can not only create more jobs, income and infrastructure, but also help their community become fundamentally better able to manage change.

Youth participation according to Cornwall (2010) refers to the involvement of youth in responsible, challenging action that meets genuine needs, with opportunities for planning and/or decision-making affecting others in an activity whose impact or consequence is extended to others— i.e., outside or beyond the youth participants themselves. Rajani (1999) noted that, it is only through participation that youth develop skills, build competencies, form aspirations, gain confidence and attain valuable resources. Yahaya (2003) said that youths must discover the need to change their own mis-directed priorities, shed their dependency thinking, gain skills and knowledge for self-empowerment and conscientisation. Consequently, youths are able to participate in economic development, as well as social and economic developments of their communities.

The concept of grassroot participation especially as regards to youths is used to refer to the need for local involvement in planning and implementation process. Grassroot participation in development means consulting and involving the local people in the identification of local needs and conception, formulation and implementation of any project in order to develop the necessary self reliance and self confidence needed among the rural people for accelerated development(Are, 1982)

Adesope, (2007) noted that youths have been cited for active involvement in community affairs, greater social propensity, faster reaction, time, innovative and prowess, it becomes necessary to exploit their active features for progressive change in the community through active and meaningful participation in program directed towards their development. The development of community is a dynamic process involving all segments of the locality, including the often-overlooked youth population. As youth are brought into and connected with community development programs that they have often times been ignored or excluded from, they can participate in actively and contribute in decision-making at multiple levels. Nitzberg (2005) argued that youth must be fully engaged and involved in change efforts at the community level if they are to learn to function as effective members of the society. Therefore, it is essential to assess the different capacity by which youths have been actively involved in the development of their community, to determine the reasons why their participation is limited and what are the benefits that youths derive from participating in these development programs in their community. The objectives of the study are

1) determine personal characteristics of youth in the study area.

2) identify the factors affecting the participation of youths in the development program;
3) examine the benefits derived from participating in these programs
4) there is no significant relationship between the factors affecting participation and participation in development programs.

METHODOLOGY

The study was carried out in Osun State, which is one of the six states in the South-western Nigeria. It covers a total land mass of approximately 9,251 square kilometer with a population of 3,423,535 (2006 population census) and shares boundaries with Kwara State in the North, Ekiti State and partly Ondo State in the East, Oyo State in the West, in the south by Ogun State. Osun State is divided into three federal senatorial districts namely: Osun West, Osun East and Osun Central. Each of these three senatorial districts is composed of two administrative zones.

A multi-stage random sampling procedure was used for the study. In the first stage, one (1) local government area each was chosen from the three (3) senatorial districts in the state. After which two (2) towns/ villages were selected. Subsequently, 10% of the total numbers of members of community based organization in the area were selected giving a total 135 as illustrated in the table below.

These were interviewed and primary data were obtained using structured questionnaire while data was analysed using both descriptive such as frequency and chart and inferential statistical tools.

Respondents were asked to state their actual age which was measured at interval level of measurement. Respondents were asked to indicate their sex and scores will be assigned as follows Male = 1, Female = 2. This was measured at nominal level of measurement. Respondents were asked to tick their religion and it will be scored as Christianity = 1, Islam = 2, Traditional = 3, and others specify. It was measured at nominal level of measurement. Respondents were asked to indicate their educational level from the options provided and it will was scored as Informal education = 1, Primary education = 2, Secondary education = 3, Tertiary education = 4. This will be measured at ordinal level of measurement. Respondents specified their marital status and it was scored as single = 1, married = 2, widow(er) = 3, separated = 4, divorced = 5, measured at nominal level of measurement. Respondents were asked to state their family size and it was measured at interval level of measurement. Respondents were asked to indicate there membership in any youth association. Yes = 1, No = 0.

A list of factors affecting participation was provided such as lack of incentives, bureaucratic process, political and social constraints, personal constraints, financial constraints, lack of awareness and lack of technical skills and respondents were asked to indicate the factors that were affecting them by ticking the most important factors by using a 3-point likert-type scale. Scores will be assigned with high=3, moderate=2 and low=1. The mean score was calculated to identify the extent at which these factors affect the participation of the respondents.

A list of 14 possible benefits derived from participating in community development was presented to the respondents to indicate the level of benefit derived from participation. The response options were not a benefit, mildly beneficial and highly beneficial. The scores assigned were not a benefit=0, mildly beneficial=1 and highly beneficial=2. The mean score of each of the statement was calculated which id then used in the ranking of the statements to determine what majority of the respondents consider a high benefit or a low benefit.

Computation of sample size

Senatorial districts	Local government areas	Towns/villages	Total no in community based organization	Estimated no of respondent (10%)
Osun West	Ayedaade	Orile Owu	190	19
		Akiriboto-Oke	100	10
		Oogi	130	13
		Wakajaiye	80	8
Osun East	Ife-North	Asipa	100	10
		Yakooyo	60	6
		Moro	160	16
		Edun Abon	130	13
Osun Central	Odo Otin	Okua	80	8
		Ekosin	70	7
		Ekusa	100	10
		Ijabe	150	15
	Total		**1350**	**135**

RESULTS AND DISCUSSION

The result of the analysis in table 1 shows that 49.60% of the youths falls within the age range of 18-22 years old. Twenty-eight percent (28.90%) falls between the age range of 23-27years old. Fourteen percent (14.10%) falls between the age of 28-31years old while seven percent (7.40%) are 31 and above. The mean age is 23.8. This implies that majority of the youth can be classified as young youth (18-27 years old) making a total of 78.50% and the older youth making a total of 21.5%. This corroborates Brennan *et al* (2007) that older youths are more active, provide opportunities for community involvement. Also, that younger adolescents might be an untapped audience from which volunteers and future community activists could be recruited. Specialized efforts such as periodic training, public awareness could be used to reach younger audience.

The result also shows that fifty-three percent (53.3%) of the respondents are male while forty-six percent (46.7%) are female. This backs up Akinboye *et al* (2007) that males participate more in community development than their female counterparts who have more pressing things to attend to such as youths taking care of the children and doing house chores.

From table 1 below, seventy-four point eight percent (74.80%) of the respondents were single and twenty-five point two percent (25.20%) are married. This is to be expected because the study is dealing with youth with majority of the being students within age 18-22years.

Furthermore, table 1 indicates that sixty-three percent (63.7%) of the respondents have tertiary education, twenty-six point seven percent (26.7%) have secondary education, five point nine percent (5.9%) have primary education and three percent (3.7%) had informal education. This corroborates Akinboye *et al.* (2007) that the ability to write and read will increase or help understand the community development initiative. Olujide (2008) who in his study stated that the high literacy level reveals that the youth that are more enlightened can easily organize themselves into formal and informal organizations that may lead to community development.

Table 1 also shows that the respondents that indicated a family size of 1-4 are 62 percent (62%), family size of 5-9 are thirty-nine percent (39%) while a family size of 10-15 are three percent (3%) with a mean of household size of 23.8. this implies that any individual with a large household size would not participate as he ought to because of how it will affect his household welfare financially and otherwise. This corroborates Beard (2007) who stated that households with lower socio-economic status generally contribute less time and money to community development.

Table 1 reveals that eighty one point five percent (81.50%) of the respondents belong to an organization while eighteen point five percent (18.50%) indicated they were not in any organization. This implies that majority of the youths should be able to contribute to the decision making process. This also corroborates Akinboye *et al* (2007) that youths involved in social/youth organizations will contribute to the decision making process in form of sounding birds and/or initiating groups in relation to community development.

Table 1: Distribution of respondent base on their social economic Characteristics (N=135)

Variable	Frequency	Percentage	Mean
Age			
18-32	67	49.6	
23-27	39	28.9	23.8
28-32	19	14.1	
33 and above	10	7.4	
Sex			
Male	72	53.3	
Female	63	46.7	
Marital status			
Single	101	74.8	
Married	34	25.2	
Level of education			
Informal education	5	3.7	
Primary education	8	5.9	
Secondary education	36	26.7	
Tertiary education	86	63.7	
Family size			
1-4	84	62.3	
5-9	50	37.0	4.6
10 and above	1	0.7	

Variable	Frequency	Percentage	Mean
Membership of organization			
Yes	110	81.5	
No	25	18.5	

Result of analysis from Table 2 shows the distribution of respondents based on the level at which the factors affecting their participation in the programme. Table 2 shows that higher percentage (42.2%) of the respondents claimed lack of incentives as a high factor affecting participation of youth in community development while very few (3.7%) said that lack of incentive is a low factor. Majority (50.4%) of the respondents said that bureaucratic process is a moderate factor affecting youth participation in community development program while few (9.6%) of them indicated it as a low factor. Also, a higher percentage (51.1%) of the respondents indicated financial constraints as a moderate factor affecting their participation while few of them (10.4%) considered it a low factor. Similarly, a high percentage (44.4%) of the respondents said that lack of awareness of the community development program is a factor affecting their participation in community development program while a small percentage of them (11.1%) said it is a low factor affecting their participation.

Table 2: Distribution of respondents base on the level at which the factors affecting their participation in the program

Factors	High F (%)	Moderate F (%)	Low F (%)	Mean	SD
Lack of incentives	57 (42.2)	39 (28.9)	5 (3.7)	1.88	0.43986
Bureaucratic process	20 (14.8)	68 (50.4)	13 (9.6)	1.55	0.43986
Political constraints	20 (14.8)	29 (21.5)	12 (8.9)	0.96	0.49875
social constraints	11 (8.1)	36 (26.7)	13 (9.6)	0.87	0.49953
Personal constraints	27 (20.0)	46 (34.1)	30 (22.2)	1.50	0.43136
Financial constraints	24 (17.8)	69 (51.1)	14 (10.4)	1.66	0.40149
Lack of awareness	60 (44.4)	26 (19.3)	15 (11.1)	1.83	0.43986
Lack of technical skills	18 (13.3)	19 (14.1)	10 (7.4)	0.76	0.47572

Grand mean: 11.01
Benchmark (Mean): 1.37

Table 3 shows that the mean of the categorization of factors affecting participation in community is 5.01. About thirty-one point nine percent (31.9%) percent of the factors have high effect on their participation while about sixty-eight point one percent (68.1%) have low effect on their participation.

Table 3: Categorization of respondents based on factors affecting participation in community development

Factors	Frequency	Percentage	Mean	Standard deviation	Min.	Max.
High (Below mean)	43	31.9				
Low (Mean and above)	92	68.1	5.01	2.15	0.00	8.00

The result of table 4 shows that the respondents consider better utilization of community resources, decreased dependency on the government, increased self sufficiency, eased hardship and provision of a sense of belonging (49.6%, 51.9%, 51.1%, 59.3% and 59.3% respectively) as the benefit that are derived from participating in community development process. Alternately, the respondents cited that participation in community development programs has not helped to reduce poverty rate(53.3%), improved standard of living (48.1%), provision of market for farm produce (39.9%), creating an alternative way of getting income. This negates Kleiner *et al* (2004) who said that community members who have the capacity to do something to enhance their quality of life are portrayed as having the ability to think, to decide, to plan and to take action in determining their lives. Therefore, in any community development programme both economic and individual growth must be given equal attention to ensure that the process of community development achieves its due balance (continuity and sustainability through adequate participation of all the key players in the community). Community development in the words of Gilchrist (2004) helps local community residents to identify unmet needs. It seeks to build capacity by improving skills and

knowledge for individual and community as a whole.

Table 4: Distribution of respondents based on the benefits of community development

Statements	Highly beneficial F (%)	Mild Benefit F (%)	Not a benefit F (%)	Mean	SD
Adds more knowledge about several things	34 (25.2)	94 (69.6)	7 (5.2)	1.20	0.51543
Reduce unemployment among youths	28 (20.7)	88 (65.2)	19 (14.1)	1.06	0.58845
Better utilization of resources	67 (49.6)	58 (37.0)	18 (13.3)	1.42	0.70824
Reduced dependency on government and the community	70 (51.9)	42 (31.1)	23 (17.0)	1.35	0.75625
Increased self sufficiency	69 (51.1)	54 (40.0)	12 (8.9)	1.42	0.65182
Improved standard of living	33 (24.4)	37 (27.4)	65 (48.1)	0.76	0.82142
Provision of an alternative way of getting income.	26 (19.3)	79 (58.5)	30 (22.2)	0.97	0.64578
Helped reduce crime among youths	30 (22.2)	93 (68.9)	12 (8.9)	1.13	0.54362
Reduced poverty rate	21 (15.6)	42 (31.1)	72 (53.3)	0.62	0.74179
Reduced cost of production through subsidized inputs	19 (14.1)	89 (65.9)	27 (20.0)	0.94	0.58288
Provision of market for farm produce.	26 (19.3)	56 (41.5)	53 (39.3)	0.80	0.74112
Eased hardship	80 (59.3)	46 (34.1)	9 (6.7)	1.52	0.57225
Reduced restlessness	37 (27.4)	79 (58.5)	19 (14.1)	1.13	0.63246
Provides a sense of belonging	80 (59.3)	46 (34.1)	9 (6.7)	1.52	0.62090

Grand mean: 9
Benchmark (Mean): 0.64

The result in table 5 shows that there is significant relationship between social constraints, personal constraints and level of participation. This supports Brennan *et al* (2007) who said that factor such as social constraint militates against youth participation in community development. This study also reveals that lack of incentives, bureaucratic process, political constraints, financial constraints, lack of awareness and lack of technical skills have no significant effect on the level of participation of youths. This is negates by Yahaya (2003) who stated in his study that lack of incentives is a major constraint to youth participation in change program. This negates the findings of Effiong (2012) inadequate funding hamper the execution of major developmental projects in the community. Most youth organizations depend on voluntary donations by members or other organizations for the execution of their projects. Poor leadership within the organization is another major factor affecting youth participation in rural development.

Table 5: Regression analysis that shows the effect of factors that influence the participation of youths in community development

Factors	beta	t-value	p-value
Lack of incentives	-0.017	-0.145	0.885
Bureaucratic process	-0.064	-0.676	0.500
Political constraints	-0.008	-0.076	0.939
Social constraints	-0.302	-2.772	0.006
Personal constraints	0.258	2.227	0.028
Financial constraints	0.159	1.543	0.125
Lack of awareness	-0.038	-0.295	0.768
Lack of technical skill	-0.896	0.826	0.410

R= 0.413
R^2= 0.170;
Adjusted R^2=0.118
P≤ 0.05- significant (S);
P > 0.05 – not significant (NS)

CONCLUSIONS AND RECOMMENDATIONS

The study revealed that despite all the constraints that affect participation, there is still a high level of participation of youths in the community development process. It also showed that youths have an unfavourable attitude towards participation in community development process. The study also showed the benefit derived in

participation which include improved standard of living, reduced dependency on the government, better utilization of resources available in the community, increased self sufficiency. Government, local leaders and youth leaders should endeavor to form an interaction session in which all stakeholders will be involved to discuss the pertinent needs of all involved and to identify roles of stakeholders. Also, training in the form of participatory seminars and workshops would help the youths to be more proactive.

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PERCEIVED CONSTRAINTS AFFECTING EFFECTIVE USE OF TELEVISION FOR EXTENSION SERVICE DELIVERY AMONG FARMERS' IN ABIA STATE, NIGERIA

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ABSTRACT

The study determined the perceived constraints affecting effective use of television for extension service delivery for technology transfer in Abia State. A sample size of 126 farmers were selected through a multi stage sampling technique. Structured questionnaire were used to elicit information from the respondents. The data collected were analysed using descriptive statistics, while Probit Multiple Regression Analysis and Pearson's Product Moment Correlation Coefficient were employed to test the hypotheses. Some of the perceived constraints that affected use of television were erratic power supply, low income level, inadequate information, lack of credit facilities and high cost of television. The study indicated a moderately effective use of television for technology transfer in the study area. The use of television showed a significant relationship to the effectiveness of technology transfer. It was therefore, recommended that power supply should be improved if television is to perform its roles effectively. Rural farmers' telecommunication centers should be established in the study area. Agricultural Development Programme and Ministry of Agriculture should make technology programmes disseminatd through television demand driven and broadcast in local languages should be inclusive.

Keywords: Television, Perceived Constraints, Effectiveness, Extension Service Delivery

INTRODUCTION

Mass media channels are important in providing information for enabling the rural communities to make informed decisions regarding their farming activities, especially in the rural areas of developing countries (Lwoga, 2010). Information, as we know, is the key to success in the operation and management process in all spheres of life. Mass media channels, consisting of newspapers, magazines, traditional media, radio, television and other information technologies, have proven to be the most powerful opinion makers in this information age. Mass media havethe capacity to uplift the knowledge and having impact on behaviour (Nazari and Hassan, 2011).

Television is one of the most powerful medium of communication. Television was first established in the country in 1959 in the former western region of Nigeria. The television has the advantage of combining vision, hearing and gives information directly to the people (Omotayo, 2005). Unlike radio, it combines sight and sound thereby resulting in the better understanding of issue or subject matter presented. Nwachukwu and Odoemelam (2004) also found in their study that television viewing in developing countries was growing rapidly and has great scope for timely research and action. Television, as an electronic audio-visual medium which provides pictures with synchronized sound, is cosmopolite in approach and can be used to create instant mass awareness. It also has unique advantages over other mass media.

Television can play a very important role in extension, community development, and greatly reduce the work load of the extension and development experts.Escalada*et al.* (1999) argued that with the shortage of extension personnel, the inaccessibility oflarge numbers of farmers living in remote areas and poor transportation facilities,farmers' access to new information is limited and mass media have been consideredto be an effective means of information delivery.Also Onuekwusi, (2007) opined that mass media can exploit the potential to facilitate timely access and enhanced coverage of the rural population. The strength of mass media is of great help to extension workers in providing cost-effective and efficient service to farmers and also reduces the workload on extension worker by using mass media.

The transfer of technologies to the needy clientele at the appropriate time is an effective way of developing rural communities whose main occupation is agriculture. Hence, the achievements of agricultural growth programmes in developing countries depend, to a large extent, on the environment and level of use of media technology in mobilization of people for progress. To this end, the rural farmers are to be introduced to new technologies, and taught how to use and manage any associated risks. However, a farmer needs to know of the existence of a technology, before he/she can attempt to have access to it. This is where the role of the mass media comes into focus (Atasie, 2015).

Though, a vast number of the world's population live in the rural areas and there is the need to properly sensitize them to key into the various initiatives of government and all other developmental programmes by individuals and corporate organizations. The rural populace can only get to know about these programmes through the mass media as well as other modes of communication (Akpor, 2013), in order to encourage grassroots development. The dividends of democratic governance are yet to get to rural communities because the community media have not come to where they ought to be at the moment in Nigeria (Olowosago, 2015). Consequently, rural poverty continues to increase unabated and argued that the Nigerian mass media has over the years,

solely neglected the rural areas. The perspective of the Nigeria mass media was, and continues to be (despite some progress), strictly urban. The media reports and writes from the standpoint of an urban dweller's world (Ocheni and Nwankwo, 2012).

However, Ahmed-Akinola (2004), also added that a wide range of technologies have been developed by various Agricultural Research Institutes and Universities which ranges from breeding, agronomy, disease and pest control to post harvest technologies. Unfortunately, the channels through which these technologies are being communicated to farmers are grossly inefficient and thus led to ineffective adoption of recent agricultural technologies. This implies that as technologies packaged for grassroots development programmes do not effectively get to the rural populace achieving the dividend of democracy becomes futile.

Thus, using television to access technologies becomes necessary in order to increase food production. The constraints affecting its effective usage should be considered to minimize hindrances to adoption of technologies. However, in using it, coordination must be ensured among all the stakeholders to achieve maximum benefit. It is against this background that the research seek to identify constraints hampering the effective use of television for accessing technologies.

The objectives of the study included to:

i. assess the perceived effectiveness of television in the transfer of technology;
ii. identify constraints affecting the use of television in the transfer of technology.

Hypotheses

i. The constraints associated with the use of television do not significantly affect the effectiveness of television in the transfer of information.
ii. There is no significant relationship between television utilization and effectiveness of transfer of information.

METHODOLOGY

Study area

The study was conducted in Abia State which covers a geographical area of 5243.7sq km, of the total land area of Nigeria. Rainfall is about 2400 mm/year, and intense between the months of April through October. Abia State lies between latitude 5° 25′ 0″ north and longitude 7° 30′ 0″ east (Abia,2013). It is geographically located in the south-east region of Nigeria. It has a population of 2,845,380 and a population density of 578 people per square kilometer(NPC, 2006).About 70 per cent of the population is engaged in agriculture which accounts for more than 50 percent of the GDP. Abia state has rich arable lands that support the growing of yams, maize, rice, cashew, and cassava.

Sample and sampling procedure

The population was made up of all farmers in the State. Multi-sampling technique was adopted in selecting 126 farmers for the study. The study use both primary data and secondary information. The primary data was collected through the use of structured questionnaire and interview. The objectives of the study were considered in framing the questions in the research instrument.

RESULTS AND DISCUSSION

Perceived Effectiveness of Television Use for Technology Transfer

From the findings, it indicated that the level of television use for extension service delivery was moderately effective. Timeliness of information 2.4 and regularity of broadcast 2.6 was effectively maintained. This shows that information is transmitted on time and on regular basis. However, language used 1.4 and feedback mechanisms 1.4 were rated effectively low. This could be as a result of the use of English language in the transmission of technology programmes and feedback mechanism was not enhanced to make communication more effective. However, television and radio have been acclaimed to be the most effective media for diffusing scientific knowledge to the masses (Purushothaman *et al.,* 2003).

Table 1 Distribution of respondents by level of perceived effectiveness of use of television for technology transfer

Effective Indicators	Perceived level of effectiveness			Mean
	High	Moderate	Low	
Timeliness of information	71(56.35)	32(25.40)	28(22.22)	2.4*
Regularity of broadcast	78(61.90)	40(31.75)	8(6.35)	2.6*
Language used	13(10.32)	28(22.22)	85(67.46)	1.4
Clarity of pictures	70(55.56)	35(27.78)	21(16.67)	2.4*
Electronic media noise/distortion	60(47.62)	44(34.92)	22(17.46)	2.3*
Feedback mechanism	13(10.32)	22(17.46)	91(72.22)	1.4
Timing of broadcast	13(10.32)	30(27.81)	83(65.87)	1.4
Total Mean				13.9
Total Average Mean				2.0

Figures in parenthesis are percentages* indicates effective variable

Constraints associated with use of television

The results in Table 2 show some of the constraints militating against effective use of television in extension service delivery. These include erratic power supply (2.7), low income level (2.6), non-availability of credit facilities (2.8) and high cost of television (2.5). The respondents also perceived that inadequate television information (2.6) and timing of programmes not suitable (2.6) and network problem (2.6) were some of the factor hindering the use of television.

Erratic power supply could be a serious handicap to their effective utilization of television by farmer as the alternative source (use of generating set) is expensive. In addition, the respondents also indicated that the cost of television is high. This could be attributed to low income level and non-availability of credit facilities which farmers in rural areas face. It was also revealed that inadequate television information was a constraint. It is either that the programmes were not exhaustive since they were paid for or that it did not address their needs. This suggests that the television programmes should be made supply driven. Network problem is also a core challenge to television use as it affects reception.

Table 2. Distribution of respondent by perceived constraints to the use of television for extension service delivery

Constraints to using Television	Not a Constraint	Not a severe Constraint	Severe constraint	Mean score
Erratic power supply	6*(4.35)	23*(16.67)	109*(78.98)	2.7**
Low income level	12*(9.45)	28*(22.05)	87*(68.50)	2.6**
Non availability of credit facilities	7*(6.48)	12*(11.11)	89*(82.41)	2.8**
High cost of television	27*(17.76)	29*(19.08)	96*(63.16)	2.5**
Inadequate television information	19*(15.08)	20*(15.87)	89*(70.63)	2.6**
Timing of programmes not suitable	12*(7.45)	41*(25.47)	108*(67.08)	2.6**
Inadequate Interest	61*(48.41)	52*(41.27)	138*(10.32)	1.6
Information not relevant to me	100*(76.34)	31*(26.66)	-	1.2
Network problem	16*(12.80)	14*(11.20)	95*(76.00)	2.6**

Figures in parenthesis are in percentages, * and ** represent multiple responses and perceived constraint variables respectively

Hypothesis 1

The constraints associated with the use of television do not significantly affect effectiveness of television in technology transfer in the study area.

The hypothesis was tested using Probit regression. From result on table 3 that the constraints associated with the use of television erratic power supply (5.833) *** was significantly related to effectiveness of television in technology transfer at 1% level. This is against *a prior* expectation that there is no relationship between problems associated with television and technology transfer. The implication of the result is that because of erratic power supply extension agents using television may have distortion because the rural people most of the times do not have access to power supply or money to purchase power generating set.

Low level of income was positive at 7.20***. This is against *a prior* expectation which states there is no significant relationship between the problems associated with television and technology transfer. The implication is that if an extension agent choose television without considering their access to television will have message distortion thereby creating problem in the process technology transfer.

Timing of programme (6.264) *** was significant. This indicates that the timing for broadcast is not adequate, the audience may be distracted by other concerns. Network problem was positive and had a significant effect on television use for technology transfer. This is against *a prior* expectation that there is no significant effect of problems associated with mass media use and technology. This implies that when an extension agent is using television as a channel of technology transfer and there is poor network coverage, it will lead to distortion in technology transfer.

Table 3: Probit estimate of the effect of problems associated with television on effectiveness of technology transfer.

Constraint Variables	Estimates
Erratic power supply	-0.833(5.833)***
Low income level	0.921(7.20)***

Constraint Variables	Estimates
Non availability of credit	0.126(0.213)
High cost of mass media	0.541(2.311)
Lack of information	0.022(0.151)
Timing of programme	0.888(6.2264)***
Inadequate interest	0.012(0.341)
Network problem	0.633(3.743)***
X^2	113.433***
Pseudo R^2	0.713
Log likelihood	328.882

Figures in parentheses are t values. *** represents levels of significance at 1%

Hypothesis 2

Pearson's Correlation Coefficient analysis on the relationship between farmers' perception of the use of television with effectiveness of technology transfer.

Hypothesis 2 stated that there is no significant relationships between farmers' perception of use of television with effectiveness of technology transfer.

Pearson's Correlation was used to determine the extent to which variables are significantly related. From Table 4, television were significant at 5% respectively. This shows that there is a significant relationship between farmers' perception of use of television and effectiveness of technology transfer. This implies that when there is a good signal, the broadcast is timely and the content is in line with farmers' need, the farmers will be willing to utilize television as channels for receiving agricultural information. The information on best practices is then utilized on the farmers' farm. This is also in tandem with Nwachukwu (2003) who stated that farmers love to hear and see for more understanding as television's power of sight and sound appeal to emotion and is likely to motivate people. Hypothesis 2 stating that is no relationship between farmers' perception of use of television and effectiveness of technology transfer is rejected.

Table 4: Result of Pearson's Correlation Coefficient for HO_2 of the relationship between respondents' perception of use of television and effectiveness of technology transfer and t- test of significance of the "r"

Mass media	Coefficient	t-value
Television	0.198	2.304**
No of respondents	126	

** represents level of significance at 5%. HO_2 is rejected.

CONCLUSION

The main functionof extension organizations includes dissemination ofempirical and useful information furnished with bettersolutions of farming problems (Okunade, 2007). So,making the farmers aware of new agriculturaltechnologies and finally motivating them for adoption remains a focal point of agriculturalextension (Atasie, 2015).It therefore, becomes necessary to fashion out ways to disseminate appropriate generated technologies to farmers through television considering the challenges they encounter while sourcing for information and keeping pace with the trend in globalization. Since the study agreed that the use of television was moderately effective in transfer of information, there should be a rethinking in the context of extension service delivery efforts in order to reach out to the farmers more efficiently. This will also increase farmers' access to technologies packaged for grassroots development.

The study therefore recommends that power supply should be improved if television is to perform its roles effectively. Rural farmers' telecommunication centers should be established in the study area. Agricultural Development Programme and Ministry of Agriculture should make technology programmes disseminatd through television demand driven and broadcast in local languages should be inclusive.

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PERCEIVED EFFECTS OF NON-GOVERNMENTAL ORGANIZATION AGRICULTURAL DEVELOPMENT ACTIVITIES IN ZANGO KATAF LOCAL GOVERNMENT AREA OF KADUNA STATE

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ABSTRACT

This study determined the perceived effects of Youth Team in Action Supporting Community Initiated Development Organization (YOTASCID) – one of the most prominent rural based developments Non-Governmental Organization (NGOs) – in the agrarian communities of ZangoKataf LGA, Kaduna State. The sampling technique employed in the study involved a purposive selection of five (5) villages in the Local Government Area. The second stage was random selection of 23 household heads from each village to make a sample size of 114 household heads as respondents for Focus Group Discussion (FGD) and questionnaire administration for the study. Descriptive statistics such as means, percentages, and frequency distributions were used for data analysis. Results showed that 63% of the respondents were males, 57% had secondary school education and 57% indicated farming as their major occupation. Also, 69% and 48% of the respondents had received credit and fertiliser subsidy. The number of executed projects was lowest at Ramai-Daji and Madauchiand highest in Zonkwa. The most important influence of the NGO's activities as indicated were self-employment, increased farm output, increased pupils/student enrolment and availability of portable water; while the beneficiaries' effect of timely access to farm inputs subsidy was low. The major problem encountered was low credit disbursement. It is concluded that YOTASCID's intervention has brought about increased income generation and some measure of development in the agrarian communities. It is thus recommended that, for sustainability of activities of NGO's as YOTASCID, there is need for partnership between governments at all tiers; the private sector, international donor, and philanthropic organizations; towards making reasonable contributions to improve the living standard of the people in the rural communities

Keywords: Perceived, effects, agrarian, rural, community, production, development, sustainability.

INTRODUCTION

There is a growing interest in the application of various development concepts aimed at achieving greater planning efficiency and ensuring better results especially as it relates to the rural farm families' and rural populace of the developing world. However, rural economies in the "Third World" or developing countries have clearly demonstrated the failure of conventional economic theories and models at providing the basis for effective and realistic rural development programmes. Rural areas in developing countries are characterized by poverty, unemployment, unequal distribution of resources, acute shortage of social, physical and institutional infrastructure, increasing rural-urban drift and the general marginalization of rural resources (Williams, 1998).Without doubt, it's been argued that for agricultural project monitoring and management for service delivery to be successful, the citizenry must be involved in the project initiation and implementation processes; and should also be carried along in its monitoring and evaluation exercise (Sambo, 2002).In this regard, the participation of the rural farm families' is therefore, considered a powerful instrument for meeting this needs. It is therefore importance to note that one of the enduring heritages of traditional African societies is their involvement in community development through self-help; which has been the indigenous mechanism and technique developed and employed by the people to identify their pressing needs. (Ijere, 1992). Today, many people have constituted themselves into development associations, farmers co-operatives, cultural unions, Non-Governmental Organizations(NGOs),and Community Based Organizations (CBOs) with the aim of mobilizing resources to improve their social, economic and cultural conditions (Yahaya, 2005).In order to address these problems and ensure improved living standards for rural people, government and international organizations are intensifying efforts in the search for better alternative development strategies which would evolve in the rural areas . (Ijere, 1992).

In this regard, Youth Team in Action Supporting Community Initiated Development (YOTASCID) is a rural based development non-governmental organization, which is involved in rural development programmes.YOTASCIDestablished in May 1999, in partnership with Action Aid, an international NGO. The overall objective is to eradicate poverty through enlightenment and execution of community development projects (Magaji, 2008). Indeed, there have been stagnant levels of development in Nigeria, especially in the rural and semi-rural areas. Although the Nigerian government in the past has made various efforts in transforming the rural areas through various policies and programmes, most of the efforts failed due to the "top-down" policy in which developmental programmes are forced on people regardless of their own say or their felt needs (Ijere, 1992). Thus NGOs serves as a forum where people in a community come together to discuss some of their felt needs - needs that they have in common- for the benefit of their community. Despite the

existence of these NGOs such as ECWA Rural Development Programme, Children Foundation, Anglican Agricultural Programme, UNICEF, and IFAD in these communities, it is however not clear whether the contributions of these NGOs, have made any significant impact on them.This study was therefore aimed at evaluating the perceived effects of YOTASCID activities in ZangonKataf Local Government Area of Kaduna State, Nigeria.

METHODOLOGY

The study was conducted in Zangon–Kataf Local Government Area of Kaduna State, Nigeria. Kaduna state is in the North-West zone of Nigeria. It has 23 Local Government Areas. Zangon – Kataf Local Government Area, being one among the 23 councils, has its headquarters in Zonkwa. It is about 250 kilometers South-East of Kaduna town. It lies between latitudes 09^0 30"N and 10^0 8"N and longitudes 07^0 27"E and 08^0 30"E. Zangon– Kataf Local Government Area had an estimated population of 316, 370, based on the NPC, 2006 report. The people are predominantly Christians. The major tribes and/ or languages spoken in the area include the Bajjus, Atiyabs, Ikulus and Kamanton among others. The predominant pre-occupation etc. The embark on small, medium and large-scale livestock production such as rearing of chickens, ducks, goats, sheep and pigs as well as the marketing of these produce.(Chikwendo, 2005)

Sampling technique

For this study, multistage sampling technique was used to select the study area and sample size. Five beneficiary villages were purposively selected out of the LGA based on the level of participation and YOTASCID activities in the communities. These villages are: Zonkwa, Madauchi, Ramai-Daji, Katsit-Daji and Afana. Ten (10%) of the total population of each Household Heads of the beneficiaries was randomly selected from each of the five benefiting villages as respondents for data collection. In all, a total of 114 respondents was used for the study.

Method of data collection

In all, questionnaire and Focus Group Discussion (FGD) were used for data collection for the study. The questionnaire was used to obtain information relating to socio-economic characteristics of YOTASCID beneficiary communities(gender, educational level, occupation, credit source. While FGD was used to illicit information regarding to vocational skill training, farm input subsidy and social infrastructure.

Method of data analysis

Descriptive statistics such as measures of dispersion, mean, percentages, frequency distribution was used for data analysis.

RESULTS AND DISCUSSION

Socioeconomic characteristics of beneficiary communities

Table 1 shows that 63% were males and about 57% had secondary education as their highest educational background, the findings also shows that 57% of the beneficiary's communities took farming as their major occupation and sourced their credit from NGOs. The higher percentage of males could be attributed to the fact that males participate more in community development projects than the females counterparts. This finding is in conformity with that of Ejembi (2011) that agriculture and rural development related activities were the exclusive preserve of male members of the rural community. On the other hand, the communities' occupational distribution is in agreement with their rural orientation. With doubt, most of the rural dwellers are farmers and have farming as their major occupation and all other engagements are secondary. Furthermore, the result of the study showed that majority of the communities had access to credit from NGOs. Credit, in this study, is a source of capital, which is needed to acquire and develop the farm enterprise. Therefore, the option of sourcing and acquiring credit facility from the NGO's could be attributed to the respondent's high awareness of the advantage of obtaining loans at low or no interest rates. This finding is in agreement with Akpoko *et al* (1998). Who noted that NGOs, CBOs/CDAs provision of credit facilities to various communities empowered them to participate in agricultural activities. This process therefore improves the welfare of rural farm families' communities. Similarly, the findings reveals that (57%) had attained literacy level up to secondary education while 9% acquired adult education. This means that most of the beneficiaries had attained an appreciable level of education; and the importance of this cannot be over emphasized. Indeed, the , the United Nations Development Project -UNDP (2012) had highlighted the fact that women, men and youth were potent agents in development in many rural communities and the more educated they are, the better positioned they are to be able to positively modify other people's behaviors, or contribute to the development if their areas.

Table 1: Distribution of beneficiary communities based on their socioeconomic Characteristics (n = 114)

Socioeconomic characteristics of beneficiary communities	Frequency	Percent
Gender:		
Male	72	63.0
Female	42	37.0
Educational qualification:		
Adult education	10	9.0
Primary education	21	18.0
Secondary education	65	57.0
Tertiary education	18	16.0
Occupation:		
Farming	65	57.0
Carpentry	04	4.0
civil service	35	31.0
motor mechanic	10	8.0
Credit source:		
NGOs	65	57.0
Self	30	26.0
Friends	10	9.0
Banks	02	2.0
Relatives	03	3.0
Co-operatives	04	3.0

Field Survey, 2010

Provision of social infrastructures to respondent communities

The findings on social infrastructure is presented in Table 2. Using a numbering scale, result showed that Zonkwa community is provided with one secondary school, one primary school, a computer training school, vocational training centre, three functional boreholes and a health-care centre, while Madauchi community had a primary school, a healthcare centre, a five kilometer feeder road and two boreholes. Ramai-Daji community was provided with a primary school, a healthcare centre and two boreholes whereas Afana community was provided with two primary schools, a healthcare clinic and two boreholes. Furthermore, Katsit-Daji is also provided with two schools, a health-care centre and two boreholes.

In this regard, Zonkwa community had more schools and boreholds; a computer training school and vocational training centre more than the rest communities. This finding can be partly explained by the fact it was similarly observed that the Norwegian Church Agricultural ReRelief Project (NORCARP) an NGO, contributed greatly to the improvement of social infrastructural development (water supply, agricultural input, healthcare facilities, education) which generally improves the living standard ofrural farm families' inAbakaliki area of Eboyi State.(Obibuaku,1983).

Table 2: Distribution of Social Infrastructure Provided to Respondent Communities

Infrastructure	Zonkwa	Madauchi	Remai-Daji	Afana	KatsitDaji	Total
School	3	1	1	2	2	09
Health Care centre	1	1	1	1	1	05
Computer training school	1	-	-	-	-	01
Vocational training centre	1	-	-	-	-	01
Borehole	3	2	2	2	2	11
Road	-	1	-	-	-	01
Total	9	5	4	5	5	28

Field Survey, 2010

Influence of YOTASCID activities on respondent communities

The data in Table 3 show that majority of beneficiaries (38% and 35%) acquired computer and food processing skills respectively. The remaining (13%, 9%, 3% and 2%) acquired various skills ranging from soap making, tailoring, carpentry and motor-cycle repairs respectively.

This was all made possible as a result of the provision of vocational skill centers by YOTASCID. In addition, (69%) of the respondents received credit of (N10,000 and N19,000) while onlyonly(1%) of the beneficiaries received credit of (N60,000) and/ or more. Also of note is the fact that (48%) of respondents benefited from fertiliser subsidy alone; while (2%) of the respondents received both fertiliser and agrochemicals. This findings is in conformity with Buckey (1992), who identified two reasons why non-governmental, community based-organizations and indigenous associations are important. The first is that they facilitate access of the rural poor to available services as well as input for rural development. Secondly, they provide the structure through which rural farm families' can influence the direction of development.

Table 3: Distribution of respondents based on the vocational skill, credit facilities and farm input subsidy (n=114)

Activities	Frequency	%
Vocational Skill		
Soap making	15	13.0
Computer literacy	44	38.0
Food processing	40	35.0
Tailoring	10	9.0
Motor-cycle repairer	02	2.0
Carpentry	03	3.0
Credit facilities		
N 10,000 - N 19,000	79	69.0
N 20,000 - N 29,000	27	24.0
N 30000 - N 39000	06	5.0
N 40,000 - N 49,000	01	1.0
N 50,000 - N 59,000	00	0.0
N 60,000 and above	01	1.0
Farm Input Subsidy		
Fertiliser	55	48.0
Seed	17	15.0
Agro-chemicals	17	15.0
Fertiliser and seed	19	17.0
Fertiliser and Agro chemicals	02	2.0
Seed and Agro chemicals	04	4.0

Respondents' perception of the influence of YOTASCID activities in the study area

To evaluate beneficiaries' perception of the effect of YOTASCID activities on Socio-economic development of rural dwellers in the study area, the beneficiaries were asked to rate some perceived effect of YOTASCID activities using a 5 point Likert-type scale of Strongly Agree =5; Agree = 4; Undecided = 3; Disagree = 2; Strongly Disagree = 1. The total value on the Likert-type scale summed up to 15. This figure was subsequently divided by five to get a mean score of 3.0. The beneficiaries mean scores were obtained for each response item such that one higher or equal to 3.0 was regarded as a very important effect on the livelihood of the beneficiaries in the study area. Mean scores below 3.0 were regarded as indicative of a fair or negative effect on the livelihood of the beneficiaries.

As regard to the perceived effect of activities on beneficiary communities' livelihood, it was found that there were some important effects of YOTASCID activities as perceived by the beneficiaries. These include, self employment ($\bar{x}$ = 3.96), increase in vaccination for children ($\bar{x}$ = 3.95),increase in farm production output ($\bar{x}$ 3.90), increase in pupil's/students' enrolment ($\bar{x}$ = 3.90) and available source of portable water ($\bar{x}$ =3.90) and effect of farm input by majority of rural farm families in the study area, the mean score indicate ($\bar{x}$ = 3.89.50) This may be as a result of adequate provision of these inputs by the NGO. The result of the measure of the dispersion (3.75) of the activities and its effect on the livelihood of the rural farm families was greater than the cut-up point of 3.0. This is an indication that there was a significant effect of YOTASCID activities on its rural farm families.

Table 4: Mean distribution of respondents' perception of the influence of YOTASCID activities on beneficiary's communities

Perceived Effect of YOTASCID Activities	Weighted Score	Mean Score	%
Perceived effect of boreholes	**2073**	**3.63**	
Available source of portable water	445	3.90	78
Available water for domestic use	439	3.85	77
Ease Transportation distance to sources of water	433	3.80	76
Available water for irrigation of crops	316	2.77	55
Employment of youth	440	3.85	77
Perceived effect of schools	**1767**	**3.68**	
Increase in pupils/students enrolments	445	3.90	78
The Ease up in long distance trekking	441	3.87	77
Improved moral behavior among pupil/students	441	3.80	76
Improved personal hygiene among pupils/students	440	3.85	77
Perceived effect of Health care centers	**2523**	**3.68**	
Free Medical care	326	2.85	57
Improved family hygiene	437	3.84	77
Increase vaccination for children	451	3.95	79
Increase Ante-natal care for pregnant women	434	3.80	76
Increase access to mosquitoes	434	3.80	76
Care for HIV/AIDS Victims	441	3.87	77
Perceived effect of credit facilities	**1574**	**3.45**	
Increase in farm production output	445	3.90	78
More farms for production	425	3.74	75
Timely access to loan for agricultural production	423	3.71	74
Marry more wives	272	2.39	48
Perceived effect of farm input subsidy	**1777**	**3.89**	
Timely access to farm input subsidy	451	3.96	79
Enhance farm productivity	438	3.84	77
Farmers participation in farming	449	3.94	78
Incentive to farmers to produce	439	3.85	77
Perceived effect of vocational skills	**2204**	**3.68**	
Self employment	452	3.96	79
Minimize crime	434	3.81	76
Increased income	434	3.81	76
Improvement in farm productivity	437	3.83	77
Minimize rural-urban drift	447	3.92	78

Field Survey, 2010

Constraints encountered by beneficiaries in accessing YOTASCID activities

Table 5.presents the constraints encountered by beneficiaries in accessing YOTASCID activities. Result shows that majority (48%) of the beneficiaries agreed that there was low credit disbursement; while (32%) of them also believed that few number of social infrastructure were distributed. Yet, (20%) inadequate vocational training centres was among the constraints encountered in accessing activities of YOTASCID. This findings is in line with the observation of Akpabio (2007), who highlighted the problems affecting beneficiaries' participation in NGO's activities in rural communities to include among others: Inadequate credit facilities and poor utilization of credit advances resulting to poor loan repayment levels.

Table 5: Distribution base on the problems encounter by beneficiaries in accessing of YOTASCID activities (n = 114)

Problems	Frequency	Percent
Low credit disbursement	55	48
Low distribution of social infrastructure	36	32
Shortage of vocational training centres	23	20
Total	100	

Field Survey, 2010

CONCLUSION AND RECOMMENDATIONS

From the result of this study, it can be concluded that majority of the respondents of beneficiary communities are predominantly farmers who sourced their credit facilities largely from NGOs other than from government and commercial institutions. Indeed, the study indicated that beneficiary communities were provided with some infrastructural facilities; Zonkwa community was found to benefit more from the infrastructural facilities put in place. YOTASCID's provision of social infrastructure has brought about increased available source of portable water, increased vaccination for children, increased pupil's/students school enrolment, increased farm production output, self-employment and increased income generation in study area; though, there was low timely access to credit for agricultural production.

RECOMMENDATION

For sustainability of YOTASCID and indeed other NGO's activities in these communities and its extension to other Local Government Areas of the state, there is need for governments at all levels, the private sector, international donor, and philanthropic organization to partner with each other and contribute towards the improvement of the living standard of the rural farm families communities and the world all over.

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PERCEIVED RISKS ASSOCIATED WITH MIGRANT FARM WORKER'S LIVELIHOOD ACTIVITIES IN ODEDA LOCAL GOVERNMENT AREA OF OGUN STATE

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ABSTRACT

The study assessed risks associated with migrant farmers' livelihood activities in Odeda Local Government Area, Ogun State, Nigeria. Multi stage sampling technique was used to select 100 respondents for the study. Data was collected with the aid of structured questionnaire and analysed by frequency counts, percentages, mean, Chi square and Pearson Product Moment Correlation. The result revealed that 48.0% of the respondents were in the age group of 21-40 years with the mean age of 36 years, 68.0% of the respondents were male while 32.0% of them were female, 68.0% of them were married, 80.0% of the respondents were Christians, 57.0% of them had no formal education, the mean annual income of the respondents were ₦91,444.44k. The livelihood activities of the respondents were maize production (54.0%), livestock production (15.0%) and trading (18.0%). The respondents' perceived risks associated with their livelihood activities were low/poor agricultural yields (mean=2.70), farm loss (mean=2.62). The constraints faced by the respondents were poor road network for transportation of agricultural produce (mean=2.49), lack of access to credit facilities (mean=2.76). The risk coping strategies used by respondents were borrowing from neighbour (80.8%), doing multiple jobs (77.8%). The results revealed that there is association between educational status (χ^2=-10.919, $p<0.05$), and risks associated with livelihood activities of the respondents. The result also revealed that there is significant relationship between household size ($r=-0.221$, $p<0.05$) and risks associated with livelihood activities of the respondents. The study concluded that there is a relationship between socio-economic status of the respondents and perceived risks associated with their livelihood activities. It was therefore, recommended that development agencies and policy makers should develop grassroots frameworks that will empower the migrant farmers to improve their socio-economic status and livelihood activities.

Keywords: Grassroots development Risks, Dividend of democracy, Livelihood activities, socio-economic status

INTRODUCTION

Nigeria is one of the countries that practices democratic system of government. Nigeria is structured into 36 states and Federal Capital Territory, Six Geo-political zones and 774 Local Government Areas. Most of these states experienced most critical challenges on issues of development. It is also said that many states in Nigeria are rural, and underdeveloped which placed them below in terms of all developmental index and measure thereby becoming the most vulnerable that requires serious attention most especially under current democratic arrangements (Madu *et al,* 2015). Rural development is that aspect of development concerned with an improvement on the living conditions and welfare of the rural populace. Democracy remains the system of government that responds to the yearnings, living conditions and welfare of the citizenry. This indicates that, for democracy to be meaningful, considerable attention must be paid to bringing development especially at rural level. Although, rural sub-sector in Nigeria had witnessed considerable attention in terms of policy pronouncement and commitments by successive government over times. But still marred with numerous challenges and problems that leaves much to be desired in terms of its development such as rural migration, climate change and food insecurity. Also impact of grassroots development and dividend of democracy was not felt in most of the rural communities in Nigeria (Madu *et al,* 2015). Therefore, for dividend of democracy to be felt in rural communities, government at all level, development agencies must use bottom down or participatory approach instead of top-down approach in driving interventions targeted at the rural populace. Nigeria development agencies need to adopt non-hierarchical models in both their internal organization and approach to grassroots development and in solving problems of rural migration, food insecurity, poverty, vulnerability.

Migration is the movement of people, either within a country or across international borders. It includes all kinds of movements, irrespective of the drivers, duration and voluntary/involuntary nature. It encompasses economic migrants, distress migrants, internally displaced persons(IDPs,) refugees and asylum seekers, returnees and people moving for other purposes, including for agriculture, education and family reunification(Food and Agriculture Organization (FAO), 2016).In 2015, there were 244million international migrants, representing an increase of40% since 2000. They included150 million migrant workers. A large share of migrants originates from rural areas**.** In many African countries including Nigeria more than 50% of rural households report having at least one internal migrant (FAO, 2016).

Over the past two to three decades, there have been a rising trend in migration (internal and international), vulnerability and livelihood insecurity in most rural areas in Sub-Saharan Africa and Nigeria is not an exception. Various factors such as the global economic meltdown,

negative effect of access to natural resources and environmental deterioration, climate changes, HIV/AIDS pandemic, population growth, negative effect of trade liberalization, adverse effects of globalization have been adduced to this(Ellis, 2000). Just like most African economies, Nigeria's rural agricultural sector is characterised by small-scale resource-poor farmers and migrant farm workers (Omonona, 2009). Nigeria is an agrarian nation which is endowed with significant resources including human resources, land, oil and other natural resources. However, a significant proportion of the population which are farmers are still vulnerable and others experience extreme poverty (Omonona, 2009).

Agriculture is exposed to several types of risks; apart from ordinary business risks, such as price and demand fluctuations, farmers have to deal with risk factors specific to this branch of the economy (weather conditions, crop and animal diseases.). Authorities and researchers need to consider the problem of risk in agriculture, especially as it seems to be increasing due to observed climate changes (Alcamo *et al*., 2007; Kundzewicz and Kozyra, 2011; Olesen *et al*., 2011). Increasing risk in agriculture can be seen in growing income fluctuations, food insecurity, poverty (EC, 2008; Vrolijk *et al*., 2009; EC, 2011).

Appropriate risk perception can be seen as a prerequisite for choosing an effective risk-coping strategy, because a farmer that is not aware of the risks faced is clearly unable to manage them effectively. This problem was discussed, among others, by Pennings and Leuthold (2000). Farmers' risk perception was studied by several other authors, and most of them concentrated on identifying the risk factors that were seen by farmers as the most important. The farmers quoted various risk factors as being important such as drought (Greiner *et al*., 2008), animal disease, pests, personal safety and health risk (McDonald, 1995), yield risk and price risk for agricultural products (Meuwissen *et al*., 2000; Palinkas and Székely, 2008), institutional risk connected with farm support (Lien *et al*., 2003; Flaten *et al*., 2005), and weather and natural disasters (Palinkas and Székely, 2008). Some authors dealing with the issue of risk perception (Borges and Machado, 2012) focused on finding factors determining differences in the level of risk perception. They concluded that these differences are determined by the socio-economic features of the farmers and the characteristics of their farms.

Based on this aforementioned, it is therefore important to consider how migrant farmers perceive risks. A better understanding of migrant farmers' risk perceptions and how those perceptions influence behaviour is integral to developing sustainable land and natural resource use and effective management policies and programs which are to be supported and implemented at national, state and local levels. In order to achieve the objective of this study, the study specifically determine the socio-economic characteristics of the migrant farmers, perceived ricks associated with their livelihood activities, risks coping strategies used by the respondents and constraints faced by the respondents in agricultural production. This study hypothesized that there is no significant relationship between socio-economic characteristics and perceived risks associated with livelihood activities.

METHODOLOGY

The study was carried out in Odeda Local Government Area (LGA). Odeda LGA is one of the twenty LGA's in Ogun State, Nigeria.Odeda Local Government is largely a rural area where most migrant farm workers reside. It occupies an area of $1{,}658km^2$ with an estimated population of 864,322 according to the 2006 Nigerian census. The economy of the town is base on agriculture, informal services and small scale (cottage) industries. Odeda has a tropical climate with distinct dry and wet seasons characterized by the prevalence of the moist south westerly monsoon winds that results in heavy rainfall spread between March and October.

Sampling procedure and data collection

A multi stage random sampling technique was used to select the respondents for the study.

1st Stage: Random selection of 20% of the 10 wards in Odeda Local Government Area of Ogun State to give 2 wards the selected wards were Odeda and Alabata wards.

2nd Stage: Purposive selection of seven rural communities that were highly dominated and populated with migrant farm workers from each of the selected wards to give fourteen rural communities. The selected rural communities in Alabata ward were Alabata, Fadama, Abule baba soldier, Kemta, Agede, Soremekun and Kofesu while the selected rural communities in Odeda ward were Akeju, Camp, Odeda, Orile, Bagbon, Eweje and Alakija.

3rd Stage: A random selection of 100 respondents from all of the selected rural communities.

Measurement of variables

Constraints faced by the respondents was measured Perceived risks associated with migrant farm workers livelihood activities was measured using four point rating scale formant of Strongly Agree (SA)=4, Agree (A)=3, Strongly and Disagree (D)=2, Disagree (SD)=1. The maximum obtainable score was 40 while the minimum obtainable score was 10. The maximum and minimum obtainable score were added together to a resultant score. The resultant score was divided by 2 to get an average score of 25. Any respondent that scores less than the average score is

categorized as respondent that faced low risks while respondent that scores from the average score and above is categorized as respondents that faced high risks.

Data analysis

Data was collected with the aid of structured questionnaire and analysed using frequency counts, percentages, mean, Chi square and Pearson Product Moment Correlation.

RESULTS AND DISCUSSION

Distribution of socio-economic characteristics of the respondents

The result in Table 1 shows the socio-economic characteristics of the respondents. The result revealed that 48.0% of the respondents were in the age group of 21-40 years, 26.0% were in the age group of 41-60 years with the mean age of 36 years. This implies that majority of the respondents were still young and in their active years. Also, the result revealed that 68.0% of the respondents were male while 32.0% were female. This implies that farm migrants workers tend to be male although an increasing number of women have been migrating also.In considering the marital status of the respondents the result shows that 68.0% were married, 29.0% of were single. This implies that majority of the respondents were matured because marriage is belief to confer responsibility on individuals.

Also, the result in Table 1 shows that 80.0% of the respondents were Christians, 16.0% of them practiced Africa Traditional Religion (ATR) while 4.0% of them were Muslim. This implies that majority of the respondents were Christians. Considering the educational status of the respondents, the result revealed that 57.0% of them had no formal education, 23.0% of them had secondary education while 19.0% of them had primary education. The result of the household size of the respondents revealed that 89.0% of the respondents had a household size between 1-10 persons while 11.0% of them had a household size greater than 10 persons with the mean household size of 6 persons. Also, the finding shows that 69.0% of the migrant farm workers had lived between 1-20 years in the community, 23.0% of them had lived between 21-40 years in the community. Furthermore, finding show that the mean annual income of the respondents was ₦91,444.44k.

Table 1: Distribution of the socio-economic characteristics of the respondents (n=100)

Variables	F (%)	Mean	SD
Age (Years)			
<20	16 (16.0)		
21-40	48 (48.0)		
41-60	26 (26.0)	36	16.811
>60	10 (10.0)		
Sex			
Female	32 (32.0)		
Male	68 (68.0)		
Marital status			
Single	29 (29.0)		
Married	68 (68.0)		
Divorced	2 (2.0)		
Widowed	1 (1.0)		
Religion			
Christianity	80 (80.0)		
Islam	4 (4.0)		
Traditional	16 (16.0)		
Educational status			
No formal education	57 (57.0)		
Primary education	19 (19.0)		
Secondary education	23 (23.0)		
Tertiary education	1 (1.0)		
Household size (persons)			
Less than or equal to 10	89 (89.0)		
11-20	11 (11.0)	6	4.512
Years lived in the community (years)			
Less than or equal to 20	69 (69.0)		
21-40	23 (23.0)	18	14.459
>40	8 (8.0)		
Years of farming (years)			
Less than or equal to 20	77 (77.0)		

Variables	F (%)	Mean	SD
21-40	15 (15.0)	16	14.570
41-60	8 (8.0)		
Annual income (Naira)			
Less than or equal to 50,000	45 (45.0)		
51,000-100,000	44 (44.0)	91, 444	14.570
>100,000	11 (11.0)		

Source: Field survey, 2017

The result in Table 2 revealed the agricultural livelihood activities and estimated average annual income of the respondents. The agricultural livelihood activities of the respondents were group into crop and livestock production. Findings revealed that 54.0% of the respondents produce maize with the estimated average annual income of ₦49,778.00k, 52.0% of the respondents produced cassava with the estimated average annual income of ₦95,096.00k while 43.0% of the respondents produce yam with the estimated average annual income of ₦32,349.00k. Also, the result revealed that 15.0% of the respondents raised birds with the estimated average annual income of ₦79,733.00k while 5.0% of them raised goats with average estimated annual income of ₦74,000.00k. In rural communities human-environment interactions have led to diversification of livelihood strategies in order to develop sustainably or to mitigate the effects of shocks and stresses (sallu etal., 2010). Such diversification, especially in sub-Saharan Africa, involves both agricultural and non-agricultural activities including (Twyman, 2003; Sporton and Thomas (2002); Sallu, etal 2009). With such diverse socioeconomic activities, which depend largely on the natural resources, shocks and stresses to the system can cause great distress to ecological, social, and economic conditions (sallu etal., 2010). This implies that majority of migrant farmers diversified their productive activities to encompass a range of other productive areas only very few of them collect all their income from only one source, hold all their wealth in the form of any single asset, or use their resources in just one activity. This agrees with Elis (2000) who posited that rural households are forced to develop strategies to cope with increasing vulnerability associated with agricultural production through diversification, intensification and migration or moving out of farming.

Table 2: Distribution of agricultural livelihoods activities and estimated average annual income of the respondents (n=100)

S/N	Statements	*F (%)	Estimated average annual income (₦:k)
A	**Crop production**		
1	Maize	54 (54.0)	49778.00
2	Cassava	52 (52.0)	95096.00
3	Yam	43 (43.0)	32349.00
B	**Livestock production**		
1	Birds	15 (15.0)	79733.00
2	Goat	5 (5.0)	74000.00

Source: field survey, 2017. F= Frequency, %=Percentage, * =Multiple responses

The result in Table 3 revealed the non-agricultural livelihood activities and estimated average annual income of the respondents. The results shows that 18.0% of the respondents were traders with the estimated average annual income of ₦43,611.00k, 5.0% of them were hair dressers with the estimated average income of ₦18,600.00k, 2.0% of them were carpenters with estimated average annual income of ₦17,500.00k, 7.0% of them were fashion designer with the estimated average annual income of ₦15,857.00k, 3.0% of them were barbers with an average estimated annual income of ₦12,666.00k and 22.0% of them were farm labourers with an average estimated annual income of ₦40,000.00k. This implies that the respondents diversify into non-agricultural livelihood activities owing to the fact that a diversified livelihood, which is an important feature of rural survival and closely allied to flexibility, resilience and stability is less vulnerable than an undiversified one, this is due to the likelihood of it being more sustainable over time and its ability to adapt to changing circumstances. This corroborate the findings Ruben and van den Berg (2001); De Janvry and Sadoulet, (2001); Haggblade et al., (2007) who reported a substantial and increasing share of off-farm income in total household income while Matsumoto et al., (2006) posited that reasons for this observed income diversification include declining farm incomes and the desire to insure against agricultural production and market risks.

Table 3: Distribution of non-agricultural livelihood activities and estimated average annual income of the respondents (n=100)

S/N	Statements	*F (%)	Estimated average annual income (₦:k)
1	Trading	18 (18.0)	43,611.00
2	Hair dressing	5 (5.0)	18,600.00
3	Carpentry	2 (2.0)	17,500.00
4	Fashion designer	7 (7.0)	15,857.00
5	Barbing	3 (3.0)	12,666.00
6	Farm labourer	22 (22.0)	40,000.00

Source: field survey, 2017. F= Frequency, %=Percentage, * =Multiple responses

The result in Table 4 shows the constraints faced by the respondents in agricultural production. The constraints faced by the respondents in agricultural production were ranked according to the mean as follows: poor road network for transportation of agricultural produce (mean=2.49), lack of access to credit facilities (mean=2.76), lack of access to farm land for cultivation (mean=2.63), lack of input supply (mean=2.20) and high operating cost of production (mean= 2.22). This means that these constraints faced by the respondents may posed an adverse effect on the livelihood outcomes of the respondents. This agrees Nawrotzki et.al. (2012) who posited that provision of social amenities and credit facilities may be the basis for new livelihood-strategies that improves the livelihood activities.

Table 4: Distribution of constraints faced by the respondents in agricultural production (n=100)

S/N	Statements	Serious F (%)	Less serious F (%)	Not serious F (%)	Mean	Rank
1	Lack of access to credit facilities	82 (82.8)	10 (10.1)	7 (7.1)	2.76	1st
2	Lack of access to land for cultivation	69 (69.7)	23 (23.2)	7 (7.1)	2.63	2nd
3	Poor road network for transportation of agricultural produce	58 (58.6)	32 (32.3)	9 (9.1)	2.49	3rd
4	High operating cost of production	29 (29.3)	63 (63.6)	7 (7.1)	2.22	4th
5	Lack of input supply	29 (29.3)	61 (61.6)	9 (9.1)	2.20	5th
6	Unavailability of labour	29 (29.3)	57 (57.6)	13 (13.1)	2.16	6th
7	Poor patronage	22 (22.2)	63 (63.6)	14 (14.1)	2.08	7th

Source: field survey, 2017. F= Frequency, %=Percentage

The result in Table 5 revealed the perceived risks associated with the respondents' livelihood activities. The respondents' perceived risks associated with their livelihood activities were ranked according to the mean as follows: increase in social needs (mean=4.07),Low/poor agricultural yields (mean=2.70), farm loss (mean=2.62), inability to meet up with the household needs (mean=2.55) and increment/accumulation of debts (mean=2.55). According to this study, risk perception is conceptualized as the perceived likelihood of negative consequences to oneself, household, or community from a specific threat or risk. Understanding what people perceive as the biggest risk to their livelihood also holds great value. It is the totality of livelihood assets that drives overall livelihood outcomes, but human perception of risks to their livelihoods has been underexplored and yet influences individual and community decision-making, as well as government policy.

This implies that the perceived risks associated with the respondents livelihood activities may has an adverse effect on the livelihood outcomes and sustenance of the respondents such as loss of crop and livestock and reduction in household income. People's perception of risk varies across individuals, households, and communities (Smith etal., 2000). Residents in the same environmental conditions could perceive livelihood risks differently as one's livelihood is not built on a single variable such as economic condition but also includes cultural, social, political, and environmental variables. For example, Quinn *et al.(2003)* noted that within the same environmental conditions, household structure, weather and irrigation problems were perceived as more risky to the livelihoods of farmers in cultivation than pastoralists.

Table 4: Distribution of perceived risks associated with respondents livelihood activities (n=100)

Statements	SA F (%)	A F (%)	U F (%)	D F (%)	SD F (%)	Mean	Rank
Increase in social needs	58 (58.6)	19 (19.2)	5 (5.1)	5 (5.1)	12 (12.1)	4.07	1st
Low/poor agricultural yields	15 (15.2)	12 (12.1)	4 (4.0)	64 (64.0)	4 (4.0)	2.70	2nd
Farm loss	14 (14.1)	12 (12.1)	4 (4.0)	60 (60.6)	9 (9.1)	2.62	3rd
Inability to meet up with the household needs	10 (10.1)	13 (13.1)	7 (7.1)	62 (62.6)	7 (7.1)	2.57	4th
Increment and accumulation of debts	10 (10.1)	13 (13.1)	7 (7.1)	60 (60.6)	9 (9.1)	2.55	5th
Unable to do any tasks	8 (8.1)	9 (9.1)	13 (13.1)	62 (62.6)	7 (7.1)	2.48	6th
Loss of productive assets of household	9 (9.1)	16 (16.2)	9 (9.1)	9 (9.1)	56 (56.6)	2.12	7th
Reduction in household income	12 (12.1)	11 (11.1)	9 (9.1)	12 (12.1)	55 (55.6)	2.12	7th
Lack of employment	9 (9.1)	19 (19.2)	3 (3.0)	10 (10.10	58 (58.6)	2.10	9th
Serious loss of crop and livestock	8 (8.1)	13 (13.0)	7 (7.1)	14 (14.1)	57 (57.6)	2.00	10th

Source: field survey, 2017. F= Frequency, %=Percentage. SA=strongly agree, A=agree, U=undecided, D=disagree, SD= strongly disagree

The result in Table 5 shows the categorization of respondents on perceived risks associated with livelihood activities. The result shows that 69.0% of the respondents experienced low risks associated with their livelihood activities while 31.0% of them experienced high risks associated with their livelihood activities. This implies that the perception on risks associated with their livelihood activities may has an adverse effect on the livelihood outcomes and sustenance of the respondents such as loss of crop and livestock and reduction in household income. People's perception of risk varies across individuals, households, and communities (Smith etal., 2000)

Table 5: Categorization of respondents' on perceived risks associated with livelihood activities

Categorization of respondents perception on risks associated with livelihood activities	Score range	Frequency	Percentage
High risks	30-50	31	31.0
Low risks	10-29	69	69.0

Source: Field survey, (2017)

The result in Table 6 revealed the risk coping strategies used by respondents. The risk coping strategies used by respondents were borrowing from neighbour (80.8%), doing multiple jobs (77.8%), sending children to work (47.8%), selling of assets (39.4%) and borrowing from banks (19.2%). This finding revealed that people learn actively from the experiences of others around them and adjust their risk assessment quickly. This agrees with Alessa and Kliskey, (2008); Berkes, and Jolly (2001) who posited that perceptions influence people's decisions both in deciding to act or not and what adaptive measures are taken over the short and long term.

Table 6: Distribution of risk coping strategies used by respondents (n=100)

S/N	Statements	*F (%)
1	Selling of assets	39 (39.4)
2	Borrowing from neighbour	80 (80.8)
3	Sending children to work	47 (47.8)
4	Borrowing from banks	19 (19.2)
5	Doing multiple jobs	77 (77.8)
6	Engaging in hygienic and disease preventing activities	94 (94.9)

Source: Field survey, 2017. F= Frequency, %=Percentage, * =Multiple responses

Test of hypothesis

Ho1: there is no significant association between socio-economic characteristics and risks associated with livelihood activities of the respondents. (Test of hypothesis using Chi-Square).The result in Table 7 shows the test of association between socio-economic characteristics of the respondents and risks associated with their livelihood activities. The result revealed that there is significant association between educational status (χ^2=10.919, p<0.05); nationality (χ^2=13.652, p<0.05) and risks associated with the livelihood activities of the respondents. This implies that there is significant association between educational status; nationality and risks associated with the livelihood activities of the respondents.

Table 7: Test of association between socio-economic characteristics of the respondents and risks associated with the livelihood activities of the respondents..

Items	χ^2	df	p-value	Decision
Sex	0.063	1	0.802	NS
Marital status	6.507	3	0.089	NS
Religion	0.334	2	0.846	NS
Educational status	10.919	4	0.027	S
Nationality	13.652	1	0.008	S

Source: Field Survey 2017

Decision criteria: reject null hypothesis if p<0.05, accept null hypothesis if p<0.05
df=degree of freedom. NS=Not significant, S= Significant

$H_0$1: There is no significant relationship between socio-economic characteristics and risks associated with livelihood activities of the respondents. (Test of hypothesis using Pearson's Product Moment Correlation). The result in Table 8 revealed that there is significant relationship between household size (r=-0.221, p<0.05) and risks associated with livelihood activities of the respondents. This implies that there is an inverse relationship between household size and the risks associated with the livelihood activities of the respondents.

Table 8: Test of relationship between socio-economic characteristics and risks associated with the livelihood activities of the respondents

Items	R	p-value	Decision
Age	-0.094	0.352	NS
Household size	-0.221	0.031	S
Income	0.114	0.250	NS
Years in the community	-0.100	0.327	NS
Farming experience	-0.005	0.965	NS

Source: Field Survey 2017

Decision criteria: reject null hypothesis if p<0.05, accept null hypothesis if p<0.05, r= correlation value. NS=Not significant, S= Significant

CONCLUSION AND RECOMMENDATIONS

Agriculture is exposed to several types of risks; apart from ordinary business risks, such as price and demand fluctuations, farmers have to deal with risk factors specific to this branch of the economy. Appropriate risk perception can be seen as a prerequisite for choosing an effective risk-coping strategy, because a farmer that is not aware of the risks faced is clearly unable to manage them effectively. The study concluded that perceived risks associated with migrantfarmers' livelihood activities were increase in social needs, low/poor agricultural yields, farm loss, and inability to meet up with the household needs. And also there is a relationship between socio-economic status of the respondents and perceived risks associated with their livelihood activities. It was therefore, recommended that development agencies and policy makers should develop grassroots frameworks that will empower the migrant farmers to improve their socio-economic status and livelihood activities.

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PERCEPTION ON FEDERAL GOVERNMENT OF NIGERIA WHISTLE BLOWING POLICY ON THE IMPLEMENTATION OF TECHNICAL AND VOCATIONAL EDUCATION AND TRAINING PROGRAMMES IN TERTIARY INSTITUTIONS IN RIVERS STATE, NIGERIA

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ABSTRACT

The study investigated the perception on Federal Government of Nigeria (FGN) whistle blowing policy on implementation of Technical and Vocational Education and Training Programmes in tertiary institutions in Rivers State. A descriptive survey design guided the study. The population of the study comprised 42 Technical and Vocational Education and Training lecturers of Rivers State University and Ignatius Ajuru University of Education. Three research questions were answered. The instrument of the study was a survey questionnaire that was partitioned into three sections, structured in the pattern of 5 point Likert rating scale of agreement. The reliability coefficient of the rating scale was 0.83. Percentage, Mean and Standard Deviation were used to answer the research questions, while t-test statistical tool was used to test the hypotheses at 0.05 level of significance. The study found the current status of Technical and Vocational Education and Training to include: poor funding, inadequate learning facilities, lack of in-service training for teachers, discrimination of TVET degree and exodus of teachers. The current situation was as a result of embezzlement, corruption, mismanagement of fund, theft and bribery, among others. More so, with the introduction of whistle blowing policy, there will be reduction of impunity and embezzlement of funds, hence, more money will be made available for the provision of adequate facilities, in-service training of teachers, training allowance, and many more. The study also found that there was no significant difference in the mean responses of respondents on the perception of Federal Government of Nigeria whistle blowing policy on implementation of TVET in tertiary institutions in Rivers State, Nigeria. Therefore, it was recommended that there should be adequate awareness on Federal Government of Nigeria whistle blowing policy and that Technical and Vocational Education and Training students and lecturers should report every corrupt practice in the school in order to mitigate corruption.

Keyword: Education, Implementation, Technical, Training, Vocation& Whistle-blowing

INTRODUCTION

In the pre-colonial era, there was a common practice of transferring skill from one generation to another through a non-formal educational system, known as “apprenticeship”. Through this practice, it was possible for people of the world to preserve skills that were necessary for development. Due to the non-formal nature of apprenticeship training, and considering the fact that the World was becoming global, there was need for relevant skills to be harnessed, refined and transferred through a more organized instruction delivery, thus, a special type of education known as “Technical and Vocational Education and Training”(TVET) was introduced into the school curriculum to cater for this purpose. According to Anaele, Adelakun, Dem-Isaiah and Barfa (2014), TVETis a type of education that provides trainees with relevant skills, knowledge and attitudes that is necessary for employment. Also, United Nations Educational, Scientific and Cultural Organization (UNESCO) in Nwachukwu (2014) described TVET as a comprehensive term referring to those aspects of the educational process including, in addition to general education, the study of technologies and related sciences, and the acquisition of practical skills, attitudes, understanding and knowledge relating to occupations in various sectors of economic and social life. In this context, TVET could be described as that type of education that is systematically organized to train individuals to be practically oriented for paid or self-employment.

TVET programme comprises very relevant courses like electrical, mechanical, woodwork, automobile, building and other vocational courses like home economics, entrepreneurship and even agricultural science that is fast becoming a very important sector in Nigeria, owing to the fact that oil that was hitherto considered as the hub of Nigeria’s economy, is becoming irrelevant. Through TVET programme, agriculturists are trained for them to be able to train future agriculturist that will help in developing the grassroots. Hence, with a well implemented TVET programme, Nigeria could solve some of its agricultural challenges.

However, like every other type of education, TVET has being over the years constrained by several factors that affects its full implementation. According to Okoli, Wejinya, Agam and Asufi (2016), education suffers neglect at the post independence era because of in-adequate funding, but that of TVET has been worse.Okoli *et.al* (2016) further stated that the inadequate funding is based on the fact that the political class played ethnic and party politics and diverted funds meant for education to party and personal accounts stacked away in foreign banks. In line with this, Nwachukwu (2014) lamented that TVET programmes arenot properly funded and this has resulted to;inadequate infrastructure, societal neglect of skills training, inappropriate training of TVETteachers and limited institutional and personnel capacity.Consequently,these factors have been noted to have affected the competence of

TVET graduates.Abariko and Olabiyi(2015) opined that majority of craftsmen and graduates of TVET are not competent in handling skilled jobs in industries. Also,Nnodim and Johnwest (2016) found that inadequate funding of TVET has affected not only learners, but teachers as management lack the vocational skills to impact to the learners. All these are easily linked to corruption.

PricewaterhouseCoopers (2016) described corruption as a spectrum of illegal payments and transactions such as bribes, embezzlement and money laundering among others. In Nigeria today, there is a public perception of corruption as a destructive agent that has crippled the economy of the country and has also affected the transparent operation of some sectors. This is not only found among the elites and those in leadership positions, but it is also found among the medium and lower class workers. Corruption is the cankerworm that has destroyed the fabrics of our educational policy resulting to infrastructural decay and wrongful appropriation of fund meant for educational development in all its ramifications.

Meanwhile, with stark realities of the destructive tendencies of corruption in all aspects of the nation's life starring on our faces, coupled with the recessed economy, the present government in a bid to expose corrupt practices recently introduced the "whistle blowing policy". Ralph Nader coined the phrase in the early 1970'sto avoid the negative connotations found in other words such as "informers'' and "snitches" (Nader, Petkas & Blackwell in Taiwo, 2015). The term "whistle blowing" is described as a deliberate and obligatory act of disclosure, which gets on public records and is made by a person who has privileged access to information of an organization about the illegality, fraudulent practices or other wrongdoing of a person or organization to an external entity having power to rectify the wrongdoing (Jubb, 1999). Also, Rehg, Miceli, Near and Van Scotter (2008)described whistle blowing as an act of disclosure by members of an organization of illegal and immoral acts perpetrated by the organization and organization members to persons or organizations that may bring about a change.

According to Federal Government of Nigeria (2016), the information to be exposed through the whistle blowing policy include among others; Mismanagement or misappropriation of public funds and assets (e.g. properties and vehicles). Also, information on stolen public funds, concealed public funds, financial malpractice or fraud, theft, collecting or soliciting bribes, diversion of revenues, underreporting of revenues, conversion of funds for personal use, fraudulent and unapproved payments and splitting of contracts will be exposed.

Onakoya and Moses (2016) asserted that whistle blowing policy as an anti-corruption tool could be beneficial to Nigeria and Nigerians by ensuring efficient allocation of resources, preservation of national wealth and improved well-being. The underlying principle is: "see something say something" and an expectation that with this policy, fraudulent practices that have led to under-development of the country in all aspects could be mitigated. It is against this backdrop that this study which intends to ascertain how the FGN whistle blowing policy could enhance the implementation of TVET in tertiary institutions in Rivers State was developed.

This study investigated the perception on FGN whistle-blowing policy on implementation of Technical and Vocational Education and Training programmes in tertiary institutions in Rivers State. Specifically, this study sought to:

1. ascertain the current status of Technical and Vocational Education and Training programme in tertiary institutions in Rivers State.
2. ascertain the possible causes of current situation in Technical and Vocational Education and Training programme in tertiary institutions in Rivers State.
3. examine the role of FGN whistle blowing policy on TVET implementation.

Research questions

1. What is the current status of Technical and Vocational Education and Training programme in tertiary institutions in Rivers State?
2. What are the possible causes of current situation in Technical and Vocational Education and Training programme in tertiary institutions in Rivers State?
3. What is the role of FGN whistle blowing policy on TVET implementation?

Hypotheses

The following null hypotheses were tested at 0.05 level of significance for two tailed test.

1. There is no significant difference in the mean responses of Technical and Vocational Education and Training lecturers in Rivers State University and Ignatius Ajuru University of Education on the current status of Technical and Vocational Education and Training programme in tertiary institutions in Rivers State.
2. There is no significant difference in the mean responses of Technical and Vocational Education and Training lecturers in Rivers State University and Ignatius Ajuru University of Education on the possible causes of current situation in Technical and Vocational Education and

Training programme in tertiary institutions in Rivers State

3. There is no significant difference in the mean responses of Technical and Vocational Education and Training lecturers in Rivers State University and Ignatius Ajuru University of Education on the role of FGNwhistle blowing policy on TVET implementation

METHODOLOGY

Descriptive survey design was used for the study. The area of the study was Rivers State, which is a state in Southern part of Nigeria with threetertiary institutions (two universities and one college of education) offering TVET programmes. The population of the study comprised 42TVET lecturers, which comprised 16 Rivers State University, Port-Harcourt lecturers and 26 Ignatius Ajuru University of Education lecturers.It was a census as the entire population were studied. Structured survey questionnaire titled "Perception of Federal Government of Nigeria Whistle-blowing Policy onImplementation of TVET" (PFGNWPTVET) served as the instrument for data collection. The instrument was partitioned into three sections (A, B & C) that were structured in the pattern of Likert 5 point rating scale of agreement. The face validity of the instrument was ascertained by two experts. More so, the instrument was subjected to test of reliability using Cronbach Alpha reliability Coefficient method. The reliability coefficients established was 0.82. Copies of the instrument were administered and retrieved by the researchers at the spot. Percentage, Mean and Standard Deviation were used to answer the research questions while t-test statistical tool was used to test the hypotheses. Percentage <50% was rejected while percentage ≥50% was accepted. More so, mean scores <3.00 were rejectedwhile mean scores ≥3.00 were accepted.

RESULTS AND DISCUSSIONS

Table 1 showed responses on current status of TVET in tertiary institutions. The percentage and Grand Mean responses of RSU Lecturers showed that the following are current status of TVET in tertiary institutions: poor funding (75.0% &3.83), inadequate learning facilities(81.2% &4.27), lack of in-service training for TVET teachers (93.8% &4.21), inadequate TVET teachers (68.8% & 3.93), discrimination of TVET degree (68.8% &3.93), lack of training allowance for TVET teachers (93.8% &4.32), ill-equipped workshops for practical (68.8% &3.85), low enrolment due to lack of confidence in TVET programmes (100% &4.35), exodus of TVET teachers for lucrative ventures (62.6% 4.13), TVET teachers not promoted as at when due (93.8% 4.26) and TVET teachers salary not commensurate when compared to other careers (81.3% & 4.11). Also, the responses of IAUE Lecturers showed that the following are current status of TVET in tertiary institutions: poor funding (69.2% & 3.83), inadequate learning facilities (80.7% & 4.27), lack of in-service training for TVET teachers (73.1% & 4.21), inadequate TVET teachers (80.8% & 3.93), discrimination of TVET degree (77.0% & 3.93), lack of training allowance for TVET teachers (73.0% & 4.32), to ill-equipped workshops for practical (69.2% & 3.85), low enrolment due to lack of confidence in TVET programmes (76.9% & 4.35), exodus of TVET teachers for lucrative ventures (84.6% 4.13), TVET teachers not promoted as at when due (73.1% 4.26) and TVET teachers salary not commensurate when compared to other careers (84.6% & 4.11). Furthermore, the t-cal for each of the variables was < the t-crit of 2.02. Therefore, all the variables were accepted, which means that there was no significant difference in the mean responses of RSU and IAEU Lecturers on the current status of TVET in tertiary institutions in Rivers State for all the items.This present work is in conformity with Nwachukwu (2014) which lamented that TVET programme is not properly funded and this has resulted in: inadequate infrastructure, societal neglect of skills training, inappropriate training of TVET teachers, limited institutional and personnel capacity. Consequently, these factors militating against TVET have been noted to have affected the competence of TVET graduates

Table 1: Respondent's opinion and result of hypothesis on current status of TVET in tertiary institutions, RSU Lecturers (n=16) IAUE Lecturers (n=26) DF=40

Current status of TVET	M_1	SD_1	% of A	M_2	SD_2	% of A	GM	t-cal	t-crit	RMK
Poor funding	3.81	1.32	75.0	3.85	1.32	69.2	3.83	.10	2.02	NS
Inadequate learning facilities	4.38	.81	81.2	4.15	1.16	80.7	4.27	.76	2.02	NS
Lack of in-service training for TVET teachers	4.50	1.03	93.8	3.92	.93	73.1	4.21	1.84	2.02	NS
Inadequate TVET teachers	3.81	.98	68.8	4.04	1.11	80.8	3.93	.70	2.02	NS

Current status of TVET	M_1	SD_1	% of A	M_2	SD_2	% of A	GM	t-cal	t-crit	RMK
Discrimination of TVET degree	3.94	1.24	68.8	3.92	1.26	77.0	3.93	.05	2.02	NS
Lack of training allowance for TVET teachers	4.63	.81	93.8	4.00	1.30	73.0	4.32	1.93	2.02	NS
Ill-equipped workshops for practical	3.81	.98	68.8	3.88	.95	69.2	3.85	.23	2.02	NS
Low enrolment due to lack of confidence in TVET programmes	4.50	.52	100	4.19	1.13	76.9	4.35	1.21	2.02	NS
Exodus of TVET teachers for lucrative ventures	3.80	1.39	62.6	4.46	.76	84.6	4.13	1.75	2.02	NS
TVET teachers not promoted as at when due	4.13	.50	93.8	4.38	1.06	73.1	4.26	1.03	2.02	NS
TVET teachers salary not commensurate with other professions	4.06	1.12	81.3	4.15	1.35	84.6	4.11	.23	2.02	NS

Source: Field Survey, 2017.Mean score < 3.00, rejected, otherwise, accepted.

A- Acceptance, GM- Grand Mean, RMK (Remark), NS- Not Significant, S- Significant

Table 2 showed responses on the possible causes of current situation in TVET in tertiary institutions. The percentage and Grand Mean responses of RSU Lecturers showed that the following are possible causes of current situation in TVET in tertiary institutions: embezzlement and fraudulent act (62.5% & 3.75), corruption (68.8% &3.54), mismanagement of fund (56.2% &3.66), diversion of budgeted fund for TVET projects (62.6% &3.79), misappropriation of fund (62.5%& 3.81), theft (93.7% & 4.14), bribery (93.7% &3.94), under-reporting of revenue slated for projects (62.6% &3.85), splitting of contracts (81.2% 4.22), poor supervision of TVET projects (75.0% 3.97), lack of awareness on the exposure of corrupt practices (87.6% 4.06), insufficient fund for TVET schools as a result of embezzlement (75.0% 3.84), impunity on the side of contractors and administrators (81.2% & 3.71), lack of mechanism for exposure of fraudulent act (81.3% & 3.95) and deliberate delay of contract execution to attract upward variations (62.6% & 3.65). Also, the responses of IAUE Lecturers showed that the following are possible causes of current situation in TVET in tertiary institutions: embezzlement and fraudulent act (68.0% & 3.75), corruption (65.4% &3.54), mismanagement of fund (77.0% &3.66), diversion of budgeted fund TVET projects (69.3% &3.79), misappropriation of fund (61.5% & 3.81), theft (76.9% &4.14), bribery (69.3% &3.94), under-reporting of revenue slated for projects (65.4% &3.85), splitting of contracts (80.8% 4.22), poor supervision of TVET projects (61.8% 3.97), lack of awareness on the exposure of corrupt practices (76.9%4.06), insufficient fund for TVET schools as a result of embezzlement (69.3% 3.84), impunity on the side of contractors and administrators (69.2% & 3.71), lack of mechanism for exposure of fraudulent act (69.2% & 3.95) and deliberate delay of contract execution to attract upward variation (61.6% & 3.65). Furthermore, the t-cal for each of the variables was < the t-crit of 2.02. Therefore, all the variables were considered accepted, which means that there was no significant difference in the mean responses of RSU and IAEU Lecturers on the possible causes of current situation in TVET in tertiary institutions in Rivers State. This is in line with Okoli *et al* (2016) which stated that the inadequate funding of TVET is based on the fact that the political class played ethnic and party politics and diverted funds meant for education to party and personal accounts stacked away in foreign banks.

Table 2: Respondent's opinion and result of hypothesis on possible causes of current situation in TVET programme in tertiary institutions. RSU Lecturers (n=16) IAUE Lecturers (n=26) DF=40

Causes of current situation in TVET	M_1	SD_1	% of A	M_2	SD_2	% of A	GM	t-cal	t-crit	RMK
Embezzlement and fraudulent act	3.69	1.35	62.5	3.80	1.38	68.0	3.75	.25	2.02	NS
Corruption	3.69	1.25	68.8	3.38	1.47	65.4	3.54	.45	2.02	NS
Mismanagement of	3.31	1.54	56.2	4.00	.94	77.0	3.66	1.62	2.02	NS

Causes of current situation in TVET	M_1	SD_1	% of A	M_2	SD_2	% of A	GM	t-cal	t-crit	RMK
fund										
Diversion of budgeted fund for TVET	3.88	1.20	62.6	3.69	1.23	69.3	3.79	.49	2.02	NS
Misappropriation of fund	3.88	1.09	62.5	3.73	1.40	61.5	3.81	.39	2.02	NS
Theft	4.31	.60	93.7	3.96	.87	76.9	4.14	1.54	2.02	NS
Bribery	4.25	.58	93.7	3.62	1.53	69.3	3.94	1.89	2.02	NS
Under-reporting of revenue slated for projects	3.88	1.20	62.6	3.81	1.33	65.4	3.85	.18	2.02	NS
Splitting of contracts	4.31	.79	81.2	4.12	1.14	80.8	4.22	.30	2.02	NS
Poor supervision of TVET projects	4.25	1.34	75.0	3.69	1.38	61.8	3.97	1.30	2.02	NS
Lack of awareness on the exposure of corrupt practices	3.81	1.17	87.6	4.30	1.00	76.9	4.06	1.39	2.02	NS
Insufficient fund for TVET schools as a result of embezzlement	4.06	.77	75.0	3.62	1.53	69.3	3.84	1.23	2.02	NS
Impunity on the side of contractors and administrators	3.69	1.40	81.2	3.73	1.04	69.2	3.71	.10	2.02	NS
Lack of mechanism for exposure of fraudulent act	4.13	.88	81.3	3.77	.91	69.2	3.95	1.27	2.02	NS
Deliberate delay of contract execution to attract upward variations	3.80	1.39	62.6	3.50	1.30	61.6	3.65	.70	2.02	NS

Source: Field Survey, 2017.Mean score < 3.00, rejected, otherwise, accepted.
A- Acceptance, GM- Grand Mean, RMK (Remark), NS- Not Significant, S- Significant.

Table 3 showed responses on the role of FGN whistle blowing policy on TVET implementation. The percentage and Grand Mean responses of RSU Lecturers showed that the following are possible solutions to the current situation using FGN whistle blowing policy: more money for project within TVET schools (75.0% & 3.90), exposure of corrupt practices (81.2% &3.82), adherence to contract agreement (81.2% &3.86), reduction of impunity and embezzlement of funds (81.3% &3.75), proper checks on project execution in TVET schools (68.8% & 3.96), stoppage of fund diversion (87.5% &4.10), prudent management of funds(87.5% &3.92), more money for the provision of adequate facilities (81.3% &3.88), in-service training for teachers due to the stoppage of fund diversion (81.3% 3.73) and provision of training allowance for TVET teachers due to the elimination of fraudulent practices (68.8% 3.87). Also, the responses of IAUE Lecturers showed that the following are possible solutions to the current situation using FGN whistle blowing policy: more money for project within TVET schools (69.3% & 3.90), exposure of corrupt practices (65.4% & 3.82), adherence to contract agreement (65.4% & 3.86), reduction of impunity and embezzlement of funds (61.6% & 3.75), proper checks on project execution in TVET schools (72.0% & 3.96), stoppage of fund diversion (69.3% & 4.10), prudent management of funds (57.7% & 3.92), more money for the provision of adequate facilities (69.2% & 3.88), in-service training for teachers due to the stoppage of fund diversion (57.7% 3.73) and provision of training allowance for TVET teachers due to the elimination of fraudulent practices (76.9% 3.87). Furthermore, the t-cal for each of the variables was < the t-crit of 2.02, except for item 6. Therefore, all the variables were considered accepted, which means that there was no significant difference in the mean responses of RSU and IAEU Lecturers on the possible solutions to the current situation using whistle blowing policy, except for item 6. This study is in consonance with Federal Government of Nigeria (2016), which opined that the information to be exposed through the whistle blowing policy include among others: Mismanagement or misappropriation of public funds and assets (e.g. properties and vehicles), information on stolen public funds, information on concealed public funds, financial malpractice or fraud, theft, collecting / soliciting bribes, corruption, diversion

of revenues, underreporting of revenues, conversion of funds for personal use, fraudulent and unapproved payments and splitting of contracts. Also, the study is in agreement with Onakoya and Moses (2016) that Nigeria as a country stands to benefit from FGN whistle-blowing as an anti-corruption tool through efficient allocation of resources, preservation of national wealth, and improved well-being of the citizenry.

Table 3: respondent's opinion and result of hypothesis on the role of FGN whistle blowing policy on TVET implementation. RSU Lecturers (n=16) IAUE Lecturers (n=26)

Variables	M	SD	% of A	M	SD	% of A	GM	t-cal	t-crit	RMK
More money for project within TVET schools	3.88	1.36	75.0	3.92	1.09	69.3	3.90	.10	2.02	NS
Exposure of corrupt practices	4.06	1.29	81.2	3.58	1.39	65.4	3.82	1.14	2.02	NS
Adherence to contract agreement	4.06	.85	81.2	3.65	1.50	65.4	3.86	1.13	2.02	NS
Reduction of impunity and embezzlement of funds	4.00	1.26	81.3	3.50	1.30	61.6	3.75	1.23	2.02	NS
Proper checks on project execution in TVET schools	4.19	.91	68.8	3.73	1.00	72.0	3.96	1.53	2.02	NS
Stoppage of fund and facilities diversion	4.38	.72	87.5	3.81	.94	69.3	4.10	2.21	2.02	S
Prudent management of funds	4.25	1.00	87.5	3.58	1.53	57.7	3.92	1.72	2.02	NS
More money for the provision of adequate facilities	4.06	1.18	81.3	3.69	1.19	69.2	3.88	.98	2.02	NS
In- service training for teachers due to the stoppage of fund diversion	3.88	1.36	81.3	3.58	1.45	57.7	3.73	.68	2.02	NS
Provisions for training allowance due to elimination of fraudulent practices	3.88	1.31	68.8	3.85	.97	76.9	3.87	.08	2.02	NS

Source: Field Survey, 2017.Mean score < 3.00, rejected, otherwise, accepted.

A- Acceptance, GM- Grand Mean, RMK (Remark), NS- Not Significant, S- Significant

CONCLUSION

The study concluded that poor funding, inadequate learning facilities, lack of in-service training for TVET teachers, inadequate TVET teachers are some of the current status of TVET programme in Rivers State, Nigeria. These factors have resulted in the production of ill-equipped TVET graduates, low enrolment of students and negative perception of TVET programmes. However, it was deduced that the militating factors are due to corruption which ranges from diversion of fund, mismanagement of fund, embezzlement, theft, bribery, impunity in the side of contractors, lack of mechanism for exposure of fraudulent act and the likes. Furthermore, the study concluded that, with the introduction of whistle blowing policy, corrupt practices within TVET will be exposed, contractors handling projects in TVET schools will adhere strictly to the terms of agreement, fund allotted for TVET will not be diverted, impunity and embezzlement of funds will be reduced and there will be proper checks on projects execution in TVET schools. Based on this, more money will be made available for: project execution in TVET schools, provision of adequate facilities, in-service training of TVET teacher and many more. Therefore, adequate number of agriculturists will be trained for grass root development.

RECOMMENDATIONS

The following recommendations were made in this study:

1. There should be adequate fund allotted for TVET programme to enable it fulfil its aims and objectives that is centred on training individuals that will help in developing the country.

2. The FGN whistle-blowing policy should be sustained and proper awareness should be made to educate the populace on how to report every corrupt practice.
3. Technical and Vocational Education and Training students and lecturers should report every corrupt practice in the school in order to mitigate corruption.

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PERCEPTIONAL ANALYSIS OF RISK-CAUSING FACTORS ON FARMERS' ADOPTION BEHAVIOUR TOWARDS SUSTAINABLE FOOD CROP PRODUCTION TECHNOLOGIES IN NIGERIA

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ABSTRACT

The study ascertained the perceived risk-causing factors that affect adoption behaviour of crop farmers towards production technologies. The study was carried out in Delta State of Nigeria. With the aid of an interview schedule, 120 food crop farmers were multistage-randomly sampled. The study identified risk-causing factors as production risk, price or market risk, financial and credit risk, institutional risk, technology and personal risks. The farmers have high adoptive behaviour for improved land preparation, planting technologies; mechanical pests control mechanisms and use of organic fertiliser as well as improved farm practices. While low adoptive behaviour was exhibited for chemical pests control device, use of inorganic fertiliser as well as towards harvesting and storage technologies. Further result of the study (mean = 3.61) showed that the farmers perceived some risk-causing factors as having high and significant effects on their adoption behaviour towards production technologies. Most of identified or selected socio-economic characteristics of the farmers were also found to have significant association with the level of risk-causing factors faced by the farmers at significant level of 5 % ($P<0.05$) while there was a significant relationship (-0.364, $p<0.05$) between farmers' perception of the risk-causing factors and the effect of the risk-causing factors on their adoption behaviour. The study subsequently recommends that more extension agents should be employed by the government and farmers should have access to credit and capital opportunities.

Keywords: Risk-causing Factors, Farmers, Adoption Behaviour

INTRODUCTION

Agricultural risks are prevalent throughout the world and are a source of great concern among rural farmers in the developing countries who are characterized by scattered small land holdings, family labour, negligible capital investment, little or no savings or storage facilities (Okuneye, 2002). On daily basis farmers are confronted with challenges that affect their output, income and which technologies to use. Consequently, decisions or events are often not known with certainty until they occur.

Risk is the possibility of adversity or loss consequent to decisions taken over an event. Most of agricultural decisions are taken in the environment of risks and uncertainty. In explicit, farmers have to make decisions now that will affect their production later. In making decisions, the farmers may not be aware of certain factors such as government policies, weather variability, changes in technology and some others that make it difficult for them to predict the future with certainty.

Farmers are unable take actions which will ameliorate their level of poverty because they are poor. If poor people are risk-averse to the extent that they are unwilling to invest in the acquisition of modern assets because that involves risk taking, they will remain poor (Mosley et. al., 2003). If farmers must be assisted to increase production for the ever-increasing population, a study assessing the risk-causing factors in food farmers' adoption behaviour toward production technologies is imperative.

The study specifically examined the farmers' socio-economic characteristics; identified risk-causing factors faced by the farmers, ascertained the farmers' perception of the risk-causing factors and determined the effect of risk-causing factors on farmers' adoption behaviour.

METHODOLOGY

The study was carried out in Delta State, Nigeria. A multistage sampling technique was used to collect the data for the study. For the first stage, two local government areas (LGA) were purposively selected for their high level of food crop production (Ughelli South and Udu). At the second stage, three communities were selected from each of the two LGAs (Otujeremi, Okwagba and Ekakpamne from Ughelli South; Ubogo, Ukpiovwin and Ujevwu from Udu LGA) and lastly, 20 farmers were selected from each selected community giving a total of 120 respondents. Data were collected using a validated interview schedule. Data analysis was done using both descriptive and inferential statistics.

RESULTS AND DISCUSSION

The respondents were made up of 55% female and 44% male (Table 1). The prevailing tradition in the study area was that more of females than males are into farming. The average age of the respondents was also found to be 47 years. About 60% of the respondents had one form of formal education or the other while a larger percentage (95%) had been in farming enterprise for not less than five years. Level of farmer education and years of farming would enable the respondents to be able to interpret risk-causing factors as they affect their farming enterprises.

Table 1: Socioeconomic Characteristics of Respondents (N = 120)

Socioeconomic characteristics		Frequency	Percentage (%)	Mean
Sex	Male	54	45	
	Female	66	55	
Age (years)	20 29	17	14.2	
	30-39	17	14.2	
	40-49	37	30.8	47
	50 – 59	20	16.7	
	≥ 60	29	24.2	
Marital Status	Single	23	19.2	
	Married	63	52.5	
	Divorced	3	2.5	
	Widowed	24	20.0	
	Separated	7	5.8	
Educational status	No formal education	38	31.7	
	Adult education	10	8.3	
	Primary education	19	15.8	
	Secondary education	35	29.2	
	Tertiary education	18	15.0	
Religion	Christian	89	74.2	
	Muslim	-	-	
	Traditional	31	25.8	
Household size	< 5	15	12.5	
	5 – 9	91	75.8	6
	≥ 10	14	11.6	
Farming experience (years)	< 5	6	5.0	
	5 – 9	28	23.3	
	10 -19	32	26.7	16
	20-39	45	37.5	
	≥ 40	9	7.5	
Farm size (ha)	< 1	40	33.3	
	1.0 – 2.9	59	49.2	1
	≥ 3	21	17.5	
Acquisition of farm land	Family	38	31.7	
	Inherited	31	25.8	
	Leased	7	5.8	
	Borrowed	20	16.7	
	Purchased	24	20.0	

Source: Field Survey, 2012

The respondents used either hired or family labour or both to carry out their farming activities but only a negligible percentage (11.7%) had access to credit (Table 2). The farmers were involved in crop production, processing and marketing. These activities experience one form of risk or the other despite the avalanche of information channels at the farmers' disposal.

Table 2: Farming Activities of Respondents (N = 120)

Farming activities		Frequency	Percentage (%)
Labour used	Family	49	40.8
	Hired labour	18	15.0
	Both	53	44.2
Access to credit facilities	Yes	14	11.7
	No	106	88.3
Source of capital	Personal saving	87	72.5
	Loan from commercial banks	2	1.7
	Cooperatives	14	11.7
	Esusu	17	14.2
Farming activities practiced	Producers	46	38.3
	Marketers	12	10.0
	Producers & Processors	12	10.0
	Producers & Marketers	30	25.0

Farming activities		Frequency	Percentage (%)
	All	20	16.7
Varieties of seedlings grown	Local	60	50.0
	Improved varieties	4	3.3
	Both	56	46.7
Place of purchase of seedlings	ADP	1	0.8
	Personal farm	18	15.0
	Market	42	35.0
	Personal farm & Market	59	49.2
Source of Agric. Information	Publication	10	8.3
	Television	4	3.3
	Radio	4	3.3
	Extension agents	4	3.3
	Farmers association/group	15	12.5
	Friends/family	55	45.8
	Combined	28	23.3
Contact with extension agents	Monthly	4	3.3
	Fortnightly/two weeks	1	0.8
	Weekly	1	0.8
	Occasionally/sometimes	26	21.7
	No contact	88	73.3
Visit outside community	Monthly	15	12.5
	Fortnightly/two weeks	6	5.0
	Weekly/once	25	20.8
	Occasionally/sometimes	21	17.5
	None at all	4	3.3

Source: Field Survey, 2012

The study showed that (Table 3) of the risk-causing factors ascertained among the farmers, it is the economic and financial factors that were found to be regular factors, while environmental, production and institutional factors were occasional factors. In sum total, the risk causing factors, as perceived by the farmers, were just occasional in nature (mean=1.96). The factors that are just occasional, might therefore not be having as much impact on the adoption behaviour of the farmers towards production technologies as those that were perceived as regular factors.

Table 3: Type of risk-causing factors faced by respondents

Type of risking-causing factors	R F (%)	O F (%)	R F (%)	N F (%)	Means	Grand Means	Remarks
1. Environmental							
Climate variability	22(18.3)	82(68.3)	12(10.0)	4(3.3)	2.02		
Poor soil type	57(47.5)	46(38.3)	8(6.7)	9(7.5)	2.56		
Soil degradation/vulnerability	14(11.7)	73(60.8)	15(12.5)	18(15.0)	1/69	1.63	Occasionally
Inadequate rainfall	0 (0)	14(11.7)	28(23.3)	78(65.0)	0.47		
Excess heat	4(3.3)	66(55.0)	29(24.2)	21(17.5)	1.44		
2. Economic							
Cost of inputs	95(79.2)	19(15.8)	4(3.3)	2(1.7)	2.73		
Lack of infrastructure	75(62.5)	40(33.3)	2(1.7)	3(2.5)	2.56	2.68	Regularly
Poor access to technologies	95(79.2)	20(16.7)	4(3.3)	1(0.8)	2.74		
3. Production							
Lack of labour	28(23.3)	70(58.3)	10(8.3)	12(10.0)	1.95		
Lack of storage facilities	83(69.2)	20(16.7)	12(10.0)	5(4.2)	2.51	2.16	Occasionally
Pest/diseases	28(23.3)	72(60.0)	15(12.5)	5(4.2)	2.03		
4. Financial							
Lack of access to credit	98(81.7)	16(13.3)	3(2.5)	3(2.5)	2.74		
Lack of access to insurance services	99(82.5)	12(10.0)	5(5.0)	3(2.5)	2.74	2.66	Regularly
Lack of capital	67(55.8)	49(40.8)	1(0.8)	3(2.5)	2.50		
5. Institutional							
Government	64(53.3)	31(25.8)	9(7.5)	16(13.3)	2.19		

Type of risking-causing factors	R F (%)	O F (%)	R F (%)	N F (%)	Means	Grand Means	Remarks
policies/Programmes							
Lack of access to land	29(24.2)	35(29.2)	4(3.3)	52(43.3)	1.34		
Poor access to extension services	83(69.2)	26(21.7)	4(3.3)	7(5.8)	2.54	1.98	Occasionally
Lack of access to information	41(34.2)	60(50.0)	9(7.5)	10(8.3)	2.10		
Lack of security	57(47.5)	59(49.2)	1(0.8)	3(2.5)	2.42		
Legislation/Laws	6(5.0)	56(46.7)	22(18.3)	36(30.0)	1.27		
6. Social and Cultural							
Traditional/Cultural beliefs	8(6.7)	60(50.0)	27(22.5)	25(30.0)	1.27		
Social status/Background	28(50.0)	48(23.3)	19(15.8)	25(20.8)	1.66	1.42	Rarely
Nom	2(1.7)	50(41.7)	33(27.5)	35(29.2)	1.16		
7. Personal							
Old age of the farmer	10(8.3)	41(34.2)	18(15.0)	51(42.5)	1.08		
Poor educational level	24(20.0)	37(30.8)	21(17.5)	38(31.7)	1.39		
Lack of knowledge/awareness	67(55.8)	14(11.7)	10(8.3)	29(24.2)	1.55	1.21	Rarely
Lack of experience	10(8.3)	41(34.2)	18(15.0)	51(42.5)	1.08		
Ignorance	10(8.3)	51(42.5)	24(20.0)	35(29.2)	1.03		
Lack of interest	8(6.6)	47(39.)	16(13.3)	49(40.8)	1.13		
Grand Mean						1.96	Occasionally

Source: Field Survey, 2012
Scale: regularly (R) = 3, Occasionally (O) = 2, Rarely (R) = 1, Never (N) = 0
Total Grand Mean: 1.96
Keys for Decision Scale: Regularly (2.6 – 3.0), Occasionally (1.6 – 2.5), Rarely (≤ 1.5)

Further findings from the study showed that risk-causing factors, as perceived by the farmers, affect their adoption behaviour. Inaccessibility to credit and shortage of infrastructural facilities were the factors the farmers rated as the most impactful on their adoption behaviour (4.5 and 4.4 respectively). More than 50% of the indentified risk-causing factors were perceived by the farmers to have effects on their adoption behaviour (Table 4).

Table 4: Respondents Perception of the Risk-Causing Factors Affecting Adoption Behaviour towards Production Technologies.

Perception statements	SA F (%)	A F (%)	U F (%)	D F (%)	SD F (%)	Mean
I generally see risk in farming activities as normal event of life	58(48.3)	39(32.5)	5(4.2)	17(14.2)	1(0.8)	4.1
I prefer to manage risk in farming in my own native way rather than using modern measures against it.	19(15.8)	40(33.3)	14(11.7)	42(35.0)	5(4.2)	3.2
I believe that risk is associated with negative outcomes not within my control	12(10.0)	46(38.3)	16(13.3)	38(31.7)	8(6.7)	3.1
The inability to give up traditional/cultural beliefs is a problem	7(5.8)	61(50.8)	7(5.8)	40(33.5)	5(4.2)	3.2
I am not aware or I am ignorant of risk in farming	4(3.3)	20(16.7)	5(4.2)	65(54.2)	26(21.7)	2.2
The rural environment in which I live and operate does not facilitate effective communication and diffusion of agricultural information	52(43.3)	46(38.3)	14(11.7)	2(2.5)	5(4.2)	4.1
The production technologies which I see as taking risk is too expensive	27(22.5)	68(56.7)	17(10.0)	12(10.0)	1(0.8)	3.9
The production technologies which I see as taking risk requires excessive labour during application	16(13.3)	38(31.7)	17(14.2)	44(36.7)	5(4.2)	3.1
The programmes/policies of Government aimed at expanding farmers production and	58(48.3)	43(35.9)	12(10.0)	6(5.0)	1(0.8)	4.2

Perception statements	SA F (%)	A F (%)	U F (%)	D F (%)	SD F (%)	Mean
Agricultural development as failed						
The new production technologies are compatible with the existing practices/processes on my farm.	11(9.2)	51(42.5)	17(14.2)	34(28.3)	7(5.8)	3.2
Most farmers are illiterate who lack adequate knowledge of modern farming techniques.	45(37.5)	46(38.3)	4(3.3)	20(16.7)	5(4.2)	3.8
The unavailability of capital or access to credit for me to practice modern production.	72(60.0)	43(36.0)	3(2.5)	-	2(1.5)	4.5
The acute shortage of infrastructural facilities (poor road, lack of market and transportation, electricity etc) is a problem	69(57.5)	40(33.3)	6(5.0)	5(4.2)	-	4.4
The benefit of taking risk, that is applying modern production technologies is in the future	24(20.0)	40(33.3)	10(8.3)	28(23.3)	18(15.0)	3.1
The lack of, or access to the technology is a major problem	40(33.3)	66(55.0)	7(5.8)	3(2.5)	4(3.3)	4.1

Source: Field survey
Scale: Strongly agree (SA) = 5, Agree (A) = 4, Undecided (U) = 3, Disagree (d) = 2, strongly disagree (SD) = 1
Keys for decision: where, ≤ 1.5 = SD, 1.6 -2.4= D, 2.5 – 3.4= U, 3.5 – 4.4= A and ≥ 4.4 = SA

Table 5 showed the respondents' adoption category of crop production technologies. It was found that generally, 50% of the respondents were high adopters (≥1.59) while the same percentages were low adopters (<1.59). This finding indicates that the risk-causing factors have high effect on the respondent's adoption behaviour towards the production technologies in the study area.

Table 5: Respondents Adoption Distribution towards the Production technologies (N = 120)

Innovation/Production Technologies	R F(%)	O F(%)	R F(%)	N F(%)	Means	Remark
Improved land preparation/Tillage practices	63(52.5)	52(43.3)	3(2.5)	2(1.7)	2.47	HA
Use of improved crop varieties	35(29.2)	30(25.0)	9(7.5)	46(38.3)	1.45	LA
Planting of early season crops	87(72.5)	30(25.0)	3(2.5)	0(0)	2.70	HA
Planting of indigenous varieties	85((70.8)	25(20.8)	9(7.5)	1(0.8)	2.62	HA
Appropriate planting time/date	80(66.7)	35(29.2)	3(2.5)	2(1.7)	2.62	HA
Appropriate row spacing	76(63.3)	30(27.5)	9(7.5)	2(1.7)	2.53	HA
Use of herbicides	33(27.5)	39(32.5)	8(6.7)	40(33.3)	1.54	LA
Use of insecticides (chemical) to control pest in crop production	16(13.3)	30(25.0)	13(10.8)	61(50.8)	1.01	LA
Use of biological method to control pest in crop production	2(1.7)	10(8.3)	11(9.2)	97(80.0)	0.31	LA
Use of mechanical method to control pest in crop production	37(30.8)	55(45.8)	12(10.0)	16(13.3)	1.94	HA
Use of organic fertiliser/manure	17(14.2)	65(54.2)	8(6.7)	30(25.0)	1.57	HA
Use of inorganic fertiliser	8(6.7)	31(25.8)	12(10.0)	69(57.5)	0.82	LA
Use of improved method of fertiliser application	16(13.3)	26(21.7)	10(8.3)	68(56.7)	0.92	LA
Use of modern farm implement	7(5.8)	30(25.0)	16(13.3)	67(55.8)	0.81	LA
Crop rotation practice	55(45.8)	54(45.0)	7(5.8)	4(3.3)	2.33	HA
Mulching of crops	43(35.8)	64(53.3)	7(5.8)	6(5.0)	2.20	HA
Use of modern processing facilities	56(46.7)	53(44.2)	7(5.8)	4(3.3)	2.34	HA
Use of improved storage facilities	4(3.3)	16(13.3)	17(14.2)	83(69.2)	0.51	LA
Use of modern harvesting equipment	3(2.5)	9(7.5)	16(13.3)	92(76.7)	0.37	LA
Use of modern packaging techniques	8(6.6)	23(19.2)	16(13.3)	73(60.8)	0.74	LA
Grand Mean					1.59	HA

Source: Field survey, 2012
Key for Decision Scale: Regularly (R) = 3, Occasionally (O) =2, Rarely (R) = 1, Never (N) = 0
Grand mean: 1.59
High adopter (HA) = ≥ 1.59, Low adopters (LA) = <1.59

The respondents were found to be high adopters in technologies that did not involve much capital outlay while they were low adopters in technologies with high capital outlay. This may be

due to the risk-causing factors as shown in Table 6. The finding indicates that risk-causing factors have high effect on the respondents' adoption behaviour towards the production technologies. This corroborates Ukpong (1993) who found that, the number of programmes or policies introduced by Nigeria Government to increase agricultural activities has been minimal as a result of farmers' inadequate equipment against risks and uncertainties.

Table 6: The effect of the risk-causing factors on the respondents adoption behaviour towards the production technologies (N = 120)

Type of risking-causing factors	High Effect F(%)	Moderate Effect F(%)	Low Effect F(%)	No Effect F (%)	Means
1. Environmenal					
Climate variability	77(64.2)	26(21.7)	9(7.5)	8(6.6)	2.43
Poor soil type	80(66.7)	38(20.8)	11(9.2)	4(3.3)	2.51
Soil degradation/vulnerability	47(39.2)	47(39.2)	16(13.3)	10(8.3)	2.09
Inadequate rainfall	21(17.5)	9(7.5)	16(13.3)	74(61.7)	0.8
Excess heat	18(15.0)	40(33.3)	31(25.8)	31(25.8)	1.38
2.Economic					
Cost of inputs	97(80.0)	15(12.5)	5(4.2)	3(2.5)	2.72
Lack of infrastructure	98(81.7)	15(12.5)	5(4.2)	2(1.7)	2.74
Poor access to technologies	105(87.5)	14(11.7)	1(0.8)	0(0)	2.87
3.Production					
Lack of labour	80(66.7)	25(20.8)	11(9.2)	4(3.3)	2.51
Lack of storage facilities	94(78.3)	19(15.8)	7(5.8)	0(0)	2.73
Pest/diseases	56(46.7)	37(30.8)	25(20.8)	2(1.7)	2.23
4.Financial					
Lack of access to credit	94(78.3)	22(18.3)	2(1.70	2(1.7)	2.73
Lack of access to insurance services	76(63.3)	29(24.2)	8(6.7)	7(5.8)	2.45
Lack of capital	104(86.7)	15(12.5)	1(0.8)	0(0)	2.86
5.Institutional					
Government policies/Programmes	22(18.3)	23(19.2)	23(19.2)	52(43.3)	1.23
Lack of access to land	65(54.2)	31(25.8)	5(4.2)	19(15.8)	2.18
Poor access to extension services	77(64.2)	34(28.3)	6(5.0)	3(2.5)	2.54
Lack of access to information	62(51.7)	45(37.5)	11(9.2)	2(1.7)	2.39
Lack of security	72(60.0)	35(29.2)	10(8.3)	3(2.5)	2.45
Legislation/Laws	15(12.5)	14(11.7)	50(41.7)	41(34.2)	1.03
6.Social and Cultural					
Traditional/Cultural beliefs	7(5.8)	17(14.2)	52(43.3)	44(36.7)	0.89
Social status/Background	47(39.2)	27(17.5)	32(26.7)	14(11.7)	1.89
Nom	6(5.0)	21(17.5)	52(43.3)	41(34.2)	0.93
7.Personal					
Old age of the farmer	28(23.3)	27(22.5)	18(15.0)	47(39.2)	1.30
Poor educational level	51(42.5)	20(16.7)	10(8.3)	39(32.5)	1.69
Lack of knowledge/awareness	77(64.2)	27(22.5)	7(5.8)	9(7.5)	2.43
Lack of experience	70(58.3)	27(22.5)	9(7.5)	20(16.7)	2.13
Ignorance	70(58.3)	26(21.7)	13(10.8)	11(9.2)	2.29
Lack of interest	52(43.3)	39(32.5)	10(8.3)	19(15.8)	2.03
Total Grand Mean					2.08

Source: Field Survey, 2012
Scale: regularly (R) = 3, Occasionally (O) = 2, Rarely (R) = 1, Never (N) = 0
Grand Mean : 2.08
Keys for Decision Scale: Low effect <2.08), High effect (≥ 2.08)

Findings on the correlation between risk-causing factors and adoption behaviour of the respondents (Table 7) showed that personal risk-causing factors have high correlation with respondents' adoption behaviour. So also, financial risk-causing factors have a negative but significant relationship with the respondents' adoption behaviour towards the production technologies, implying that, increase in financial risk-causing factors result in the decrease in the respondents' adoption behaviour towards the production technologies. This could engender the respondents'

refusal to adopt technologies that are high in capital outlay and sophisticated.

Table 7: Correlation matrix showing the relationship between the effects of the risk-causing factors on the respondents' adoption behaviour towards the production technologies

	Adoption score	Environ.	Econ.	Prdn.	Finan.	Institu.	Sociocul	Person.
Adoption Score	1							
Environmental	.033	1						
Economic	-.0.21	.138	1					
Production	-.022	.244**	.367**	1				
Financial	-.250**	.069	.428**	.228*	1			
Institutional	.153	.029	.125	.190*	.176	1		
Social & Cultural	-.096	.114	-.031	.132	.132	.273**	1	
Personal	.526**	.146	.077	-.076	.058	.082	.001	1

Source: Field Survey, 2012

** Correlation is significant at the 0.01 level (2-tailed)

* Correlation is significant at the 0.05 level (2-tailed)

CONCLUSION

The study has established that access to income, credit facilities, extension services and some other socio economic variables are important risk-causing factors for the adoption behaviour towards production technologies. Where there are financial risk-causing factors, farmers become hesitant in adopting sophisticated technologies, which might be of more effective use. Risk-causing factors are found to be having more effect among farmers with low level of education, low capital and those with less access to credits. It was therefore, recommended that in reducing risk-causing factors, farmers must be guaranteed access to credits, exposed to adult literacy and extension information.

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PERFORMANCE ANALYSIS OF NATIONAL DIRECTORATE OF EMPLOYMENT GRADUATE POULTRY FARMERS IN IMO STATE, NIGERIA

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ABSTRACT

The study assessed performance of graduates of the poultry training programme under the Rural Agricultural Development and Graduate Training Scheme of National Directorate of Employment in Imo State, Nigeria. Simple random sampling technique was used to select 90 NDE beneficiaries. Data were collected with a structured questionnaire and analyzed with descriptive statistics, Return on Investment analysis (ROI) and multiple regression analysis. The result showed that farmers had mean ages of 43.4 years, mean household size of 6 persons, with mean flock size of 90.5 birds and an annual mean farm income of N325, 500.00.The farmers had favourable perception ($\bar{X}$=2.58)of the programme. Poultry production enterprise was a lucrative business with a Return on Investment (ROI) of 138.40%. The multiple regression analysis result revealed that age, marital status, household size, farming experience, flock size and poultry output influenced beneficiaries' performance on the programme.Sustenance of the programme is advocated to encourage unemployed youths undergo training in the scheme.

Keywords: Performance, Poultry, Graduates, Farmers, NDE

INTRODUCTION

A major concern of the Federal Government in Nigeria is how to tackle the problem of unemployment in the country. Various regions in Nigeria have designed and executed several self-empowerment programmes to enhance the economic empowerment of the unemployed through training on different agricultural entrepreneurial skills(Nwaobiala and Nzeakor, 2016). In the past, successive governments, non-governmental organizations (NGOs), cooperatives and individuals through private initiatives as well as international organizations embarked on several programmes targeted at rural development. Most of these programmes had good objectives but due to some constraints like wrong approaches and strategies employed, the issue of lack of development continues to affect the rural areas. There is no doubt that a number of rural development projects have been embarked upon to stimulate and create employment for the unemployed especially the youths, these programme were seen to be neglected, ignored, underutilized or abandoned thereby making it impossible for government to achieve its aim of creating employment, which in turn will lead to development (Nwachukwu and Obineze, 2013; Ikoro, 2016). However, agricultural productivity will not increase if the capacity of farms and other actors in the agricultural value chain remain low, preventing them from innovating in agriculture which include new knowledge, processing and commercialization (Goni, Usman, Jaliya and Barma, 2013).

The National Planning Commission (2013) report that in 2012 about 11.1 million consisting the youths were unemployed in Nigeria. This enormous figure means that a great and dominant group of human resource that must be harnessed and utilized in order to advance agricultural intensification and development. National Bureau of Statistics (2013) affirmed that education for a large number of people in the rural areas is crucial for achieving sustainable development. The entireties of youths in both urban and rural areas need to be mobilized for proper impact to be felt in their communities (Adesope, 2007). Dike (2009) observed that vocational education and job training programmes have been an integral part of national development strategies in many societies because of its impact on human resource development, productivity and economic growth. According to Coombs (2003), training is generally through practical exposure, either informally vocational jobs, or in formal institutions established for the purpose of providing exposure to required skills (Nwaobiala, Ndukwe and Ekumankama, (2016).

One of the ways to bring about improvement in poultry production in Nigeria is the provision of right information through appropriate channel and trainings that is accessible to farmers. Poultry production in Nigeria has undergone tremendous changes over the past decades in terms of genotype, management and technological advancement (Olaniyi, 2013). It has become one of the most important aspects of farming by creating business opportunities for entrepreneurs and employment (Ayande, 2015). The population of Nigeria poultry is about 150,682 million, out of which 25% are commercially farmed, 15% semi – commercially and 60% in backyards or small scale (Onwualu, 2011). This shows that small scale poultry producers dominate the industries and are responsible for the bulk of production in Nigeria. Arowolo, Ogunrombi, Apantaku and Adeogun (2017) report that poultry farming suddenly became the cheapest and easiest sector of animal production that attracts the influx of many elites, civil servants and unemployed graduates into the practice of backyard poultry production as a way of supplementing the inadequate income, protein needs as well as overwhelming growth in the agricultural sector.

In order to curb the problem of unemployment in Nigeria and in recognition of the role agriculture can play as a spring board for employment generation and self-sufficiency in food production, the National Directorate of Employment was established in 1987 to awaken the interest of unemployed youth in agriculture and to exploit the tremendous opportunities for employment and wealth creation in the agricultural sector and consequently, stem the rural-urban drift of the youth in agriculture(National Directorate of Employment, 2012). The agricultural training programme covers modern agricultural practices in the area of crop production, crop processing and preservation, livestock production and management. The scheme seeks to train the unemployed, especially the youths in various off-farm income-generating activities in the production and marketing of handicraft using cheap and easily sourced local raw materials. Graduates of these schemes are further empowered financially to set up a micro farm of their learnt skills (National Directorate of Employment, 2014). Since the establishment of programme, it is not certain whether there is any empirical evidence on the performance of poultry farming among NDE graduates in the state. It is against this backdrop that the paper was undertaken to assess the performance of graduate poultry farmers' in National Directorate of Employment Agricultural Training Scheme in Imo state, Nigeria.

The specific objectives were to:

i. describe socio-economic characteristics of poultry farmers in the study area.
ii. ascertain perception of farmers about the trainings received ; and
iii. determine the performance of poultry NDE agricultural graduates in the scheme.

Hypothesis

Ho_1: There is no significant relationship between selected socio-economic characteristics of respondents and their performance in the scheme.

METHODOLOGY

The study was carried out in Imo State. The state lies within latitudes 4^o 45'N and 7^o 15'N, and longitude 6^o 50'E and 7^o 25'E. It occupies the area between the lower River Niger and the upper and middle Imo River. The state is bounded on the east by Abia state, on the west by River Niger and Delta state; and on the north by Anambra State, while Rivers state lies to the south. The state is located within the rainforest belt of Nigeria, and the temperature ranges between 20^o C and 30^o C. Agriculture is the major occupation of the people. Imo state is made up of 27 Local Government Areas (LGAs) and three Agricultural zones of Okigwe, Owerri and Orlu.

The NDE beneficiaries were chosen from the list of trained beneficiaries of Rural Agricultural Development and Training Graduates of NDE. A multistage random sampling technique was used to select LGAs and respondents. First, six (6) local government areas namely Owerri North, OwerriWest, Isiala Mbano, Orlu, Ezinihitte Mbaise and Ohaji/Egbema, out of twelve (12) LGAs where the programme was located were randomly selected for the study. From the list, fifteen (15) practicing agricultural graduate trainees were randomly selected from six (6) Local government Areas giving a total of ninety (90) respondents. Data were analyzed by the use of descriptive statistics such as frequency distribution, percentages, means and tables, return on investment and multiple regression analysis.

Measurement of variables

In order to assess perception of NDE poultry graduates on trainings received, eight (8) item perception statements were measured on 4 - point likert-type rating scale of strongly agree = 4, agree = 3, disagree = 2, strongly disagree = 1. Respondents mean scores was computed for each of perception statements by adding the weights of 4, 3, 2,1. A midpoint was obtained thus; 4+3+2+1 =10/4 = 2.5. Mean score greater than or equal to 2.5 implied favourable perception and otherwise, unfavourable perception.

Model Specifications

A. The Return on Investment (ROI) was used as proxy for performance of the trainees. The ROI Model gives profitability as a measure of the Rate of Investment. It expresses net revenue as a percentage of total investment.

Return on Investment (R.O.I)

$$= \frac{\text{Net Revenue per annum}}{\text{Total cost incurred per annum}} \times \frac{100}{1}$$

The Net revenue is given by

Total revenue - Total cost

Where:

Total cost = Total variable cost + Total fixed cost

Beneficiaries with ROI higher than 50% were considered as high performance and otherwise, low performance.

B. Multiple regression analysis was used in determining factors influencing the performance of poultry beneficiaries in the programme. The four functional forms of regression model viz. linear, semi-log, exponential and cobb-Douglas were tried. The best fit was chosen as the lead equation based on its conformity with econometric and statistical criteria such as the magnitude of R^2, F-ratio and number of significant variables.

The function is specified as $Y = f(X_I, X_2, X_3 \ldots X_8 e_I)$.

The four functional forms are expressed as follows:

Linear function

$Y = b_0 + b_1X_1 + b_2X_2 + b_3X_3 + b_4X_4 + b_5X_5 + b_6X_6 + b_7X_7 + b_8X_8 + b_8X_8 + ei$

Semi – log function

$Y = L_nb_0 + b_1L_nx_1 + b_2L_nx_2 + b_3L_nx_3 + b_4L_nx_4 + b_5L_nx_5 + b_6 Lnx_6 + b_7Lnx_7 + b_8Lnx_8 + ei$

Exponential function

$LnY = b_0 + b_1X_1 + b_2X_2 + b_3X_3 + b_4X_4 + b_5X_5 + b_6X_6 + b_7X_7 + b_8X_8 + ei$

Cobb Douglas Function

$LnY = L_nb_0 + b_1L_nx_1 + b_2L_nx_2 + b_3L_nx_3 + b_4L_nx_4 + b_5L_nx_5 + b_6Lnx_6 + b_7Lnx_7 + b_8Lnx_{8+} ei$

Where,

Y = performance (Return on Investment) (N)

X_1= gender (male = 1, female = 0)

X_2= age (years)

X_3= marital status (married =1, otherwise=0)

X_4 = education level (number of years spent in school)

X_5= household size (number of persons)

X_6 = Farming experience (years)

X_7= flock size (number)

X_8= poultry output (kg)

e_i = error term

RESULTS AND DISCUSSIONS

Socioeconomic characteristics of respondents

The result in Table1 shows that 57.78% of graduate NDE farmers were males. This implies that poultry farming is mostly practiced by males in the study area. The result is in consonance with Owoladee, Adebisi, Alonge, Adamu and Lawal (2017) as they obtained a similar result among poultry farmers in Oyo state, Nigeria. The mean ages for the beneficiaries were 43.40 years. The implies that the respondents were at the middle age signifying that they were within the agricultural production age range of 30 – 50 years quoted by Food and Agricultural Organization (2005). The mean household size of the farmers was 6 persons. This indicates that they had medium household size, which has implication on labour availability in poultry production. This result is in tandem with Abdullahi, Atala, Akpoko, Sami and Hara (2016) that household size play complementary role in any farming activity. However, the respondents (51.11%) acquired secondary education, this implies that they literates and aware of the importance of training which in turn affect their performance in the acquired skills. Again, the mean flock size of farmers was 90.5 birds. Flock size is an indication of economic strength of the farm which is likely to influence income that will support other aspects of the farm (Corsi, 2004; Augustine, 2010). The annual mean income derived from sales of poultry was N325, 500.00. Onwuali, (2011) reported that income realized from the production of birds enhances competitiveness through value addition.

Table 1: Socioeconomic characteristics of respondents in the study area

Variables	Frequency	Percentage	Mean	SD
Gender				
Male	52	57.78		
Female	38	42.22		
Age (years)			**43.40**	**10.93**
21-30	13	14.43		
31-40	30	33.33		
41-50	25	27.77		
51-60	20	22.22		
61-70	2	2.22		
Household Size (numbers)			**6**	**2.7**
1-5	36	40.00		
6-10	52	57.78		
11-15	2	2.22		
Education (years)				
No formal education	1	1.10		
Primary education	15	16.67		
Secondary education	46	51.11		
Tertiary education	43	47.78		
Poultry Flock Size (numbers)			**90.50**	**79.44**
1 – 20	5	5.55		
21 – 40	12	13.33		
41 – 60	11	12.22		
61 – 80	9	10.00		
81 – 100	53	58.90		
Poultry Income (N)			**N325,500**	**N232,114**

Variables	Frequency	Percentage	Mean	SD
100,000 – 300,000	12	13.33		
301,000 – 350,000	10	11.11		
351,000 – 400,000	19	21.11		
401,000 – 450,000	41	45.56		
451,000 – 500,000	8	8.89		

Source: *Field Survey, 2014*

Perception of Farmers about the Scheme

Data in Figure 1 shows that respondents agreed that the scheme was not gender sensitive ($\bar{X}$=2.8), grants disbursed was adequate ($\bar{X}$=2.7), while the training received increased their poultry skills and output and were satisfied with the whole poultry packages taught ($\bar{X}$=2.6). Again, the respondents affirmed that the scheme enhanced their felt needs ($\bar{X}$=2.5) and increased processing skills ($\bar{X}$=2.4). The mean perception score was 2.6 indicating that the farmers had favourable perception about the scheme trainings. This result is in consonance with Innih and Dimelu, (2013) that perception and attitude of farmers to donor sponsored programmes enhances their performance.

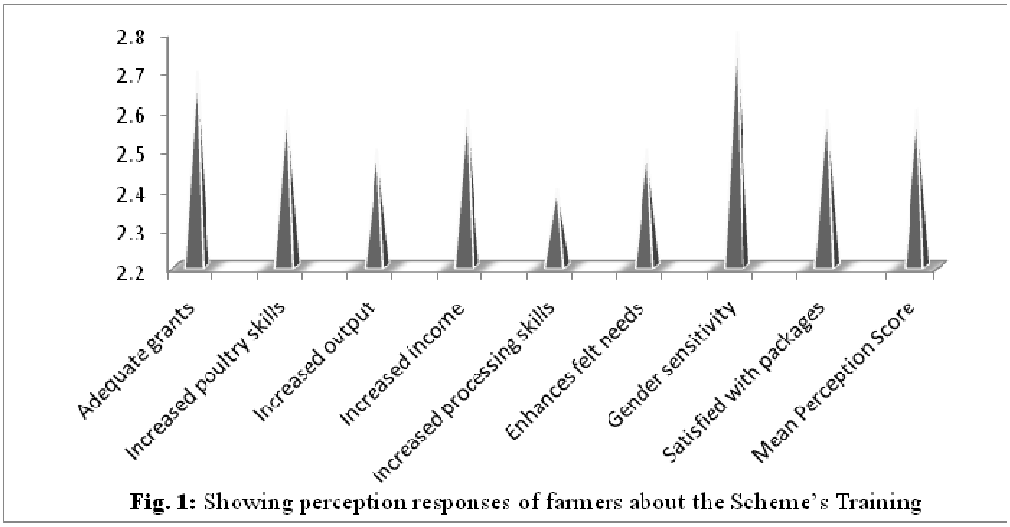

Fig. 1: Showing perception responses of farmers about the Scheme's Training

Return on investment analysis of poultry farming among NDE beneficiaries

The result in Table 2 indicate that the total revenue realized from poultry farming among beneficiary farmers was N703, 800.00, with total variable cost of N256, 100.00, Total Fixed Cost of N 39,148.32, Gross margin of N447, 700.00 and a Net Income N 408,551.68. The Return on Naira invested in poultry farming was N 1.52 indicating that any N1 invested by a farmer in poultry farming in Imo State he gets N1.52. The result also indicates that the NDE beneficiaries had a high Return on Investment of 138.40% which is above 50% stated as the performance bench mark.This result is in conformity with the findings of Mbah (2013), where the return on investment on poultry production in Anambra State was 147%.

Table 2: Return on investment in poultry farming among farmers in the study area

Items	Poultry Production (N)
Revenue	703,800.00
Total variable cost	256,100.00
Total fixed cost	39,148.32
Gross Margin	447,700.00
Net farm income	408,551.68
Return on Naira Invested	**1.52**
Return on Naira (%)	138.40

Source: Field Survey, 2014

Performance Decision: 50% and above = High Performers

Less than 50% = Low Performers

Factors influencing performance of NDE poultry graduate farmers in the study area

The result in Table 3 shows the Ordinary Least Square (OLS) multiple regression estimates of the determinants of NDE arable crop farmers in the study area. The Linear functional form was chosen as the lead equation because of a high R^2value, number of significant factors and agreement with a *priori expectation*. The R^2 value of 0.5228 indicates 52.28% variability in farm income explained by the independent factors. The Z value of 4.71 was highly significant at 1% level of probability indicating that the regression was a good fit. The coefficient for age was positive and significant at 1%. This implies that any increase in age is expected to lead to a corresponding increase in performance. This is against *a priori expectation* probably because the aged farmers seem to be more credible thereby making more sales than their younger counterparts. The result is in tandem with Ezeh and Okudu (2008) that adult farmers had more production efficiency and productivity than their younger counterpart. The coefficient for marital status was negative and significant at 10% level. This also implies that the poultry farmers who were single made more income than their married counterparts. This may be because they do not have overwhelming responsibilities affecting their production of livestock in the area. The coefficient for household size was negative and highly significant at 1% level. This is against *a priori expectation* probably because large household sizes bring about huge consumption needs thereby leading to a decrease in the level of performance among the poultry farmers. Nwaobiala (2016) reported that even when members of such large household sizes are available for farming activities, there is high possibility of underutilization of labour as most of the farmers rear small herds of animals or cultivate small areas of farm land. The coefficient for farming experience was positive and significant at 10% level of probability. This implies that experienced farmers performed than their counterparts who had no or little poultry experience. This result is in agreement with Ibitoye, Shaibu and Akwu, (2014) that the more farmers remained in any farming business, the more they got acquainted with risk elements and ways of militating possible losses through them.The coefficient for flock size was positive and highly significant at 1% level of probability. This implies that any increase in flock size will lead to a corresponding increase in poultry performance. This is expected and in accordance with *a priori expectation*. The coefficient for poultry output was positive and significant at 10% level of probability, this is expected and in agreement with *a priori expectation.* This implies that any increase in poultry output will lead to a corresponding increase in performance of beneficiaries in the enterprise.

Table 3: Regression estimates of the determinants of performance of NDE poultry farming beneficiaries in the study area

Variables	Linear+	Exponential	Cobb-Douglas	Semi-log
Constant	409481.70	25200	10.2124	-424239.20
	(1.46*)	(12.16***)	(4.42***)	(-0.64)
Gender	-2503.59	0.0802	0.1028	-1957.24
	(-0.04)	(0.31)	(0.40)	(-0.03)
Age	12444.99	0.0235	0.7626	348923.50
	(2.93***)	(1.52*)	(1.27*)	(2.02**)
Marital Status	-67769.41	-0.0725	-0.1265	-78757.80
	(2.00**)	(-0.56)	(-1.03*)	(-2.22**)
Education	-80542.95	-0.2126	-0.6448	-222673.30
	(-1.47*)	(-1.06*)	(-1.66*)	(-1.88*)
Household Size	-355509.86	-0.1222	-0.4458	-117319.90
	(-2.97***)	(-2.80**)	(-2.75**)	(-2.50**)
Farming Experience	6323.10	0.0038	0.1323	30137.67
	(1.88*)	(0.32)	(0.80)	(0.63)
Flock Size	324.21	0.0025	0.2946	6886.34
	(2.98**)	(2.55**)	(2.36**)	(1.90*)
Poultry Output	341.97	0.0008	-0.1673	-44814.17
	(1.10*)	(-0.78)	(-1.30)	(-1.20*)
R^2	0.5228	0.3412	0.3001	0.40441
R Adjusted	0.4142	0.2644	0.2211	0.3255
Z	4.71***	3.14***	2.53**	2.60**

Source: Field Survey, 2014

Variables in parentheses are Z-values + = lead equation

P≤ 10, ** P≤ 0.5 and *** P≤ 0.1

CONCLUSION AND RECOMMENDATIONS

The result from this study has revealed that poultry farmers had favourable perception of the scheme with a high Return on Investment of 138.40% from poultry farming. Factors such as age, marital status, household size farming experience, flock size and poultry output influenced performance of poultry farmers' performance in the scheme.

The study therefore recommends;

i. Adequate funding of the scheme in order to sustain the scheme.
ii. Since poultry farming is profitable, the programme should sensitize the public on its benefit. This will encourage more unemployed youths participate in the scheme.
iii. Follow – up and monitoring of graduated farmers to ensure that they judiciously utilize incentives and grants provided by the scheme.

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STUDENTS' KNOWLEDGE ON EFFECT OF CLIMATE CHANGE ON AGRICULTURE IN SELECTED SCHOOLS IN IBADAN –NORTH LOCAL GOVERNMENT AREA, OYO STATE, NIGERIA

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ABSTRACT

It is obvious that significant change in climate on a global scale impacts the socio-economic activities in general and agricultural sector in particular. Nigeria's climatic condition is suitable for cultivation of a wide range of crops. Considering the role of knowledge in the society and school in transmission of knowledge there is a need to evaluate students' knowledge on the effect of climate change on agriculture. The study also examined students' sources of information, awareness of climate change, the aspects of climate change as well as perceived effect of climate change on agriculture among secondary school students in Ibadan-North Local Government Area. Two stage random sampling was to select 132 secondary school students. The data collected were analyzed with the aid of descriptive statistical tools while hypotheses testing using PPMC. The study found internet (1.18) was the most used source of information on climate change, majority (97.7%) had high awareness of the effect of climate change, they were mostly aware of longer dry season and change in rainfall pattern. About half (50.8%) of respondents' perceived effect of climate change to be high, while there was low (47.7%) knowledge on effect of climate change on agriculture. Significant to knowledge were source of information (r= 0.006) and perceived effect (r=-0.963). The study concludes that knowledge on effect of climate change was low and recommends that disseminating information should go beyond sensitization and awareness on climate change, but should educate students on its cause, effect and adaptation strategies

Keywords: Climate change, Agriculture, Effect, Students, Knowledge

INTRODUCTION

Climate change is a phenomenon created by human beings and nature, which devastates the earth and causes hardship of unpredicted magnitude to the living. According to United nation on Environmental programme (2000) climate changes as extreme reactions of weather phenomenon which creates negative impact on agricultural resources, water resources, human health, and depletions of ozone layer, vegetation, soil and doubling of CO_2 in the ecosphere.These changes in climate, especially increased atmospheric CO_2, temperature and precipitation, associated with changes in nitrogen deposition, tropo- and stratospheric ozone levels, UV-B radiation, these changes could impact the socio-economic activities in general andagricultural production in particular (Intergovernmental Panel on Climate Change -IPCC, 2000).

Indicators for assessing the evidence of climate change in a region are increase in atmospheric temperature, eva-transpiration, andincreasing amount of rainfall in the continental interiors. , as well as coastal areas. Frequent destruction in climate pattern and increasing intensities of extreme weather are also associated with climate change (Ahmad and Ahmed 2000; IPCC 2001, NEST 2003; Hengeveld*et al* 2005).For instance, heavy precipitation will cause shallow runoff of nutrients and crop protection products into the surface and also intensifies the environmental impact of fertiliser and pollution in agriculture.The incidence of climate change is very visible in Nigeria. Several researches at regional levels show that Nigeria like most part of the world is experiencing the basic features of climate change. Some localities are experiencing extreme weather conditions as a result of increasing temperatures and associated with changing climate (Odugo, 2005; Ayoade, 2003; Olaniran, 2002). This problem of climate change is further exacerbated by low level of awareness about climate change among Nigerians and will continue if measures are not adequately being taken to create awareness about this environmental issue that is threatening the existence of man on earth.

Awareness and knowledge on climate change and its effects would enable people to stop harmful practices that further exacerbate these incidences. Climate change has negative impacts on the economy, food security, health and agricultural production in particular. It negative effect has led to several calls for integrated approaches for the adaptation and mitigation and sustainable way to achieve this is through education and capacity building. To realize this, the curriculum of schools has to be modified to accommodate the current issues of climate change (Ozor, 2009) as there is increasing need for young people (students) to gain knowledge and understanding about climate change.

The school plays a pivotal role in the life of a child and in the society. Hence, climate change issues should be incorporated into the curricula of schools right from the elementary to the university level should be as a matter of urgency. However, before that is done there is needed to assess the level of knowledge on effects of climate change of agriculture. Furthermore, as critical as the climate change effects are, it is not clear how knowledgeable students are. It is against this background that this study aim to evaluate students' knowledge on effect of climate change on agriculture in selected school in Ibadan –North

Local Government Area. The general objective of the study was to evaluate students' knowledge on effect of climate change on agriculture in selected school in Ibadan –North Local Government Area. Specifically it assessed the source of information on climate change, awareness on climate change, and aspect and perceived effect of climate change on agriculture. Significant relationship between the source of information and knowledge on effect of climate change on agriculture, and significant relationship between perceived effect of climate change and the knowledge on effect of climate change on agriculture.

METHODOLOGY

The population of the study were all secondary school students in Ibadan-North LGA, Oyo State, Nigeria.From the list of private schools, four schools were sample within Ibadan-North Local Government Area of Oyo.Simple random sampling used to select thirty three students from each senior secondary section of the four selected schools to make a total of one hundred and thirty-two students as respondents. Data was collected using questionnaires that was validated by the researchers and experts in Education and Geography for face and content validity. Reliability of instrument was done using Split-half method, it had a co-efficient (r) of 0.78 indicating high reliability of the scale of the instrument for data collection. The data collected were analysed with the aid of descriptive statistical tools which include frequencies, percentage distribution and mean. All hypotheses were tested using Person Product Moment Correlation (PPMC).

RESULTS AND DISCUSSION

Results on Table 4.1 show that there are equal number males and female students sampled. This implies that there is no gender discrimination among schools. It also reveals that out of the 132 students sampled, 49.4% of the students are within the age of12 to 15 years, while 50.6% are within 16 to 20 years. Also, 96.9% of the students are Yoruba by ethnic group while only 1.3% and 1.9% are Igbo and Hausa respectively this implies and confirms that all the tribes in Oyo State are Yoruba, however stranger from other ethnic groups are still resident in the state.

Table 4.1: Distribution of respondents by personal characteristics

Variables	Frequency (132)	Percentage
Sex		
Female	66	50.0
Male	66	50.0
Age		
12- 15 years	65	49.4
16-20 years	67	50.6
Course orientation		
Science	62	47.0
Art	41	31.0
Commercial	29	22.0
Ethnicity		
Yoruba	127	96.9
Igbo	2	1.3
Hausa	3	1.9

Field survey, 2015

Information source on climate change

Results on Table 2 reveals respondents' source of information on climate change,it revealed that television (1.18) is the most used source of information on climate change, followed by friends/classmate (1.17), internet (0.96) and radio (0.90). This implies that social media and social groups are effective means of creating awareness on climate change. According to Taprial and Kanwar (2012) social media has become inevitable part of our daily life because nearly all human activities are influenced by social media and social media helps in communication, sharing information, ideas, personal messages, and other content.

Table 2: Information source on climate change

Information source	Not at all Freq. (%)	Occasionally Freq. (%)	Regularly Freq. (%)	Mean	SD	Rank
Television	18 (13.6)	71 (53.8)	43 (32.6)	1.18	0.65	1st
Friends/classmate	25 (18.9)	59 (44.7)	48 (36.4)	1.17	0.72	2nd
Internet	28 (21.2)	80 (60.6)	24 (18.2)	0.96	0.62	3rd
Religious association	34 (25.8)	77 (58.3)	21 (15.9)	0.90	0.64	4th

Information source	Not at all Freq. (%)	Occasionally Freq. (%)	Regularly Freq. (%)	Mean	SD	Rank
Teacher	64 (48.5)	60 (45.5)	8 (6.1)	0.57	0.60	5th
Radio	64 (48.5)	61 (46.2)	7 (5.3)	0.56	0.59	6th
Newspaper	106 (80.3)	22 (16.7)	4 (3.0)	0.22	0.48	7th

Field survey, 2015

Awareness of climate change effect on agriculture

Results on Table 2 shows that majority of respondents (97.7%) are aware of climate change on agriculture. this implies that majority of the respondents have heard about climate change in relation to agriculture. This supports the claim of Oruonye (2011) that there is high awareness of climate change among youths

Table 2: Awareness of climate change

Awareness	Frequency	Percent
No	3	2.3
Yes	129	97.7
Total	132	100

Field survey, 2015

Respondents' awareness on aspect of climate change effect

Result on Table 3 reveals aspects of respondents' awareness on climate change. It shows that 90.9% were aware of longer dry season, 89.4% were aware of low rainfall, 83.3% of the respondent are aware of delayed onset of rainfall and severe flooding. While 67.4% are not aware of high CO_2 emission. This suggest that respondents are more aware of aware of aspects of climate change that relate to water; this likely due to the serious effect water availability on agriculture. This result conform with Lobell (2008) Apata et al (2009) who reported that 89.0%, 72.0% and 65.0% of the respondents respectively indicated higher temperature, water evaporation from the ground is fast and delayed rainfall as the determinants of climate change.

Table 3: Awareness of aspect of climate change

Aspect of climate change	Not Aware Freq. (%)	Aware Freq. (%)	Mean	SD	Rank
Longer dry seasons	12 (9.1)	120 (90.9)	0.90	0.28	1st
Low rainfall	14 (10.6)	118 (89.4)	0.89	0.30	2nd
Delayed onset of rainfall	22 (16.7)	110 (83.3)	0.83	0.37	3rd
Severe flooding	22 (16.7)	110 (83.3)	0.83	0.37	3rd
Drying up of streams / rivers	30 (22.7)	102 (77.3)	0.77	0.42	5th
Warmer temperatures	36 (27.3)	96 (72.7)	0.72	0.44	6th
Strong winds in recent times	51 (38.6)	81 (61.4)	0.61	0.48	7th
High CO_2 emission	89 (67.4)	43 (32.6)	0.32	0.47	8th

Field survey, 2015

Respondent's level of awareness of climate change is shown on Table 4 the mean (5.90) was used to categorize level of awareness into high and low. It reveals that 64.4% of the respondents had high level of awareness, while 36.6% of the respondents had low level of awareness. This implies that their high level of awareness level of climate change by respondents.

Table 4: Categorisation of respondents based on awareness of climate change

Level of awareness	Frequency	%	Min.	Max.	SD	Mean score
Low	47	35.6	0.0	8.00	1.88	5.90
High	85	64.4				
Total	132	100				

Field survey, 2015

Perceived effects of climate change on agriculture

The result on Table 4 show the Perceived effects of climate change on the agriculture, the grand mean of all the statements was 3.18, respondents had high perceived effect on statements with mean score above the grand mean while respondents had low high perceived effect on

statements with mean score below the grand mean. Students had high perceived effect on: Climate change has increases the incidence of erosion (3.92), Loss of crops because of the bad weather condition (3.81), Climate change leads to increase in cost of production (3.86), and land has low fertility due to climate change (3.69). While students had low effect perception on: planting and harvesting better due to climate change (2.26), decrease in sales is as a result of climate change (2.48), prolonged cold season makes famers work longer hours on the farm (2.62), agriculture do better because of increased water from flooding (2.66). Generally there is high perceived effect of climate change on agriculture

Table 5: Perceived effects of climate change on agriculture

Effects of Climate change on Agriculture	SA	A	U	D	SD	mean
Bad weather condition can cause loss of crops	29(22.0)	73 (55.3)	7(5.3)	23(17.4)	29(22.0)	3.81
Reduced profitable in agriculture due to climate change	13 (9.8)	72 (54.5)	15 (11.4)	30(22.7)	2 (1.5)	3.50
Decrease in sales is as a result of climate change	5 (3.8)	33 (25.0)	21 (15.9)	65(49.2)	8 (6.1)	2.48
Climate change provides more opportunity for agriculture	2 (1.5)	65 (49.2)	27 (20.5)	28(21.2)	10 (7.6)	2.71
Climate change has resulted in water shortage for agriculture due to drying up of streams and lakes	26(19.7)	77 (58.3)	14 (10.6)	15(11.4)	-	2.84
Climate change has led to increase in cost of production	4 (3.0)	82 (62.1)	19 (14.4)	24(18.2)	3 (2.3)	3.86
Climate change has led to an increase in the susceptibility of crop and animals to disease and pests.	3 (2.3)	72 (54.5)	20 (15.2)	35(26.5)	2 (1.5)	3.45
Climate change can boosts the production of some agriculture produce	7 (5.3)	73 (55.3)	17 (12.9)	27(20.5)	8 (6.1)	3.29
Agriculture do better because of increased water from flooding	5 (3.8)	76 (57.6)	20 (15.2)	26(19.7)	5 (3.8)	2.66
Cultivation of new varieties of crop is dues to climate change	11 (8.3)	46 (34.8)	19 (14.4)	51(38.6)	5 (3.8)	2.94
Planting and harvesting better due to climate change	23(17.4)	78 (59.1)	10 (7.6)	15(11.4)	6 (4.5)	2.26
Climate change has increases the incidence of erosion	26(19.7)	84 (83.6)	10 (7.6)	10 (7.6)	2 (1.5)	3.92
Land has low fertility due to climate change	15(11.4)	82 (62.1)	18 (13.6)	14(10.6)	3 (2.3)	3.69

Grand mean: 3.18

SA: Strongly agree A: Agree U: Undecided D: Disagree SD: Strongly disagree

Field survey, 2015

Respondent's level of Perceived effects of Climate change on the agriculture is shown on Table 6 The mean score (54.43) was used to categorize respondents into low perceived effect level and high perceived effect. It reveals that 50.8% of the respondents had high perceived effect, while 49.2% of the respondents had low perceived effect. This implies that more respondent see the effect of climate change as a serious threat to livelihood: agriculture.

Table 6: Categorization of respondents based on Perceived effects of Climate change on agriculture

Perceived effect	Frequency	Percent	Min	Max	S D	Mean score
Low effect	65	49.2	40.0	68.00	5.16	54.43
High effect	67	50.8				
Total	132	100				

Field survey, 2015

Knowledge on effects of climate change on agriculture

The summary of respondents knowledge on effects of climate change on agriculture is as

shown on Table 7 the grand mean of all the statements was 0.65, respondents had high knowledge on statements with mean score above the grand mean while respondents had low knowledge on statements with mean score below the grand mean. Respondents had high knowledge on: climate change has led to rising levels of floods in farms (0.83), seasonal drought in farms is a result of climate change (0.79), rainfall pattern has become unpredictable (0.77). While respondents had low knowledge on: climate change has nothing to do with global warming (0.42), amount of precipitation has decreased notably in my vegetable farm (0.42), increase in vector related diseases in vegetable farms (0.42). Generally there is low knowledge on effect of climate change on agriculture

Table 7: Knowledge on effects of climate change on agriculture

Knowledge statements	Incorrect **Freq. (%)**	Correct **Freq. (%)**	Mean	SD	Rank
Weather patterns has changed very significantly in my vegetable farm area	24 (18.2)	108 (81.8)	0.81	0.38	2
Rainfall pattern has become unpredictable	30 (22.7)	102 (77.3)	0.77	0.42	4
Amount of precipitation has decreased notably in my vegetable farm	59 (44.7)	73 (55.3)	0.55	0.49	9
The reduced rainfall amounts as resulted in decreasing availability of water for my vegetable	34 (25.8)	98 (74.2)	0.74	0.43	5
The climate variability has led to increase of pests and diseases in vegetables	64 (48.5)	68 (51.5)	0.51	0.50	7
Climate change has led to rising levels of floods in farms	22 (16.7)	110 (83.3)	0.83	0.37	1
Increase in vector related diseases in vegetable farms	60 (45.5)	72 (54.5)	0.54	0.49	9
Climate change has nothing to do with global warming	76 (57.6)	56 (42.4)	0.42	0.49	9
CO_2 emission do not have effect on agriculture	68 (51.5)	64 (48.5)	0.48	0.50	7
Seasonal drought in my farm area is a result of climate change	27 (20.5)	105 (79.5)	0.79	0.40	3
Climatic variation can break the life cycle of pest and diseases in vegetable cultivation	35 (26.5)	97 (73.5)	0.73	0.44	6

Grand mean=0.65

Field survey, 2015

Respondent's level of knowledge on effects of climate change on agriculture is shown on Table 8. The mean score (7.21) was used to categorize respondents into low level of knowledge and high level of knowledge. It reveals that 47.7% of the respondents had high level of knowledge, while 52.3% of the respondents had low level of knowledge. This implies that their low level of Knowledge on effect of climate change on agriculture by respondents in spite of their high awareness level.

Table 8: Categorization of respondents based on Knowledge on effects of climate change on agriculture

Level of knowledge	**Frequency**	**%**	**Min.**	**Max.**	**S D**	**Mean score**
Low	67	52.3	0.0	11.00	2.53	7.21
High	65	47.7				
Total	132	100				

Field survey, 2015

Hypotheses testing

Ho1: There is no significant relationship between respondents' source of information on climate change and knowledge on effect of climate change on agriculture

Results on Table 9 reveals that there was significant relationship between source of information on climate change and their knowledge of effects to climate change (r=0.378, p=0.015). This implies that respondents' source of information affected knowledge on effects of climate change

Table 9: Correlation analysis between sources of information and knowledge on perceived effects to climate change on agriculture

Variable	**N**	**r-values**	**p-value**
Source of information	132	0.378	0.015

p≤0.05 @ Significant

Ho2: There is no significant relationship between the perceived effects of climate change and student's level of knowledge of effect of climate change on agriculture.

Results on Table 10 reveals that there was no significant between the perceived effects of climate change and knowledge of effect of climate change on agriculture (r=0.097, p=0.271). This implies that respondents' perception of effects of climate change do not affect their knowledge of effect of climate change on agriculture.

Table 10: PPMC analysis of the perceived effects of climate change and student's level of knowledge of effect of climate change on agriculture

Variable	N	r-value	p-value
Knowledge	132	0.097	0.271

p≤0.05@ Significant

CONCLUSION AND RECOMMENDATION

This study examined the knowledge of the effect of climate change on agriculture among secondary school students in Ibadan-North Local Government Area Nigeria. It concludes that there was low level of knowledge of the effect of climate change on agriculture among secondary school students; perceive the effect of climate change on agriculture to be high. Internet was the most used source of information on climate change. There was high awareness of the effect of climate change. The study also established that source of information of respondents and perceived effect of climate change on agriculture significantly influenced students' knowledge on effect of climate change on agriculture. The study recommends that researchers and other stakeholders should carry secondary school students along in climate change research efforts.

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EFFECTS OF SOCIAL FACTORS ON THE ADOPTION OF RICE PRODUCTION TECHNOLOGIES IN ZONE C OF BENUE STATE, NIGERIA

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ABSTRACT

Nigerian population like other parts of the world has continued to soar thereby putting strains on farm productivity and consequent food security. In order to keep pace with food demand, it is necessary to scale up production through appropriate technologies. In most parts of Nigeria, adoption of agricultural technology is still low consequently; this study examined the effects of farmers' social characteristics on rice production technology adoption decisions. The study was carried out in Zone C of Benue State purposively selected due to the availability of Fadama lands which are suitable for rice production. A hundred respondents were selected through a simple random sampling technique. Both descriptive statistics (percentages and frequency) and inferential statistics (Binary Logit regression Model) were used for data analysis. The results show that majority (55 %) were males, 48 % had farming experience of between 6-20 years, 49 % had tertiary educational qualification, 62 % did not belong to any farmers' groups, 51 % had no extension contacts and 56 % of the respondents had estimated average annual income of ₦120, 000.00 and about 113 respondents indicate that radio was their major source of agricultural information, 93 % reveal that improved seeds was the predominant technology available to farmers. The logit regression result shows show that education (W=9.600), and farm size (W = 2.051) significantly, affect their adoption decisions. Based on these findings, it was concluded that adoption levels were low because there were no new technologies other than improved seeds, as well as the near absence of extension services. Consequently, it was recommended that farmer's organisation be strengthened so that they can arrange for their own extension services.

INTRODUCTION

There is a premium on food security and sustainable agricultural production practices especially in the third world where the risk of food insecurity is highest. This is particularly necessary with the geometric increase in population growth rate. Nigeria currently has an estimated population of over 170 million people with majority living in the rural areas depending comprehensively on agriculture (Lawal, 2009). Agriculture is the main stay of rural Nigeria as the land and weather conditions are suitable for all crops including rice.

Rice *(Oryza sativa)* is the most important staple food for about half of the human race (Imolehim and Wada, 2000). Saka and Lawal (2009) classified rice as the most important food depended upon by over 50 percent of the World population for about 80 percent of their food need. Due to the growing importance of the crop, Food and Agricultural Organization (2001) estimated that annual rice production should be increased from 586 million metric tons in 2001 to meet the projected global demand of about 756 million metric tons by 2030.

Research has shown that production and processing technologies have not been able to meet the increasing demand for rice (FAO, 2001). In the West African sub region, Nigeria has experienced is experiencing a growing demand for rice caused by rising per capita consumption and consequently the insufficient domestic production had to be complemented with enormous import both in quantity and value at various times (Saka and Lawal, 2009). This situation has an overbearing effect of the country's foreign reserve and so the need for improved technology to boost location production such that burden of importation can be ameliorate as improving of farmers' living standards.

Agricultural technologies refer to use of modern machineries and ideas to improve farmers' skills and efficiency. Successive governments in Nigeria evolved agricultural policies and programmes to guarantee innovative agriculture if those technologies were adopted. Adoption on the other hand is the decision of farmers to accept and practice an idea introduced to them through effective extension services. This decision is dependent on several factors which can be classified as social, economic, psychological and institutional factors. Decision making process is key to effective grass root development. However, many people are unable to make effective development decision because of the level of disenchantment occasioned by marginalization and social exclusion which apparently deprived these categories of people from accessing to democracy dividends. This study focuses on the social factors affecting adoption of innovation in Zone C of Benue State Nigeria.

Rice yield in Nigeria and particularly in Benue State has been on the decline due to problems such as outdated farming practices, parasitic weeds, insects and diseases (FAO, 2014).According to the Africa Rice Center, the limited growth of the aggregate productivity of rice in Africa is due to the large share of rain-fed rice and subsistence based rice farming systems (IRRI, 1996).Improvement in rice productivity potential will therefore play a critical role in feeding the African population that is expected to double during the next two decades.Therefore, there is a need to support farmers to increase rice

productivity rather than acreage cultivated, if Africa is to meet the short-fall in rice production.

In an effort to boost rice production in West Africa (Ghana, Mali, Nigeria and Senegal), a two-year Emergency Rice Initiative Project (ERIP) was initiated in 2009. The emergency initiative aimed to boost rice production through enhancing farmer access to certified seed of improved rice varieties, mineral fertiliser and knowledge on best-bet rice production technologies in the target countries, thereby reducing rice imports and averting the need for costly food relief actions. This initiative is in addition to the agricultural extension project and Sasakawa Global 2000 (SG 2000) (Saka and Lawal, 2009).

Unfortunately, the Nigerian agricultural sector is characterized by low level of technology adoption making these programmes of no impactful effects. Available evidence shows that adoption level is very low compared to the efforts put into the formulation of such polices and programmes as exemplified by farmers' low productivity. According to Food and Agriculture Organization (2010), this contributes to the low agricultural productivity in the country. This low capacity has been attributed to several factors; notable among them is the declining productivity due to low adoption of improved production practices (Ejembi, Omoregbee and Ejembi, 2006).

Many studies on rice technology adoption have been conducted in developing nations including Nigeria (Dontsop, 2011). However, because of variability in natural resources, culture, political system, traditions, beliefs and socio-economic factors, the factors affecting technology adoption differs across the locations. For instance, in a review of technology adoption studies in Africa FAO (2001) showed that factors that affect technology adoption vary among locations, hence the need to carry out an analysis of the effects of social factors affecting adoption of rice technologies in Zone C of Benue State, Nigeria.

In order to effectively carry out this analysis, the following research questions were formulated:

i. What are the socio-economic characteristics of rice farmers in the study area?
ii. What are the sources of information on rice production technologies by the farmers?
iii. What rice production technologies have been introduced to the farmers in the study area?
iv. What are the effects of social characteristics on respondents' adoption decision

The broad objective of the study is to investigate the factors affecting the adoption of rice production technologies in Apa local government area, Benue state, Nigeria.

The specific objectives of the study are to:

i. describe the socio-economic characteristics of rice farmers in the study area;
ii. identify the sources of information on rice production technologies by the farmers;
iii. identify the rice production technologies that have been introduced to the farmers in the study area;
iv. determine the effects of respondents' social characteristics on adoption decisions and

Statement of hypothesis

Based on the specific objectives, the following hypothesis was tested:

H_{01}: farmers' social characteristics have no significant effects on the adoption of rice technologies in the study area.

METHODOLOGY

Study area

This study was carried out in Zone C of Benue State, Nigeria which was purposively selected due to the people's high involvement in rice production. Benue state is divided into three agricultural zones A, B, and C for administrative convenience. Due to the homogenous nature of the zone the involvement of the people in rice production, Apa Local Government Area was purposively selected for this study. The local government is located in the northwestern part of Makurdi, the capital of Benue State. It is bounded to the North by Agatu local government, to the West by Gwer West, to the South by Otukpo and to West by Omala local government area of Kogi State.It has population of about 250,000 people with a population density of about 200,300 persons per sq. km (NPC, 2006)..The local government has 11 council wards namely, Ugbokpo, Edikwu I, Ikobi, Akpete, Oba, Iga, Oiji, Ojope, Igoro, Edikwu II and Auke.

The local government has agricultural potentials and products of commercial significance. This includes yams, maize, guinea-corn, rice, soybeans, millet, beniseed, beans, groundnuts, bambara nuts, citrus fruits, mangoes, cashew, pineapple, guava, palm products, pepper and cassava. These agricultural potentials are capable of conveniently supporting agro-allied industries like rice milling, palm kernel processing, garri processing flour milling, juice processing, bakery, oil mills, food processing, timber-lumbering and ceramic. The people of the local government, in addition to farming, engage in trading (NPC, 2006).

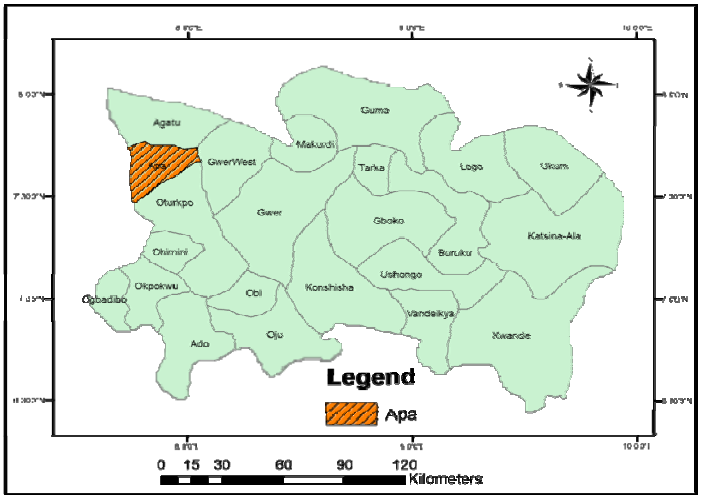

Figure 1. Map of Benue State showing the study area (Apa)
Source: Created from Nigeria shelf Archives (2017)

Population and sampling procedure

The population of the study consisted of all rice farmers in Apa Local Government Area, Benue State, however due to logistics purposive and multistage sampling technique was adopted to select 100 respondents from whom primary data was collected for this study.

Method of data analysis

The data for this study were analyzed using both descriptive and inferential statistics. Objectives 1, 2 and 3was analyzed using descriptive statistics such as frequency, percentages and mean scores and objective 4 was analysed using binary logit regression analysis and the parameters used to testthe stated hypothesis.The logit model is appropriate because the dependent variable, adoption of technologies is qualitative in nature and will hence measure at two levels as dummy variable (1= adopted and 0= not adopted). The logit regression model is a binary choice technique, which allows for prediction of effects of independent variables on the dependent variable. The logit model is chosen as the best approach used for handling multinomial dependent variable (Manyong and Houndekon, 2000). In estimable form, the model is expressed as;

$Z = \text{Ln}\ \{\frac{Pi}{1-Pi}\} = \beta_o + \beta_1 X_1 + \ldots\ldots\ldots + \beta_k X_k + u_i.$

The unknown parameters β_i are usually estimated by maximum likelihood. Thus, model is explicitly express as: $Z_i = \beta_o + \beta_1 X_1 + \beta_2 X_2 + \ldots\ldots\ldots + \beta_8 X_8 + u_i$ Where,

Z_i = Standard logistic function of P_i

β_o = Constant term

$\beta_{i\ (i\ =\ 1,2\ldots.8)}$ parameters to be estimated

The independent variable (x) would be:

X_1= Sex: (1, if male and 0 if female)

X_2 = Age (years)

X_3 = Marital status (1, if married and 0 if single)

X_4 = Household size (number of persons)

X_5 = Level of education (years)

X_6 = Farm size (hectares)

X_7 = Farming experience (years)

X_8 = Contact with extension agents (years)

U_i = Independent distributed error term.

RESULTS AND DISCUSSION

Socioeconomic Characteristics of Rice Farmers

Table 1 shows the percentage distribution of respondents according to their socioeconomic characteristics. The results showed that majority (55.0%) of the respondents were males while 45.0% were females. This shows that rice farmers in the study area were dominated by men. This may be attributed to the fact that men as the head of households engage in farming activities to carter for the needs of the family. This finding however is in contrast with that of Asadu (2011) who reported that women were the majority among the farmers worldwide.

Most (48.0%) of the respondents were within the age of 36–45 years (48%) followed by those within the range of 46 years and above (36.0%), those between21-35 years were 13%. The average age was 39 years indicating that they are still in their active years. This suggests that the likelihood of adopting innovations meant to improve rice production may be high as adoption of innovation is easier with venturesome people (Aphunu *et al.,* 2008).

Table 1 also shows that many (48.0%) of the respondents had rice farming experience of between 6-20 years. This implies that most of the respondents were well experienced in rice farming and are expected to have acquired relevant skills as well as willing to adopt innovations for effective farm operations. Educational status also reveal that many (49 %) of the respondents had tertiary education. This is advantageous because the people's assimilation rate will be enhanced by high educational status as education has positive

relationship with quick understanding (Doss, 2003). However, the finding is in contrast with that of Asadu (2011) who reports that in Makelle, Ethiopia, rice farmers generally have low educational status.Majority (63.0%) of the respondents operated between 1-3 hectares (1ha.) of farm land. This result indicates that farmers in the study area were within the small scale farming category. The implication of this on adoption is enormous as they believe that it is possible for them to manage the farms at a low technology level. The results in Table 1 further show that majority (62.0%) of the respondents did not belong to any cooperative group. The low participation of the respondents in social groups poses a serious disadvantage to them because they would not enjoy any of the benefits of cooperative in information sharing and also that intervention agencies prefer to deal with farmers' groups. This is position is consistent with Agbamu (2006) that the greater the participation of a farmer in social organization, the more interaction with other farmers and hence the more innovative he becomes.

The level of extension contact of by farmers was also analyzed and the result in Table 1 show that majority (51%) of the respondents had no extension contacts. The poor extension contact may be due to inadequate number of village extension agents within the state ADP. It is to be noted that this circumstance is not healthy for effective adoption of innovation since the innovation must be disseminated first. The findings agree with Chilot (1994) who found that extension contact had a significant effect on technology adoption. Table 1 further shows that majority (66.0%) of the respondents had annual income of above N151, 000 per annum. The mean annual income of the respondents was N 120,000.This shows that rice farmers in the study area were small income earners. This low income status might reduce their ability to procure capital intensive technologies as income level has a positive relationship level of technology adoption (Chilot, 1994).

Table 1: Percentage Distribution of Respondents Based on Socio-Economic Characteristics(n=100)

Socioeconomic characteristics	Frequency	Percentage
Sex		
Male	55	55
Female	45	45
Age		
≤20	3	3.0
21-35	13	13.0
36-45	48	48.0
≥46	36	36.0
Marital status		
Single	16	16.0
Married	84	84.0
Farming experience		
≤1-5years	42	42.0
6-20years	48	48.0
>20years	10	10.0
Level of education		
Non formal education	2	2.0
Primary education	5	5.0
Secondary education	44	44.0
Tertiary education	49	49.0
Primary occupation		
Farming	50	50
Teaching	39	39
Trading	9	9
Others	2	2
Household size(numbers)		
1-5	54	54
6-10	41	41
≥11	5	5
Farm size(ha)		
1-3	63	63
4-6	23	23
>6	14	14
Annual income(naira)		

Socioeconomic characteristics	Frequency	Percentage
≤50,000	3	3
51,000-100,000	4	4
101,000-150,000	37	37
≥151,000	56	56
Membership of farmer association		
Yes	38	38
No	62	62
Extension contact		
Yes	59	59
No	41	41
How often if yes		
1-5times	49	49
6-10	0	0
Not at all	51	51
Total	**100**	**100**

Source: Field survey, 2017

Sources of agricultural information

The results of the sources of information on rice production technologies are presented in Table 3. The entries show that majority (85.6%) of the respondents have radio as their source of information on rice production technologies. This could be because of the presence of Joy radio that which has series of agricultural programmes. It is noteworthy that educational profile of the people in the study area could make them to develop interests in radio programmes especially the ones that serve their interests like agricultural programmes since the people are predominantly farmers. Although, Ramchandani (2004) pointed out in an earlier study that radio and television provides means for quick and wide dissemination of agricultural information and appealing messages, the recipient of such messages must be able to afford it in terms of cost and simplicity.

Table 2: Sources of Information on Rice Production Techniques to Respondents (n=100)

Sources	Frequency*	Percentage
Radio	113	94.2
Television	2	1.7
Cooperatives	1	0.8
Internet	1	0.8
Fellow farmers	55	45.8
Print media	1	0.8
Community leaders	3	2.5
NGOs	2	1.7
Universities & research institute	1	0.8
Extension Agents	9	7.5
Farmers Association or Group	4	3.3
friends and Neighbours	2	1.7

*Multiple responses recorded

Source: Field survey, 2017

Rice production technologies introduced to the study area

Table 3 shows the distribution of rice production technologies introduced to farmers in the study area. The table reveals that majority of the respondents (93%) agreed that improved seed varieties were the most predominant technologies introduced. This is where extension services are cardinal since the seeds have rates and other agronomic requirements for effective productivity. It is not enough to have the seeds available, affordability and usability should be factored into the adoption process for sustainability.

Table 3. Distribution of respondents according to rice production technologies (n=100)

Production technologies	Frequency		Percentage	
	Yes	No	Yes	No
Improved grain varieties	93	7	93	7
Land preparation size	69	31	69	31
Pesticide application	90	10	90	10

Production technologies	Frequency		Percentage	
	Yes	No	Yes	No
Fertiliser application	78	22	78	22
Manual weeding	97	3	97	3
Herbicide application	75	15	75	15
Disease and pest control	89	11	89	11
Appropriate spacing	74	26	74	26
Harvesting	64	36	64	36
Storage	35	65	35	65

Source: Field survey, 2017

Effects of socioeconomic characteristics of respondents on their level of access to agricultural information

In order to determine the effects of social characteristics of respondents on rice technologies adoption decision, a logistic regression analysis carried out, and the result is presented in Table 5. The analysis show that level of education (W=9.606), farm size (sig=0.022), have significant and positive effects on adoption decision at 1 % level of probability. This implies that respondent with higher level of education and larger farm size has greater probability of making quick adoption decision. This is because individuals with high level of education can access agricultural information from various sources, process those information at faster rate than someone who is less educated. It is also possible that, farmers who have large farm lands would require more technological intervention to facilitate their works and productivity.

The chi-square value of the logit regression model is 13.388 and is significant at 10% level of probability (sig. = 0.063). This implies that the social characteristics of the respondents significantly affected their adoption decisions of rice technologies. The Nagelkerke R^2 for the regression is 0.161, indicating that the variables tested accounted for only 16.1% of the variations in the dependent variable, meaning that more social variables may account for farmers' adoption decisions. The null hypothesis which states that selected social characteristics of farmers have no significant effects on adoption decision was therefore rejected.

Table 4: Effect of the Socio-Economic Characteristics of Respondents on their adoption decision

Socio-economic Characteristics	Coefficient	Standard error	Wald	Sig	Exp(B)
Educational level	1.606	0.518	9.606	.002*	4.983
Farming experience	0.003	0.035	0.008	.928	1.003
Marital status	0.132	0.576	0.053	.818	1.142
Household size	0.012	0.051	0.054	.816	1.012
Farm size	0.020	0.089	2.051	.022*	1.020
Income	0.000	0.000	0.154	.695	1.000
Constant	0.301	0.912	0.109	.742	1.351
χ^2 = 13.388. Sig. = 0.063					
2log likelihood 115.924					
Nagelkerke R^2 =0.161					

* indicates significant at 5% level of probability

CONCLUSION AND RECOMMENDATIONS

Conclusion

Based on the findings of this study, it was concluded that the social profiles of the farmers were low and therefore responsible for the low adoption level since the chi square statistics show a clear relationship between social characteristics and adoption decisions. It can be further concluded that radio as the major source of information on agricultural development activities may not be sufficient for proper dissemination of agro allied information as studies have shown that mass media are not particularly effective tools for overt change in behavior.

Recommendations

Based on the conclusion of this study, the following recommendations are made to improve adoption decision by farmers:

1. Regular training should be organized for farmers to update their knowledgeof improved production technologies to enhance adoption decision.
2. Farmers' organization should be strengthened and made more attractive to prospective members to reduce the excessive dependence on radio as the major source of information on improved agricultural practice. This will further enhance farmers' networking.

3. Farmers should consider sharing the cost of extension services as the public extension system is no longer effective due to depletion of their numbers that cannot match the farming population.

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USE OF RADIO FOR EXTENSION SERVICE DELIVERY TO FARMERS' IN RURAL COMMUNITIES OF ABIA STATE, NIGERIA

Atasie, C. M. and Izuogu, C. U.

ABSTRACT

This study explored radio utilization for extension service delivery to farmers' in rural communities of Abia State, Nigeria. The specific objectives of the study included to analyse the socio-economic characteristics of the respondents and to ascertain the access/ownership of mass media channels for technology transfer by the respondents. A multi-staged random sampling technique was adopted in selecting the 126 respondents for the study. Data were analysed using descriptive and inferential statistics. Results showed that the majority (81.75%) were married and require other information sources to meet with production challenges. The average income earned by a respondent per week is N2631.15k. Contact with extension workers was negatively significant at 5% level of probability. It implies that the more access farmers had with the extension workers the less they make use of radio. The study recommended that rural farmers' access to radio should be sustained to ensure adequate awareness of innovations generated by research institutes and other governmental and non-governmental agencies. Rural farmers' radio forum should be formed to increase access to information by farmers.Extension workers should put moreconcerted effort to develop urge for usingthis electronic medium as valuable source of agricultural information. They should be educated to direct the content of the message to address the needs of the farmers.

Keywords: Rural, Technologies, Farmers, Utilization, Access

INTRODUCTION

Transferring agro-technologies to the clientele at the appropriate time is an effective way of developing agriculture. Hence, the achievements of agricultural growth programmes in developing countries depend, to a large extent, on the environment and level of use of media technology in mobilization of people for progress. However, many grassroots development programme have been carried out in the rural areas but the impact are still low.In addition, Olowosago, (2015) stated that the dividends of democratic governance are yet to get to rural communities because the community media have not come to where they ought to be at the moment in Nigeria.

The organizers and planners in developing countries understand that the development of agriculture could be facilitated with the active use of mass media (Salleh *et al*, 2010). Adoption of improved farm technologies is a reliable means solve the problem of low agricultural productivity in Nigeria. Improved technologies are valueless until they can be put to some practical use for economic and social well-being of the people.

Radio is a mass medium of communication and can reach a large number of people at a given time involving the least expense. In terms of accessibility, radio is perhaps the most direct means of information in rural areas. The accessibility to farm radio programmes depends on the extent of radio ownership, the reception of radio signals, understandability of the message and convenience of listening time. Also, the availability of transistor's radio nowadays makes it easy for almost every family to own a radio (Onuekwusi and Atasie, 2011). For agricultural purposes, radio is one of the most popular means of communicating with farmers. Adekunle *et al* (2004) identified radio to be a very good source of information to farmers in Abia State. The medium has become the favourable choice of Agricultural Development Projects (ADP_S) in communicating useful agricultural information to farmers in remote areas.

The first radio station in the country was run by the Nigerian Broadcasting Service and started its operation in Lagos in the mid-1940s' with limited coverage. According to NBC (2011), there are 136 radio stations of which 43 are owned by Federal Government and 41 by State governments. Privately-owned stations are 25, while 27 radio stations are campus radio. Radio is a very powerful communication tool. Experience with rural radio has shown the potential for agricultural extension to benefit from both the coverage and the relevance that local broadcasting can achieve by using participatory communication approaches (Nwachukwu, 2010).

In Nigeria however, the idea of using community radio in fostering rural or community development has continued to remain a white elephant effort as most existing broadcast stations are not patterned to cater for the needs of rural communities. The few supposedly community radio stations', that is, community radio stations sited in higher institutions, have not helped matters as they have continued to be bedeviled by human challenges which make them most times, pursue commercial interest rather than community or rural development which they were set up to engender (Umuokoro, 2012).

Since technologies are practices and inputs that can guarantee profitable results of production on the farm and farm family, as well as increase in food production and eradication of poverty must be achieved, efforts must be geared towards effective and efficient means of transferring technologies and the required

knowledge especially through the use of mass media in Nigeria. It would be wrong to assume that suitable technologies will become available to farmers without considering and testing the level of awareness and use of such technologies by the extension workers who offer the technical advice.

Based on the above fact, a study on use of radio for extension service delivery was carried out to reveal the extent of access/ownership, frequency of use and ascertain the effect on the socio-economic characteristics of farmers. This study is imperative because it would provide a better way to increase and sustain the utilization of radio for technology transfer and also grant the rural populace access to grassroots development and reap the dividend of democracy.

The specific objectives of the study included: to

(i) analyse the socio-economic characteristics of the respondents;
(ii) ascertain the access/ownership of mass media channels for technology transfer;
(iii) examine frequency of use of radio for technology transfer in the study area.

The research hypothesis is:

H_0. There is no significant relationship between socio-economic characteristics of respondents- (age, marital status, farming experience, farm size, educational level, ownership/access to radio, frequency to extension contact and income level of the respondents) and level of radio utilization for extension delivery.

METHODOLOGY

Study area

The study was conducted in Abia State which covers a geographical area of about 5243.7sq km, and is approximately 5.8 per cent of the total land area of Nigeria. It is bounded on the north and north-east by Anambra, Enugu and Ebonyi States. On the west of Abia is Imo State. To the east and south-east are Cross River State and Akwa Ibom State, and to the south is River State. Rainfall is heavy in the State and about 2400 mm/year, and it is quite intense between the months of April through October. Abia state shares similar rainfall regime with Imo State (Ifenkwe and Izuogu, 2015).

Sampling procedure

The population for the study was made up of all farmers in Abia State. Multi-sampling technique was adopted in selecting the 126 respondents for the study. This study used both primary and secondary data. Primary data collection involved the use of interview schedule and structured questionnaire. The objectives of the study were considered in framing the questions in the research instruments.

RESULTS AND DISCUSSION

Socioeconomic characteristics of respondents

This section provides the socio-economic characteristics of respondents within the study area. The major findings of the study are presented and discussed, and inferences drawn from them also discussed in detail.

Data presented in Table 1 shows that 48.41% of the respondents were females, while 51.59% were females. This indicates that males constituted a higher percentage of people engaged in farming activities in the study area and points to the need to encourage their female counterparts to be involved in farming activities. It also agrees with a previous study by Izuogu and Ekumankama (2015).

Entries in Table 1 reveal that 23.02% of the respondents were 26-35 years of age, while 36.51% were between 36-45 years. Also 30.16% were 46-55 years and 10.20% were 56-65 years. This result implies that majority of the respondents were in the productive stage of their lives and were capable of engaging in farming activities. FAO (1992) described this group of people to be economically productive in population (16-64 years). Such a group is most likely to be active in farming and would tend to develop more interest in sourcing for technologies through the mass media.

Most of the respondents (81.75%) were married. This was not surprising as most of them were of adults and ready to have their own family. Adamu (2005) reported that about 90% of Nigerian population was engaged in agricultural production processes of various types regardless of their marital status.

Table 1: **Socio-Economic Characteristics of Respondents**

Characteristics	Operationalized	Frequency	Percentage (%)
Sex	Female	61	48. 41
	Male	65	51. 59
Age	26-35	29	23.02
	36-45	46	36.51
	46-55	38	30.16
	56-65	13	10.20
Mean age	**44**		

Characteristics	Operationalized	Frequency	Percentage (%)
Marital Status	Single	23	18.26
	Married	100	79.36
	Divorced	3	2.38
Income (N) (weekly)	500-2500	76	60.32
	2501-4500	33	26.19
	4501-7500	17	13.49
Mean Income (N)	**2631.15**		

However, it could be deduced that since majority of the respondents were married, it is expected that they will source for agricultural technologies through the mass media to increase their productivity and enhance their income. The low percentage of divorce is attributed to the fact that though Nigeria has adopted more liberal divorce laws in the last two decades, many households in Imo State still value the sanctity of marriage (Izuogu *et al,* 2015) Furthermore, marriage is appreciated and honored among people. Ekong (2010) observed that getting married is a highly cherished value among ruralities in Nigeria.

The income earned by the respondents was also described in Table 1. From the result, it was revealed that 60.32% earned N500.00 – N2500.00 per week, and 26.19% earned between N2501.00- N4500.00 per week, while only 13.49% of the respondents earned above N4500.00. The average income earned by a respondent per week is N2631.15k. This implies that a respondent receives an average of N375.88k on daily basis showing a low income level when compared with country's economy and the household size. It also indicates that the people are poor and have not benefited from the dividend of democracy as the grassroots development programmes have not reflected on their socio-economic life.

Farmers' access/ownership of radio for technology transfer

Table 2 shows the level of access/ownership of the radio as indicated by the respondents. Radio had the highest rate of accessibility/ownership as revealed from the Table. From the findings, 87.30% of the respondents had access/owned radio. This may be as a result of the advantages that radio has over other mass media channels. Munyua (2000) found out that radio was successful in the delivery of agricultural technology. It also has the ability of being put to use without necessarily interfering with the activities of the user. This result is also in agreement with Ani and Baba (2009) who stated that radio breaks illiteracy barrier which affect use of newspapers and other books. Also in previous study farmers showed favourable attitude toward the use of radio as an information source (Atasie, 2011).

Table 2 Distribution of respondents according to their level of access/ownership to radio for technology transfer

Mass media	Level of access/ownership	
	Yes	No
Radio	110(87.30)	16(12.70)

Multiple Responses. Figures in parenthesis are percentages

Frequency of use of radio for technology transfer

The daily use of radio for extension service delivery was high (83.57%). Almost all homes have radio as a source of news and entertainment. Radio uses alternative source of power (battery) which is relatively cheaper when compared to electricity or fueling a generating set. Also radio can be listened to while one is busy with his/her work (Onuekwusi and Atasie 2011). This also suggests that if grassroots programmes are properly channeled through radio the respondents would be to access technologies released to them.

Table 3 Distribution of respondents according to their frequency of use of radio for technology transfer

Mass media	Frequency of utilization				
	Always	Sometimes	Rarely	Mean	Decision
Radio	117*(83.57)	23*(16.42)	-	2.8	High

* Multiple Responses. Figures in parenthesis are percentages

Multiple Regression analysis for the hypothesis on the relationship between socioeconomic characteristics of the respondents and use of radio

Based on statistical and econometric reasons, the Double log model was chosen as the lead equation for the analysis. The F-ratio was 3.690. The coefficient of multiple determinations (R^2) was 0.349, implying that at about 34%

variations in the use of the radio was determined by the variables included in the model. The coefficients of regression that had expected signs (positive) that are consistent with *a priori* expectations were age and marital status. This implied that those variables with positive signs were positively related to the use of the radio. In other words, an increase in any of the variables would increase use of radio.

The coefficient of determination for age was positively related to the use of radio by the respondents with a t-value of 2.301, which was significant at 1% level of probability. This suggests that the older the age of the respondents, the more they make use of radio and vice versa. This shows that as their age increases their responsibilities also increases and this makes them to devise means to acquire more information to meet their farming challenges. This indicates that most of the respondents were adults and fall within the group described by FAO (1992) as economically productive in population (16-64 years). Such group is usually active in farming and tends todevelop more interest in sourcing for agricultural technology through the mass media channels. This finding is in agreement with Muhammad and Garforth (2001), who reported that radio is the major source of agricultural information, followed by television.

Marital status also was significant and positively related to the use of radio with a t-value of 4.134 at 1% level of probability. This shows that as there is increase in the marital status there is an increase in radio use. However, it could bededuced that since majority of the respondents were married, it is expected that they will source for more information to increase their productivity and enhance their income.

However, the variable that was negative and significant implied that it had negative effect on the use of radio. This means that an increase in the variable would lead to a decrease to the use of radio. Contact with extension workers was negatively significant at 5% level of probability, with a t-value of -0.233**.** This implies that the more access the respondents had to extension workers the less they made use of radio. It shows that farmers do not makeeffective use of electronic media in getting agricultural information. The situation demands for moreconcerted effort in this regard to develop urge for usingthese electronic media as valuable sources of agricultural information. The result is in consonance to that of Muhammad (2004) who reported that the use ofelectronic media for getting agricultural information was notencouraging and the general perception of electronicmedia seems entirely different from the ground reality.

Based on the f ratio value, the null hypothesis was accepted which stated that there is no significant relationship between the selected socio-economic characteristics of the respondents and use of radio for receiving information. This decision was taken since the F ratio value computed is less than the table value.

Table 3: Testing of hypothesis one - Ordinary Least Square Regression (OLS) estimate of the influence of selected socio-economic characteristics of the respondents on their use of radio for extension service delivery.

Variables	Linear	Semi log	Double log +	Exponential
Constant	1.995	-8.746	-2.532	0.893
	(2.443)**	(-1.523)	(-1.632)	(3.942)***
Age	0.031	1.502	0.369	0.007
	(2.674)***	(2.526)**	(2.301)**	(2.226)**
Marital status	0.034	1.114	0.343	0.010
	(3.424)***	(3.623)***	(4.134)***	(3.804)***
Farming experience	-0.291	-0.541	-0**.**194	-0.076
	(-1.179)	(-0.775)	(-1.024)	(-1.111)
Farm size	0.256	0.381	0.064	0.051
	(1.325)	(1.012)	(0.634)	(0.954)
Educational level	0.114	0.262	-0.011	0.017
	(0.363)	(0.076)	(-0.057)	(0.195)
Ownership/access to radio	-0.278	0.542	0.206	-0.079
	(-0.699)	(0.609)	(0.858)	(-0.718)
Frequency of extension contact	-0.843	-2.654	-0.936	-0.256
	(-2.170)**	(-1.791)*	(-0.233)**	(-2.379)**
Income Level	0.000	0.404	0.170	3.385E-5
	(1.017)	(0.581)	(0.904)	(0.900)
R^2	0.244	0.315	0.349	0.252
Adjusted R	0.169	0.216	0.255	0.178
F-ratio	3.265	3.168	3.690	3.413

Source: Field survey 2014***, **,* represents significant at 1%, 5% and 10% respectively, + represents lead equation. HO_1: Accepted @ 5% using Linear Regression Analysis

CONCLUSION AND RECOMMENDATIONS

Information is an essential ingredient in agricultural development programmes, but Nigerian farmers seldom feel the impact of agricultural innovations either because they have no access to such vital information or because it is poorly disseminated. The information provided is exclusively focused on policy makers, researchers, and those who manage policy decisions with scant attention paid to the information needs of the targeted beneficiaries of the policy decisions (Ozowa, 1997).It therefore means that inadequate provision of agricultural information, knowledge and improved technologies to the rural people has greatly undermined agricultural development and quality of life in Nigeria.

The success of democratization and globalization in Nigeria and other developing countries depends largely on the development of the rural populace. Rural communities must be enabled to deal positively and decisively with the environmental problems confronting them, access grassroots development programmes to increase their productivity, and be more enlightened to promote greater attitudinal change and skills. Nigeria and other developing countries must begin to use Information and Communication Technologies (ICTs) to address the multi-dimensional problems of the rural communities.

The study recommended that rural farmers' access to radio should be sustained to ensure adequate awareness of innovations generated by research institutes and other governmental and non-governmental agencies. Rural farmers' radio forum should be formed to increase access to information by farmers.Extension workers should put moreconcerted effort to develop urge to use radio as a valuable source of agricultural information for farmers. They should be educated to direct the content of the message to address the needs of the farmers.

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VULNERABILITY OF RURAL HOUSEHOLDS TO RISKS ASSOCIATED WITH QUARRY ACTIVITIES IN OYO STATE, NIGERIA

Oyegbile, S. A.

ABSTRACT

Economic and environmental pressure are being exerted on rural communities and their households due to the increase in quarry activities that is being necessitated by increase in demand for crushed rock, gravel and sand in road and building construction. This study therefore examined the vulnerability of rural households to risks associated with quarry activities in Oyo state Nigeria. Multi-stage sampling procedure was used to select respondents in Oluyole Local Government Area.A total of 143 households were sampled from communities that were within five kilometre radius of quarry site in the area. Qualitative and quantitative data were collected for the study. Qualitative data collected were presented within the discussion of the quantitative data, which was analysed using descriptive statistics, Pearson Product Moment Correlation and ANOVA at $P\leq_{0.05.}$ The mean age of the respondents is 42.5 years. More than half (61.5%) were male, while 83.2% were married and 44,8% and 2.8% had primary and tertiary education respectively. Majority (73.4%) of the respondents engaged in crop farming as their major livelihood activity. Quarry activities were perceived by 97.9%, of the respondents to have caused decrease in crop production due its effect in livelihoods and environmental, thus majority (77.7%) of the respondents indicated high level of vulnerability of the residents to risks ensued from quarry activities. Diseases such as chronic cough, acute malaria, catarrh and shock due to blasting of rock were highly severe in the study area. Quarry activities in the area have led to migration of people from the communities for health and economic reasons. There is relationship between the educational level, household size of respondents and vulnerability to risks associated with quarry activities. Also, significant relationship exists between respondents' livelihood and their vulnerability to risks. Safety net should be provided for people in quarry activity areas across country so as to reduce the negative effects of the activities on the livelihoods of the people, there reducing their vulnerability to associated risks.

Keywords: Quarry activities, vulnerability, risks, rural households

INTRODUCTION

Quarry activities are concerned with the extraction of non-fuel and non-metal minerals from rock (Ukpong, 2012). In Nigeria, there has been increasing demand for crushed rock, gravel and sand in the road and building construction sector in the recent times. This has invariably increased quarrying activities and exerted pressure on the host communities which are mostly rural, whose major economic activity is agriculture. In addition to the significant role being played by rural communities and their households in agricultural production, they are also major stakeholders in the extraction of rocks deposited in their localities. Madhumitha, Bezalel, Devakumar, Kaveri, and Rajagopal (2009) and Oguntoke, Aboaba and Gbadebo, (2009) in their studies have established that exploitation of solid minerals comes with various associated hazards and conflicts over natural recourses, this has invariably generated concern in the development world..

Negative environmental effects of quarry activities include noise, dust, effects on fauna/flora/landscape and water resources. Quarry activities pollute air, water and soil, affect the health of people and animals, reduce crop yield and damage buildings (Madhumitha, *et al.* 2009). The destruction of infrastructure, erosion of livelihoods, damage to the integrity of ecosystems and architectural heritage, as well as injury, illness and death of people are some of the direct outcomes of quarry activities in local communities (Oguntoke *et al.* 2009).Many of such effects are noticed directly on households' livelihoods and the environment in which they live. Thus, households are exposed to various associated risks. The exposure of rural households to risks associated with quarrying activities and operations brings about severe shocks that often cause welfare loss, consequently making such households vulnerable to 'secondary-risks' such as diseases and economic hardship. It has been well documented that people that experience shock try to manage uncertainty and welfare loss using a variety of *ex-ante* and *ex-post* risk management strategies (World Bank, 2000). But these strategies are of short-term positive effects, fragile and considered to be economically damaging. They also undermine development efforts and subject the affected individual household to spiral downturn of permanent poverty. Vulnerability which is defined as the likelihood of a shock causing a significant welfare loss (Okunmadewa, 2003), is a forward-looking and dynamic view of poverty (World Bank, 2003). The vulnerability of people in rural communities in the proximate of quarry operations, could therefore be explained in terms of the various degree of hazards exposed to, which in addition to the relative poverty situation in rural area, have long-term negative consequences on rural households. As a result rural household could invariably be subjected to become poor or poorer as the case may be due to the effects of quarry activities on their livelihoods and environment. It is imperative to ensure that the exploitation of natural resources such as non-metal minerals domicile in the rural

areas are properly monitored for the safety of the people of the communities where such resources are being exploited. This will invariably enhance grassroots development in terms of environmental sustainability, livelihoods, health and well-being of people in the area and in a way, give dividends of democracy to the rural populace, This study therefore examined the extent of respondents' vulnerability to the risks associated with quarry activities in the study area. The components of vulnerability considered in this study are exposure, sensitivity and resilience of rural households to risks ensued from quarry activities.

Objectives of the study include;

- to describe the socio-economic activities of the respondents in the study area,
- to identify types of quarry activities operating in the study area,
- to describe the perceived health risks associated with quarry activities in the study area.
- to ascertain the extent of respondents' vulnerability to the risks associated with quarry activities across the study area in terms of exposure, sensitivity and resilience,

Hypotheses tested in the study

- there is no significant relationship between respondents personal characteristics and their vulnerability to risks associated with quarry activities.
- there is no significant relationship between respondents livelihood activities and their vulnerability to risks associated with quarry activities.

The study was conducted in Oyo State, Southwest Nigeria. The State covers a total of 27,249 square kilometres of land mass and it comprises of 33 Local Government Areas. Oyo State is bounded in the south by Ogun State, in the north by Kwara State, in the East by Osun State, while in the west it is partly bounded by Ogun State and partly by the Republic of Benin, The landscape consists of old hard rocks and dome shaped hills. Agriculture is the predominant source of livelihood of people in Oyo State Major food crops produce in the area include maize, cassava, yam, plantain and banana, while the oil palm, cocoa, orange, mange, cashew constitute cash crops in the state. Oyo State is endowed with solid minerals resources deposited in different parts of the state. Among the solid minerals found in the area are iron ore, gold, columbite, nickel, dolomite, tourmaline, tantalite, beryl, limestone and granite. Oluyole Local Government Area (LGA) was purposively selected, being the LGA with highest level of quarry activities in the state

METHODOLOGY

Quarry sites in Oluyole Local Government Areawere identified, while the communities within five kilometres radius of identified quarry sites were randomly selected. Households in each of the selected communities were identified, from which a total of 143 households were sampled proportionate to size of the identified communities, and householdheads were interviewed. Focus Group Discussion (FGD) and structured questionnaire were used to collect qualitative and quantitative data for the study. Qualitative data collected were presented within the discussion of the quantitative data, while quantitative data were analysed using descriptive statistics, Pearson Product Moment Correlation and ANOVA at $P \leq_{0.05}$

RESULT AND DISCUSSIONS

Age, Sex and Marital status of respondents

The result on Table 1 shows that 53.9% of the respondents were between the ages of 30 and 59 years. The mean value and standard deviation of respondents' age is 42.5±1.35, which implies that more than half of the respondents were in their productive age. It is thus expected that livelihood activities of the people in the area should be high if there is a relative access to livelihood assets by the group of people that are in their active productive age. Such access in a way could enhance household's ability to mitigate the risks associated with quarry activities, thereby reducing the effects of quarry activities on the household vulnerability. However, in a situation where people's access to livelihood assets is denied or hindered in the face of development process and encroachment on people and household's livelihood assets such as farmland or river, there is likelihood of the affected individuals and households becoming poor or poorer, thus increase household's vulnerability. As expressed by Shahbaz (2008) limited access to source of livelihood could increase level of defencelessness and exposure to shocks thereby increasing people's vulnerability to risks.

The result in Figure 1ashows that more than half (61.5%) of the respondents were male, while 38.5% were female. Among the female respondents were those that were household heads as a result of the death of the male household head, while other female respondents were those that assumed the position of household head by virtue of the male household heads that have moved out of the community to establish farms elsewhere, while some have engaged in other livelihood activities aside farming due to the effects of quarry on their livelihood activities in the area, this was also revealed during FGDs in some of the sampled communities.

The result in Figure 1b shows that 83.2%, representing majority of the respondents were married, while 12.6% and 3.5% were widowed and

single respectively. This implies that negative effects or otherwise of quarry activities on a family member could have direct or indirect consequences on other members of the family in social or financial terms.

Table 1: Distribution of respondents by age

Age	**Freq / %**	
< 30 years	2 (1.4)	
30 – 39 years	22 (15.4)	
40 – 49 years	34 (23.8)	
50 – 59 years	43 (30.1)	
60 – 69 years	29(20.3)	
70 and above	13(9.1)	
Total	143 (100.0)	
Mean		42.5
Std. var		1.351

Source: Field survey, 2015

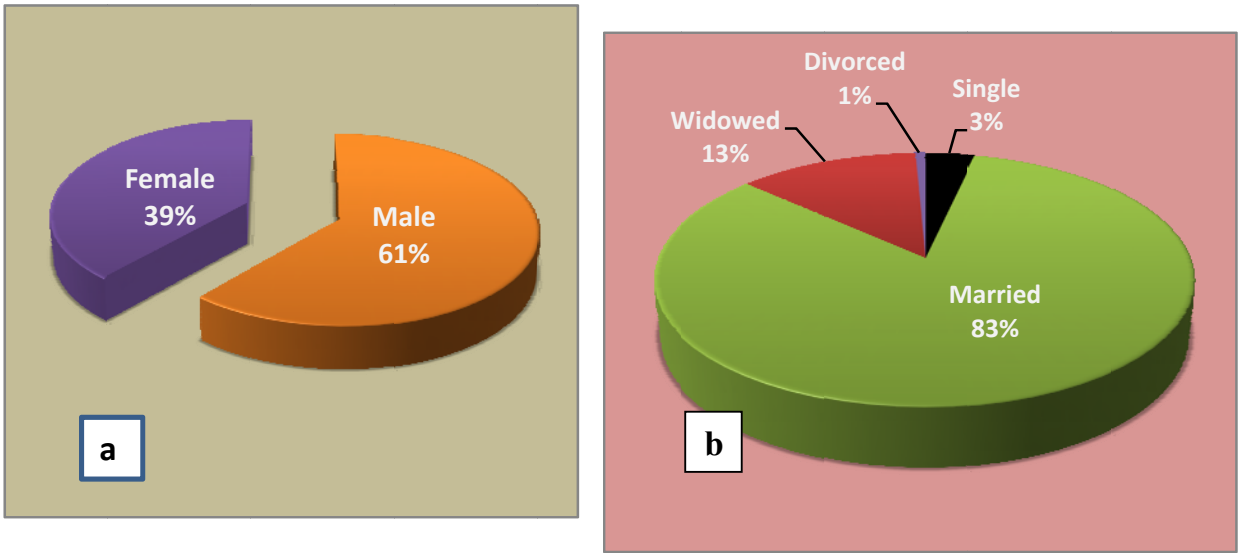

Figure 1: Distribution of Respondents by (a) Sex and (b) Marital Status.

Educational level of respondents

The findings on Figure 3 reveal that a relatively large proportion (44.8%) of respondents had only primary education, while 33.5% had no formal education. Only 2.8% had tertiary education. This implies that the educational level of respondents is relatively low. This could have significant influence on the ability of the respondents to take advantage of innovations and opportunities in agricultural production and as well their capability to diversify their livelihood activities in the face of the effects of quarry activities in their area. According to Phillip and Rayhan (2004), high level of illiteracy is a serious problem in improving the livelihoods of people, because those without formal education have limited opportunity of making use of improved production technologies. This assertion follows that the relative high level of poverty among rural households as admitted by Nishara, (2003), can be attributed to the low literacy level that characterizes rural communities, as educational attainment has been considered as one of the indicators of household vulnerability index and poverty.

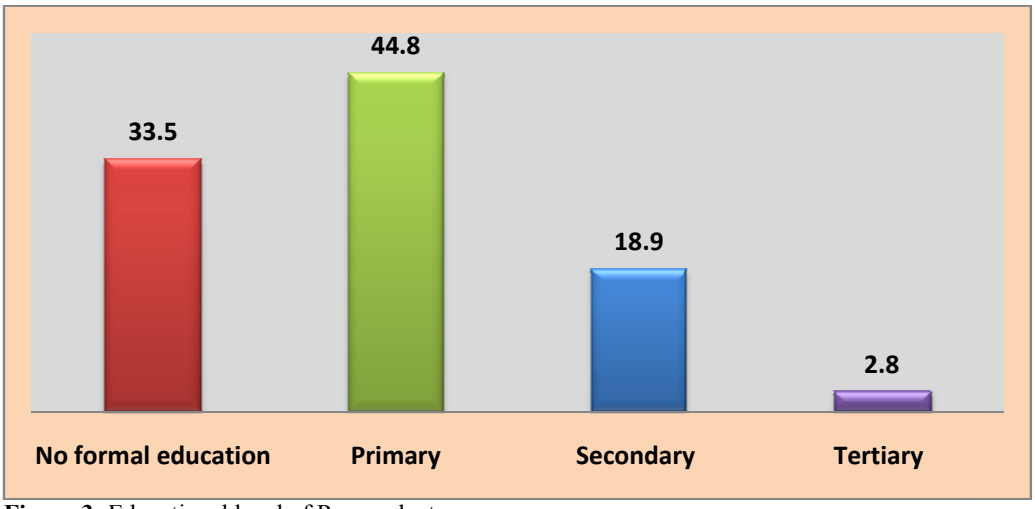

Figure 3: Educational level of Respondents

Livelihood activities engaged in by respondents

The findings on Table 3 show that majority (73.4%) of the respondents were engaged in crop farming as their major livelihood activity across the sampled communities, while 23.1%, and 8.4% of the respondents engaged in processing of farm produce and marketing of farm produce respectively. This implies that majority of the people in the study area engaged in agricultural related livelihood activities. Among other activities engaged in by the respondents in the study area were hunting (7.0%), livestock rearing (4.2%) and fishing (3.5%) activities while only 2.1% were engaged as quarry labourers. This implies that the effects of quarry activities on the environment and land resources upon which agricultural production is based will invariably have serious deleterious effects on larger categories of people engaging in agricultural related activities as their major source of livelihoods. The findings also imply that quarry activities do not provide the expected employment opportunities to rural household members of communities where quarry companies were located. It was revealed during FGDs in some sampled communities in the LGA that some local persons that were employed at the commencement of the quarry operation in the area were later laid off by the quarry authority without genuine reasons for such action. As explained by a discussant *"our expectation was high at the commencement of quarry operations in this area, with the hope that some members of communities in this area will be employed as quarry workers, having the idea that quarry activities will definitely affect our farming activities"*. The discussant went further that *"the effects of quarry activities have reduced faming activities and the earnings from it. We see this situation as an important reason for the quarry company to engage our people in quarry operations where they can be earning some living to manage the effects of quarry activities on our livelihoods in this area"*. A female respondent during the FGD admitted that "*if those that were engaged by the quarry company were not laid off, it would have contributed to the quality of life of some households in this area, and their employment would have been considered as part of benefits to be derived by the local community from quarry operators"*.

Table 2: **Distribution of respondents by livelihood activities**

***Livelihood activities**	**Freq / %**
Crop farming	105 (73.4)
Livestock rearing	6 (4.2)
Processing of farm produce	33 (23.1)
Fishing	9 (3.5)
Marketing of farm produce	12 (8.4)
Hunting	10 (7.0)
Hired labour	5 (3.5)
Gathering of non-timber forest product	3 (2.1)
Artisans	3 (2.1)
Quarry labourer	3 (2.1)
Transporters	6 (4.2)

Source: Field survey, 2015

Respondents perceived effects of quarry activities on their vulnerability to risks associated with quarry activities

Respondents' perception of their vulnerability to risks ensued from quarry activities are shown on Table 4. Respondents' vulnerability in the study area was considered in terms of their exposure, sensitivity and resilience (the adaptive capacity to cope with or mitigate the effects) as well as the health risks associated with quarry activities. Across all the sampled communities, majority of the respondents agreed to virtually all the statements that bordered on their exposure, sensitivity and resilience to the effects of quarry activities.

The result shows that 97.9%, of the respondents agreed that there has been decrease in crop production as a result of quarry activities, this has invariably affected people's income and hence their purchasing power of basic necessities has reduced. Also 96.3% agreed that lack of monitoring of quarry activities by relevant agencies have contributed to the extent of the effects of quarry activities in the study area. Respondents were of the opinion that proper monitoring and regulation of quarry activities by government regulatory agencies would have reduced the effects on people's livelihoods and the environment in the study area. In the same vein, majority (94.4%) of respondents agreed that proximity of communities to quarry site could be serious factor for exposure of people to risks associated with quarry activities in the area, thereby making them vulnerable to such risks.

Also, in terms of sensitivity of respondents to the effects of quarry in the study area, 73.5% of the respondents disagreed that they could still make reasonable income from their livelihood activities, while 72.9% also disagreed that they could live comfortably in terms of consumption and welfare, in spite of the effects of quarry activities in the area. Meanwhile, 74.7% and 84.5% agreed that the rate at which quarry activities were being carried out and the low financial capacity of the people in the area respectively, could increase the degree to which people were affected by quarry activities in the area. The implication of this is that there is high degree of effects of quarry activities on people's lives, with less ability on the part of the people to cope with the effects. Thus, it could be said that their vulnerability to effects of quarry activities is high. Corroborating this finding, Shahbaz (2008) in his assertion states that lack of access to livelihood assets by rural people may have serious impact on their level of vulnerability to risks, because limited access to source of livelihood could increase level of defencelessness and exposure to shocks and stress.

The trucks generate heavy dust particles that affect people, plants and animals in the area. Exposure of people, plant and animal to the persistent dust particulates has had serious implications on their vulnerability. Flyrock(the rock fragment propelled beyond the blast area by the force of an explosion)as explained by respondents in the study area has been one of the incidents in quarry operations that often cause injuries to people and damage properties. According to Mohamad, Armaghani and Motaghedi (2013), flyrockhas been the cause of most injuries and damages to properties in quarry and surface mining activities. At Lamulo, and Orile-Kokacommunities in the LGA, flyrock was reported to have caused injuries to some residents of the communities, while houses have also being damaged by flyrock as shown in Plate 1

Plate 1: An inhabited dilapidated house caused by flyrock and vibration at Lamulo village, located few meters from a quarry site in Oluyole LGA. Oyo State

The inference could be drawn from this finding that people living in quarry activity areas are prone to various environmental and health risks, coupled with lack of good health facilities and services in the rural areas, people are thereby vulnerable to adverse health hazards of quarry operations. Accessibility of people to good health facilities and services in environmentally vulnerable and prone areas should therefore be of concern to respective governments, organisations and individuals in the face of development process.

Table 3: Respondents perceived effects of quarry activities on their vulnerability to risks associated with quarry activities

Statements	**Degree**						
Exposure	**SA**	**A**	**U**	**D**	**SD**	**WMS**	***Rank**
Farm lands were directly affected by quarry activities resulting in decrease in production.	293 (87,2)	36 (10.7)	0 (0.0)	7 (2,1)	0 (0.0)	4.83	1st
Lack of adequate monitoring of quarry activities by relevant government agencies exposes people to advert effects of quarry activities.	239 (71.1)	78 (25.2)	8 (2.4)	9 (2.7)	2 (0.6)	4.62	2nd
Lack of access to financial credit facilities could aggravates the effects of quarry activities on people.	187 (55.7)	120 (35.7)	17 (5.1)	12 (3.6)	0 (0.0)	4.42	4th
Large house size could contribute to inability of people to adequately manage the ensued financial problem associated with the effects of quarry activities.	130 (38.7)	114 (33.9)	72 (21.4)	13 (3.9)	7 (2.1)	4.03	10th
Relative low income from livelihood activities in this area could aggravates the effect of quarry activities on the people.	127 (37.7)	161 (47.9)	33 (9.8)	14 (4.2)	1 (0.3)	4.13	8th
Lack of adequate livelihood assets could worsen the effects of quarry activities on households	158 (47.0)	156 (46.4)	15 (4.5)	3 (0.9)	4 (1.2)	4.34	5th
Proximity to quarry site contribute to the severity of the effect of its activities on households.	219 (65.2)	98 (29.2)	7 (2.1)	5 (1.5)	2 (0.6)	4.52	3rd
Sensitivity							
Low financial capacity of household head could make it difficult to cope with the effects of quarry activities on livelihood outcomes.	143 (42.6)	141 (41.9)	21 (6.3)	14 (4.2)	17 (5.0)	3.84	15th
Adequate knowledge of environmental regulations could help in curbing the environmental effect of quarry activities.	89 (26.4)	103 (30.6)	22 (6.5)	39 (11.6)	83 (24.7)	4.11	9th
I could still make reasonable income from my livelihood activity in spite of quarry activities in this area.	30 (8.9)	19 (5.7)	40 (11.9)	122 (36.3)	125 (37.1)	2.09	21st
My family could still live relatively comfort in terms of	17 (5.1)	38 (11.3)	36 (10.7)	155 (46.1)	90 (26.8)	2.21	20th

Statements	Degree						
Exposure	**SA**	**A**	**U**	**D**	**SD**	**WMS**	***Rank**
consumption and welfare, despite the effects of quarry activities.							
The rate at which quarry activities are being carried out could increase its effects on livelihoods and reduce the capability to recover the effects.	160 (47.6)	91 (27.1)	22 (6.5)	57 (17.0)	6 (1.8)	4.02	11th
Resilience (adaptive capacity)							
I have engaged in other livelihood activities in order to cope with the effect of quarry activities.	82 (24.4)	152 (45.2)	10 (3.0)	32 (9.5)	60 (17.8)	4.18	7th
My family consumption has reduced to cope with financial shortfall resulting from effects of quarry activities	76 (22.6)	163 (48.5)	31 (9.2)	43 (12.8)	23 (6.8)	3.76	16th
My children education was affected due to lack of financial capability.	104 (31.0)	23 (6.8)	47 (14.0)	95 (28.3)	66 (19.6)	3.22	19th
I have to trek long distance to establish another farm that is free from quarry pollution.	87 (25.8)	94 24.9	26 (7.7)	73 (21.7)	56 (16.6)	3.93	13th
Sending children to stay with relations in other community/city could help to reduce family expenses in order to manage the effects of quarry activities.	60 (17.9)	61 (18.1)	44 (13.1)	120 (35.6)	51 (15.2)	3.47	18th
Lack of good health care facilities in this area has caused people to travel long distance to seek medical attention for diseases associated with quarry activities.	117 (34.7)	103 (30.6)	10 (3.0)	77 (22.9)	29 (8.6)	4.22	6th
Due to non-availability / poor health facilities, people have taken to traditional method of treatment.	87 (26.4)	91 (27.0)	7 (2.1)	98 (29.1)	53 (15.7)	3.97	12th
Forming a pressure group in order to ensure compliance with environmental regulations with respect to quarry activities could reduce the effects of quarry activities.	65 (19.3)	79 (23.5)	61 (18.2)	53 (15.7)	78 (23.2)	3.88	14th
Reduction in hired labourer could reduce farm expenses in order to manage low income resulting from the effect of quarry operation on livelihood.	62 (18.4)	61 (18.2)	62 (18.4)	95 (28.2)	56 (15.2)	3.50	17th

Source: Field survey, 2015

Level of vulnerability of respondents

The result shows the level of vulnerability with percentage of respondents whose scores were below and above the mean score value of 84.6. The result reveals that majority (77.7%) of the respondents indicated high level of vulnerability with scores above mean score value, while 22.3% below the mean indicated low vulnerability level as far as effects of quarry activities is concerned. This implies that the residents of communities in the study area were highly vulnerable to the associated risks that ensued from quarry activities. The result can further be explained that the people in the study area were highly exposed to adverse effects of

quarry operation with less resilience to cope or manage the effects.

Table 4: Level of vulnerability of respondents

Level vulnerability		Range of score	Freq	%
Low		56 - 84	75	22.3
High		85 – 105	261	77.7
Minimum score	56.00			
Maximum score	105.00			
Mean score	84.6			
Stddev	11.0			

Source: Field survey, 2015

Perceived Health risks associated with quarry activity

The result on Table 5 shows that there was a high level of severity of most of the diseases associated with quarry operations as indicated by respondents in their responses to questions on severity of quarry related diseases in the area. Disease such as chronic cough, acute malaria, catarrh and shock due to blasting of rock were said to be highly severe as indicated by 60.0%, 67.4%, 64.6% and 64.0% of respondents respectively in the communities. Also, more than half of the respondents comprising 63.0%, 61.8%, and 64.25% indicated that malaise (a general feeling of discomfort, illness, or unease), nasal infection and hearing impairment respectively were highly severe.

It was gathered during FGD conducted inthe sampled communities that the air pollution arising stone dust emitted by crushing of rock and haulage of quarry products is a major problem for the inhabitants of communities near quarry sites. In three particular communities in Oluyole LGA namely; Aba Bale-Ajogbobi, Dale and Akilapa located along the road leading to multiple quarry sites, discussants lamented that diseases affecting people in the area were attributed to persistent exposure to polluted air from dust generated by quarry trucks. Regrettably, people of these communities admitted that many lives have been lost due to air pollution related diseases leading to respiratory diseases as a result of inhalation of dust. Corroborating the findings of this study, Madhavan and Raj, (2005) report that the dust particles emitted into the air during periods of clearing of vegetation, blasting, loading and haulage of quarry products by heavy trucks impair visibility and causes cardiovascular diseases such as silicosis, tuberculosis and bronchitis which could lead to pulmonary fibrosis and premature death of the people within the vicinity of quarry operations from time to time.

It was observed that in many of the sampled communities, there was no primary health or maternity centers providing health services to people in the area. During FGDs in the sampled communities, discussants explained lack of health facilities as a major challenge with respect to series of health problems associated with quarry activities in their area. Non-availability of health facilities and services in those communities made people stay off their livelihood activities for many days longer than necessary when they are ill. While some people have to travel long distance to access treatment for their ailment, others have resulted to making use of herbs and local concoction to treat their ailments. By implication people in the study area were vulnerable to health risks associated with quarry activities.

Table 5: Perceived Health risks associated with quarry activity

Types of disease in the community that may be associated with quarry activities	**Level of severity in the community** Less severe	Moderately severe	Highly severe	WMS	*Rank
Chronic cough	5 (1.5)	128 (44.0)	202 (60.0)	2.02	3rd
Acute malaria	17 (5.1)	86 (25.5)	227 (67.4)	1.45	6th
Catarrh	8 (2.4)	104 (31.0)	217 (64.6)	2.58	1st
Sinusitis – (allergies & chemical or particulate irritation of the sinuses).	68 (20.2)	75 (22.3)	50 (14.9)	0.29	15th
Gastro-intestinal infection	71 (21.1)	98 (29.2)	59 (17.6)	1.14	9th
Fungal dermatitis – (chronic, itching, inflammatory skin disease associated with asthma)	6 (1.8)	91 (27.1)	181 (53.8)	0.12	16th
Malaise (a general feeling of discomfort, illness, or unease)	15 (4.5)	76 (22.6)	212 (63.0)	0.96	10th
Hypertension	11 (3.3)	53 (15.8)	151 (44.9)	1.70	5th
Silicosis	6 (1.8)	73 (21.7)	25 (7.5)	0.68	13th

Types of disease in the community that may be associated with quarry activities	Level of severity in the community Less severe	Moderately severe	Highly severe	WMS	*Rank
Nasal infection	25 (7.4)	92 (27.3)	208 (61.8)	1.38	7th
Shock	15 (3.9)	81 (24.1)	215 (64.0)	2.45	2nd
Hearing impairment	9 (2.7)	105 (31.3)	216 (64.2)	1.71	4th
Asthma	16 (4.8)	65 (19.3)	58 (17.2)	0.76	12th
Pharyngitis-which may be cause by smoke or dust pollution (inflammation of the pharynx)	14 (4.2)	52 (6.5)	44 (13.1)	0.77	11th
Diarrhea	15 (4.5)	19 (5.7)	73 (21.7)	0.33	14th
Eye problem due to dust particle	8 (2.4)	101 (30.0)	227 (67.4)	1,35	8th

Source: Field survey 2015

Test of Hypotheses

Ho_1: There is no significant relationship between respondents' personal characteristics and their vulnerability to risks associated with quarry activities.

The result on table shows that there is relationship between the educational level, household size of respondents and vulnerability to risks associated with quarry activities. This implies that different educational level of individual respondents could be a factor to the extent to which an individual could manage or cope with the effects of quarry activities, while household size could be a differential factor among households with respect to the level at which household's livelihoods were affected by quarry activities in the area.

Table 6: Analysis of relationship between respondents' personal characteristics and vulnerability to risks associated with quarry activities.

Variable	χ^2	df	p-value	Decision
Age	0.004	6	0.10	NS
Sex	0.510	3	0.70	NS
Marital	1.570	3	0.65	NS
Educational level	0.270	4	0.009	S
Household size	19.0	6	0.004	S

H_0: There is no significant relationship between respondents' livelihood activities and their vulnerability to risks associated with quarry activities.

The result table 6 shows that there is significant relationship between respondents' livelihood and their vulnerability to risks. This implies that effects of quarry activities on livelihoods of people in the area exposed them to various risks associated with quarry activities. The degree of exposure and sensitivity of people's livelihoods coupled people's resilience to cope/manage the effects resulted in high level of people's vulnerability to risks associated with quarry operations in the study area.

Table 7: Analysis of relationship between respondents' livelihood activities and vulnerability to risks associated with quarry activities

Variable	χ^2	df	p-value	Decision
Livelihood activities	0.03	1	0.001	Sig.

CONCLUSION AND RECOMMENDATIONS

Quarry activities have negative effects on the livelihoods of respondents in the study area. The effects have resulted in low crop yield and income of respondents. The level of respondents vulnerability to risks associated with quarry activities was high. Respondents were exposed to various health, economic and social risks due to quarry activities in the study area. Respondents' livelihoods were highly sensitive to the effects of quarry activities in the area with respect to the rate at which people livelihoods were exposed to the effects, and the resilience of the affected individuals to manage, cope and/or recover from the accumulated negative impact of the effects. Empirically, relationship exists, though negative between the respondents' livelihood activities and their vulnerability to risks associated with quarry activities in the study area.

Based on the findings of this study, it is therefore recommended that;

- Socio-economic and Environmental impact baseline study should be extensively carried out and the report adequately analyzed and the recommendations strictly adherent to, so as to identified the short and long term effects and impacts of quarry activities on the

environment and people living the area of the quarry activities.

- Safety net should be provided for people in quarry activity areas across country so as to reduce the negative effects of the activities on the livelihoods of the people.

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WOMEN DEVELOPMENT COMMUNITY BASED ORGANISATION'S INTERVENTION IN RURAL DEVELOPMENT: A CASE STUDY OF IMO STATE

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ABSTRACT

The study assessed the grassroots' intervention of women development community based organization in rural development in Imo state, Nigeria. A multistage random sampling, procedure was used to select 10 communities from 5 Local Government Area where developmental projects were carried out by women community based organization. Data were collected with a structured questionnaire and analyzed using descriptive and inferential statistics (multiple regression). Results from the study showed that women community based organization intervened in both infrastructural and non-infrastructural development such as: Construction/rehabilitation of community halls/schools, market stalls, drilling water boreholes, women skill acquisition, rendering of communal environmental services, HIV/AIDS education awareness, organizing adult education and Market Information Services. The level of intervention was moderate($\bar{x}$=2.16) while the regression analysis result showed that the coefficients of membership size (2.079^{xxx}), number of meetings (21.625^{xxx}), type of rural development project (4.333^{xxx}), access to credit (3.040^{xxx}) and income (16.793^{xxx}) were significant and positively related at 1% probability level, while coefficient of age of organization was significant at 5% level of significance. Thus the study recommends that women community based organization should adhere strictly to the aims and objectives of the organization while more encouragement should be given by the government to the women through remunerations such as rewards and training.

Keywords: Women, Development, Community Based Organization, Intervention, Rural.

INTRODUCTION

In the last few decades, most neglected areas of the world have been seen and referred as rural communities. The rural areas are usually grossly neglected as far as development projects and infrastructure are concerned (Ogidefa, 2010). This has caused the exodus of both young men and women to urban centres. Thus, the quest for accelerated development and improvement in the quality of life of the rural dwellers has remained an issue of great concern to the Government and people (Oko, 2010; Nwosu, 2013). Oko (2010) further stated that the quest necessitated a transformation which metamorphosed to development.

This is because rural development is a strategy which is designed to bring about an improvement in the social and economic life of the rural communities (Fakolade and Olarede, 2011). Similarly, Adeokun, *et al* (2011) stated that,it involves all efforts aimed at transforming and creating opportunities for dwellers to release their full potential, share in decisions and actions that affect their lives. However, experience has shown that in other to step up the idea of rural development, specific steps are to be taken to ensure that women participate and benefit. This is because accordingto FAO (2008) women seem to have wider social network dueto their engagement in religious, cultural and social activities which are community based. Rahman (2008) also observed that the rural women play a potential role that is crucial to the overall success of efforts directed at rural development. In other words, for effective participation, women are mobilized into grass-root associations. Such groups and organizations have contributed substantially to the gains and voice that the women now have in national policy especially in agricultural development. Ogunlela and Mukhtar (2009) also confirmed that various women groups and organizations have emerged in Nigeria, while Ogolo (1995) and Odurukwe, (2003) affirmed that community participation in development programmes could be facilitated by the use of voluntary organizations such as women organizations which could be religious based, service-based or socio-cultural based. Thus, participation in groups' increases' women's intervention in overall community based development activities.

Community based women organizations further serve as the apex organization and instruments by which communities can embark on rural development and other rural economic activities (Fakoya, 2011) while Odurukwe (2007) and Franklyn (2007) ascertain women's participations in rural development in their various communities.

In Imo State, rural communities have various community based organization (CBOs) which are organized along specific gender lines (male and female associations). Based on this therefore, there is need to assess the interventions of women development community based organizations on rural development in Imo-State by addressing the following research objective;

1. identify the type of rural development intervention the women community based organization are involved in the study area,
2. ascertain the level of women community based organization intervention in rural development in the study area;
3. ascertain the factors that influence the intervention of the women community based organization in the study area.

METHODOLOGY

The study was conducted in Imo-State, Nigeria. Imo state lies within the latitude of 4^0 45^1N and longitude 6^0 50^1F with Owerri as the capital city. The State has an estimated population of 3934899 (National Census 2006) and 27 Local government Areas, having various communities where women community based organizations are domicile.

Data for the study were collected from primary source and secondary sources such as: annual reports of National Population Commission, published materials like textbooks, journal as well as relevant reports. A list comprising viable WCBOs was collected from Ministry of women Affairs (not less than 5 years of establishment with continuous contact with the ministry).

However, purposive sampling was employed to select 5 LGA where community projects were executed by the women group namely: Ehime Mbano, Oguta, Owerri, Ama-Imo and Ohaji/Egbema.

From each of the local government area2 WCBO were randomly selected which gave rise to a total of 10 WCBOs namely: Ehime Mbano – Aladinnma women progressive union (Home/Abroad) and Udokanma women organization in Ogbor autonomous community. Oguta: Eziosu women association and Egbuoma progressive women wing; Owerri: Country women association of Nigeria and Egbu women association Umuahialu; Ama-Imo: Ama-Imo women association and Ohaji/Egbema: Ohaji daughters association (Home/Abroad Umuokanne and Umukene – Ohaji Aladima women (Home/Abroad).

Although each group of WCBO has an average memberships of 200 in which 10% of the number was taken from each group. In other words, 200 members of the WCBO were randomly selected from the list and interviewed with the use of structured questionnaire. Out of 200 questionnaire distributed, 120 were retrievedand used for the study. Both descriptive and inferential statisticaltools were used for the data analysis. Frequency, percentage and mean were used to present Objective 1 (types of intervention in which rural development services are involved). Objective 2(to determine the level of intervention), responses were rated on a 3 point likert-type scale thus: High (3), moderate (2) and poor (1). Intervention score was computed by summing the responses of the respondents score for each item to obtain a weighted sum. The weighted score was further divided by the number of respondents to obtain a weighted mean for each of the item. Thus, the weighted mean (intervention level) was classified into: 2.5 – 3.0 (High); 2.0 – 2.49 (moderate) and < 2.0 (low).

Also, multiple regression analysis was employed to determine the factors that influence the intervention of WCBO in the study area.

The model is explicitly stated as;

$Y = b0 + b_1 x_1 + b_2 x_2 + b_3 x_3 + b_4 x_4 + b_5 x_5 + b_6 x_6 + ei$

Where:

Y = Intervention by WCBO

b0= Constant term

b_1- b_6 = Regression Coefficients

X_1 = Age of Organization (Number of years in existence)

X_2 = Membership Size (Number of people in each group)

X_3 = Membership of other Organization (Yes = 1; Otherwise =0)

X_4 = Number of Meetings held in a year

X_5 = Type of Rural development project (Infrastructural =1; Non-Infrastructure = 0)

X_6 = Access to Credit(N)

X_7 = Income (N)

ei = error term

RESULTS AND DISCUSSIONS

Types of rural development projectsin which WCBO intervened

The result in Table 1 shows the various types of social/developmental services women community based organization intervened in the study area. From the result, two types of social/developmental services were rendered – Infrastructural and non-infrastructural development. The infrastructural developmental include: Building/Renovation of community halls/schools; Construction of Market stores; construction of community palaces and drilling of community boreholes, while the non-infrastructural include: women skill acquisition, organizing adult education, creation of HIV/AIDs education awareness, market information service, flood/drainages control and rendering communal environmental sanitation services.

However, the result recorded multiple responses by the respondents. Furthermore, women skill acquisition (91.7%) and rendering communal environmental sanitation services (91.7%) were recorded the highest intervened services done by the women based on non-infrastructural development. In the same vein, HIV/AIDs education awareness (70.8%) and organizing adult education classes(66.7%) followed suit as well as disseminating of market information (50%). On the developmental projects, the WCBOs were involved in building of community halls/schools (83.5%), construction/renovation of market stores (75%) and drilling of community boreholes (75%) respectively. By implication, the result reveals that the women community based organizations are productive and particularly closing the gap in the social,educational and developmental benefit of all

members of the family and society at large. On the other hand, their intervention moves toward empowerment by helping to capture a greater share of transformation to improve their lives and promote a better standard of living in their various homes while integratingurbanization which could lead to rural-urban immigration. It will also lead to breaking of negative reactions resulting in domestic conflicts. This is in line with Ekong Ekong (2010) stating that women in development projects have so far revolved around practical gender needs.

Table 1 Types of rural developmental projects/services intervened by women community based organization in the study area.

Variable	Freq (n=120)	%
Infrastructural Development		
Building of community halls/schools	100	83.5
Construction/maintenance of market stalls.	90	75
Provision of community toilets	50	41.7
Construction/renovation of community palaces	30	25
Drilling of community boreholes.	90	75
Non-Infrastructural development		
Flood/drainage control	40	33.3
Organizing adult education	80	66.6
HIV/AIDs education awareness	85	70.8
Market information services	60	50
Women skill acquisition	110	91.7
Rendering communal environmental sanitation services	110	91.7

Source: Field Survey, 2016
Multiple responses recorded

Level of Intervention of women community based organization in rural development projects.

Table 2 shows the level of intervention of women community based organization in rural development in the study area. The result reveals that the WCBOs' level of intervention in rural development was moderate ($\bar{x}$ = 2.16). However, their intervention was high in HIV/AIDs awareness ($\bar{x}$ = 2.6), rendering communal environmental sanitation services ($\bar{x}$ = 2.6), construction/maintenance of market stalls ($\bar{x}$ = 2.50) and women skill acquisition ($\bar{x}$ = 2.50). Alongside are; building of community halls/schools ($\bar{x}$ = 2.41); market information service ($\bar{x}$ = 2.24);organizing adult education ($\bar{x}$ = 2.21) andflood/drainage control ($\bar{x}$ = 2.01) were moderately intervened while construction/renovation of community palaces ($\bar{x}$ = 1.18) was the least. From the results obtained it could be adduced that women organization accepted and believed in economic empowerment which gears toward future development. However, their intervention was more on non-infrastructural development and service – oriented than building of physical infrastructure. The reason could be explained by the fact that physical infrastructures are expected to be done by the government (Federal, State and Local) or not having the financial capacity to do so. This agrees with Odurukwe et al (2007) observations on their work on the role of women organization in community development in Orlu Agricultural zone, Imo-State.

Table 2. Level of Women Community Based Organization Intervention in rural development in the study area

Variable	High (1_3)	Moderate (2)	Low (1)	Total	Mean
Infrastructure					
Building of community hall/schools	59(177)	51(102)	10(10)	2.89	2.41
Construction/maintenance of market stalls	60(180)	60(120)	-	300	2.50
Provision of community toilets	14(42)	56(112)	50(50)	204	1.7
Construction/rehabilitation of community palaces	4(12)	22(44)	94(94)	142	1.18
Drilling of community boreholes	13(39)	64(128)	43(43)	210	1.75
Non-Infrastructure					
Flood/drainage control	22(66)	88(176)	10(10)	252	2.1
Organizing adult education	40(120)	65(130)	15(15)	265	2.21
HIV/AIDs education awareness	70(210)	50(100)	-	310	2.6^{**}
Market information services	41(123)	67(134)	12(12)	269	2.24

Women skill acquisition	65(195)	50(100)	5(5)	300	2.5**
Rendering communal environmental services	80(240)	30(60)	10(10)	310	2.6**
Mean Sum					**23.79**
Mean Average					**2.16**

Source: Field Survey, 2016

NB: Moderate participation (2.00 – 2.49)
High participation (2.50 – 3.00)

Result of the Regression Analysis on the Factors that influence the intervention of women community based organization in rural development in the study area

The result of the multiple regression analysis on the factors that influence the intervention of women community based organization in rural development is presented in Table 3. The coefficients of membership size(x_2), number of meeting (x_4), type of rural development project (x_5), access to credit (x_6) and income(x_7) were positive and significant at 1% while the coefficient for age of organization(x_1) was positive and significant at 5%. The coefficient for age of organization (2.179) was positive and significant at 5% level of probability implies that any increase in age of organization establishes the fact of its stability and increase in number of membership. This is in agreement with a priori expectation because the increase in age shows signs of being strong,reliable and bigthus attracting more members to the organization (membership growth). The coefficients for number of meeting (21.625), type of rural development project (4.333), access to credit (3.040) and income (16.793) were positive and significant at 1% level of probability. This implies that any increase in the variables will result in a corresponding increase in participation/intervention which indicates participatory people centered and community oriented approach to rural development. The coefficient of multiple (R^2) was 0.730 which implies that about 73% of the variation in women participation/intervention was accounted by the combined effect of the explanatory variables.

Result of regression analysis on the factors that influence the participation of women community based organization in Imo - State 2016.

Variables	Coefficients	t-value
Constant	2.305	(3.180)***
Age of Organization x_1	0.183	(2.179)**
Membership Size x_2	0.096	(2.076)***
Membership of other organization x_3	0.120	(1.290)
Number of meeting x_4	0.519	(21.625)***
Type of rural developmental project x_5	0.091	(4.333)***
Access to credit x_6	0.069	(3.040)***
Income x_7	0.781	(16.793)***
Funds generated	0.058	(0.562)
R^2	0.730	
Adjusted R^{-2}	0.711	
F-ratio	37.595***	

Source: Field Survey, 2016.

***** P ≤ 0.01, ** P ≤ 0.05,**

CONCLUSION AND RECOMMENDATIONS

The women community based organization in the study area made meaningful contributions towards community development in terms of infrastructural and non-infrastructural development. It is believed that these developmental projects/services will help in reducing the grassroot problems such as economic, social and educational problems in the communities. Thus the study recommends that the women community based organization should be encouraged the more by given appropriate recognition by the government especially state and local governments by motivation through giving of awards and training.

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WOMEN FARMERS' PARTICIPATION IN SELECTED RURAL EMPOWERMENT PROGRAMMES IN OYO STATE, NIGERIA

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ABSTRACT

Empowerment is a key to economic sustainability and a tool to self-dependence for women. Participation in community development programmes has been argued to be the most beneficial form of empowerment.Gender inequality predisposes women to depending on men's income for living thereby subjecting women to greater risk of poverty.Several rural empowerment programmes targeted at women were established to address this problem. This study therefore assessed participation of women farmers in selected rural empowerment programmes in Oyo State. Multi-stage sampling technique was used to select 72 respondents for the study. Using interview schedule, data were collected on their personal characteristics, extent of participation in the empowerment programmes, and constraints to their participation. Data were summarized using frequency count, percentages, Chi-square and Pearson Product Moment Correlation (PPMC). Majorities (87%) of the respondents were between the ages of 36-56years and 66.7% had no formal education. Greater percentages (94.4%) were married and had farming as their primary occupation (97.2%). About 87.5% of the women only participated at the implementation of empowerment programmes. Most severe constraints to participation was that the programmes were not meeting basic needed amenities x= 2.48).There was no significant relationship between participation and levelof education of the respondents (p=0.106, X^2=6.112). A significant correlation however existed between constraints and level of participation (r=-0.35: p< 0.05). The study concluded that rural women participation in empowerment programmes was limited to the implementation stage but not in the planning and evaluation despite several campaigns for gender equality.

Keywords: Rural women, empowerment programmes, participation, farmers.

INTRODUCTION

Women participation in empowerment programme is an age-long approach to grassroots development as their contribution to food production and rural development cannot be underestimated. Targeting women farmers for empowerment therefore will not only enhance food security which is the main challenge facing most of the countries in the world today, but also willensure social and economic development of the target audience and the country at large. Government in its effort to foster development at the grassroots, initiates different empowerment programmes as part of their contribution to rural development and extension of dividends of democracy to the people in rural areas. International communities, non- governmental organizations (NGOs) are not also left out in the crusade, as witnessed in the concluded millennium development goals (MDGs) where women empowerments formed an important part of international development agenda and also in the newly agreed sustainable development goals (SDGs).

Though, the international development community recognized that agriculture is an engine of growth and poverty reduction in countries where it is the main occupation of the poor, the sector in many developing countries is underperforming its functions. Partly, because women who represent a crucial resource in agriculture and the rural economy through their roles as farmers, labourers and entrepreneurs,face more severe constraints than men in accessing productive resources.Coupled with that, women are also constrained by lack of finance and technological back up toundertake their agricultural activities (Donye, *et al*, 2011). All these factors combined, pre- disposes women to poverty.

In spite of their poverty level, women are still very crucial in the translation of the products of a vibrant agricultural sector into food and nutritional security for their households (ADB 2013 &FAO, 2013). Implicitly, women should be specially targeted for empowerment programs to be able to perform their roles in food production efficiently.This situation made both the national, state, local governments and non-governmental organizations to embark on various empowerment programmes to support them to get out of poverty and subjections.There is need for women to participate actively in such programmes to gain equal access to opportunities that has eluded them, especially those targeted towards them. As women neither have limited contractual capacity nor lower intelligence quotient than men (Ovute *et al*, 2015).

Empowerment is the process of enhancing the capacity of individuals or groups to make choices into desired actions and outcomes (World Bank, 2007) Empowerment programmes therefore, could be said to be those that has series of activities meant to broadened the mind of its audience to enable them think right, take good decision, access information and resources needed for their course. Successful empowerment programmes must allow its beneficiary to be developed along the following four key elements listed below.

- Access to information
- Inclusion and participation
- Accountability
- Local organization capacity

There have been several campaigns against women exclusion in policy and programmes implementation in Nigeria But, media outfits still ascertained that women empowerment and implementation of gender and social inclusion is still a major source of worry to all concerned. For instance, there is still discrimination against women, considering the fact that they lack independent right todevelopmental resourcesand when considering social benefits in programmes and also in household major decisions (Mtsor and Idisi, 2014). The reason for this in part might be the heavy cultural beliefs in a patriarchal society as in Nigeria that always see the wife as a property of her husband (Madumere 2014 and Makama 2013). Women would never develop unless they could become sufficiently empowered to challenge patriarchy and global inequality (Fatile, et al 2017). Other reasons such as religious and social factors contribute to the numerous causes which constraints women into silence and limit their participation in empowerment programmes. It is high time for women folks to seize any opportunity that is offered to empower them in whatever capacity to raise their productivity.

Such opportunities often come from government bodies, religious institutions, non-governmental organizations, and cooperative societies among others. Empowerment can come inform of knowledge up-scaling (training), access to grants, credit facility, and needed resources. No empirical research seems to have been conducted to assess the participation of women farmers in empowerment programmes. Therefore, this study was carried out to provide answers to the following questions:

- What are the socio-economic characteristics of the respondents?
- What is the level of participation of the respondents in empowerment programmes in the study area?
- What are the constraints to effective participation of the respondents?
- Are there relationships between socio-economic characteristics of the respondents and their participation in empowerment programmes?
- Are there relationships between constraints to active participation of the respondents and their participation in empowerment programmes?

The broad objective of the study was to assess the participation of women farmers in rural empowerment programme in Oyo state, Nigeria.

The specific objectives were to:

- identify socio-economic characteristics of rural women;
- determine the participation of women farmers in empowerment programmes and;
- identify constraints to women participation in empowerment programmes.

METHODOLOGY

The study was carried out in Oyo State, Nigeria. The State is located on the latitude 7,460N and longitude 3,560E in the southern part of Nigeria. The State covers an area of 28, 454 square kilometers. According to NPC (2006), Oyo state had a population of 5,591,585 people. The state shares borders with the Republic of Benin in the West, Kwara state in the north, Osun State in the east and Ogun state in the south.

Saki agricultural zonewhich is popularly known as the food basket of the state was purposefully selected for the study because of its high involvement in agricultural activities. Simple random selection was used to select72 (30%) respondents out of the lists of 240 registered women farmers provided byAgricultural Development Programme (ADP) in the state.

A participation index was used as dependent variable and was measured by requesting respondents to indicate their participation ina listof participation statements in empowerment programs which were responded to by Yes or No. Constraints to participation in empowerment programmes were measured by requesting therespondents to indicate the constraints experienced from a list of possible constraints and the severity was measured as major (3), minor (2) and notaconstraint (1). Weighted mean score was obtained for each of the constraints in order of importance.

Data collected was collated and analysed using descriptive and inferential statistics. Simple frequency counts, percentages and mean were used to summarize the data while chi- square and Pearson Correlation analysis was used to test the relationship between the selected variables and participation in empowerments programmes.

RESULTS AND DISCUSSION

Socioeconomic characteristics of the respondents

Data in Table 1 shows that majority (87%) of the respondents were between the ages 36-56 years with mean age of 46.36±5.67. A little above average of the respondents (52.8%) were Christians, while (47.2%) were Muslims. Majority of the respondents (66.7%) had no formal education, (26.4%) had primary education, while (5.6%) had secondary education and (1.4%) had tertiary education. The implication of the analysis is that high level of illiteracy still abounds among the respondents.

Greater percentage of the women farmers were married (94.4%) while (5.6%) were widows. This implies that they are responsible to a husband and probably have children and other external

family members that are dependent on their little efforts. All the respondents were from Yoruba ethnic group, this is an indication that high level of cooperation exists among the respondents in the study area.

Further analysis reveals that 97.2% of the respondentshad farming as their primary occupation, while (2.8%) were into trading. These suggest that women are multi-talented as they combine farming with home responsibilities and participating in empowerment programmes.Also, 59.7% of the respondents had household size of 5-8 persons, (37.5%) had household size of 1-4 persons, and (2.8%) of the respondents had household size of 9-12 persons. The mean household size was 4.1±2.0. This suggests a fairly large household that implies higher responsibility for the respondents in terms of the number of heads to feed and care for.

Table 1: Distribution of respondents according to their personal characteristics (n = 72)

Variable	Frequencies	Percentages	Mean±SD
Age			
25-35	03	04.2	
36-46	29	40.3	46.36±5.67
47-56	34	47.2	
>56	06	08.3	
Marital status			
Married	68	94.4	
Widow	04	05.6	
Major occupation			
Farming	70	97.2	
Trading	02	02.8	
Religion			
Christian	38	52.8	
Muslim	34	47.2	
Tribe			
Yoruba	72	100	
Household size			
1-4	27	37.5	
5-8	43	59.7	4.1±2.0
9-12	02	02.8	
Educational level			
No formal education	48	66.7	
Primary education	19	26.4	
Secondary school	04	05.6	
Tertiary education	01	01.4	
Years of participation			
1-5	04	4.6	
6-10	14	19.5	
11-15	19	26.4	12.76±5.6
16-20	13	18.1	
21-25	16	22.3	
26-30	03	04.2	

Source: Field survey, 2015

Participation of rural women in empowerment programmes

Table 2 shows that majority (93.6%) of the respondents participated in empowerment programmes and only (1.4%) of the respondents do not participate actively. About half (53.8%) of the respondents participated in OYSADEP, (22.2%) participated in WIA, and (12.5%) participated in cooperative society. Majority of the respondents (88.9%) do not take part in planning of the programmes. (97.2%) in evaluation of the programmes and majority (87.5%) took part in implementation of the empowerment programmes. (26.4%) of the respondents have been participating in empowerment programmes for about 11-15years. Majority (93.1%) of the respondents were also involved in determining the area of need by rural women in each of the available empowerment programmes.

Table 2: Distribution of respondents according to their participation in empowerment programmes

Activities	Yes	No	Planning	Implementation	Evaluation
OYSADEP	52.7	45.8	4.2	45.83	1.4
WIA	22.2	76.4	2.7	19.4	0.0
FADAMA	26.4	72.2	2.7	22.2	1.4
Religious groups	12.5	86.1	1.4	13.9	0.0

Involvement in determining area of needs for empowerment programmes?

Involvement	Frequency	Percentage (%)
Yes	67	93.1
No	04	5.6

Source: Field survey, 2015

Constraints to participation in empowerment programmes

Table 3 Shows ranking of the constraints in empowerment programmes participation according to their level of severity. According to the respondents, inadequacy of empowerment programmes to meet basic needs($\bar{x}$=2.48)is the most severe constraint. Followed by lack of cooperation among women participating in empowerment programmes ($\bar{x}$=2.33) andprogrammes not offering credit facilities ($\bar{x}$ =2.32). The findings is an indication that most of the empowerment programmes did not address the felt needs of the respondents in the study area.Some of the constraints not considered to be a constraint orsevere as shown in the table include programmes that were against their religious beliefs ($\bar{x}$= 0.72), inadequate information on the programmes ($\bar{x}$=0.83) and faulty methods of disseminating empowerment benefits ($\bar{x}$=0.83). This clearly suggests that the empowerment programmes though well managed as regards taking into cognizance the religion believes of the beneficiaries and publicity of the programme to enhance active participation of the target audience, total package of the programmes was not considered sufficient to meet the required expected basic needs coupled with lack of cooperation among participant.

Table 3: Distribution of Respondents base on their Constraints in Empowerment Programmes

S/ No	Constraints	Mean	rank
1.	Programmes not offering credit facility	2.32	3rd
2.	Inadequate information on empowerment programme	0.83	8th
3.	Inadequacy of the programmes to basic needs	2.48	1st
4.	Conservatism due to illiteracy	2.29	4th
5.	Faulty method of dissemination of empowerment programmes benefits	0.83	8th
6.	No sufficient time to be active due to other roles at home	1.43	5th
7.	Most of the programmes are not originally designed to involve women	0.88	7th
8.	Lack of co-operation among women	2.33	2nd
9.	Not believing in oneself	1.15	6th
10.	Programmes against religious believe	0.72	10th

Test of hypotheses

$H_0$1: There is no significant relationship between socio-economic characteristics of women farmers' and their participation in empowerment programmes.

Table 4 shows the relationship between the socio-economic characteristics of the respondents and their level of participation in empowerment programmes. The result shows that there was a significant relationship at (P <0.05) between the age (r= -0.234, p <0.05), Household size (r= -0.179, p<0.05) and Occupation (x^2=0.936, p<0.05) and women's participation in empowerment programmes while no significant relationship existed between the educational level of the respondents (x^2=6.112, p<0.05), religion (x^2=0.945, p<0.05) and their participation in empowerment programmes. The negative correlation of age and household size with participation means that as age and household size increases, participation in empowerment programmes reduces. It thus implies that older women participated less in empowerment programmes than younger ones while women with

larger household likewise had reduced participation in programmes.

The reason for the aforementioned is not far-fetched, as the higher the age, the lesser attention given to social and communal activities. On the other hand, women with larger household size have higher responsibilities and greater distractions at home that could discourage their participation in programmes. The table further shows that educational level and religion do not have any significant relationship with participation among the respondents. This finding thus suggests that education level and religion were not part of the criteria for admission into participating in empowerment programmes.

Table 4. Relationship between the socio-economic characteristic of respondents and their participation in empowerment programmes

Variables	Df	X^2	R	P
Age			-0.234*	0.024
Household size			-0.179*	0.040
Educational level	3	6.112		0.360
Religion	1	0.945		0.331
Occupation	1	0.936*		0.006

***Significant at 5%**

Ho2: There is no significant relationship between the constraints encountered by women farmers' and their participation in empowerment programmes.

Table 5 shows a significant correlation between the constraints encountered by women farmers and participation in empowerment programmes. According to the table, there is a direct negative relationship between the tested variables which implies that the higher the severity of the constraints, the lesser the respondentsparticipating in the programmes. The finding suggests that the identified constraints by the respondents above are weighty enough to discourage participation in empowerment programmes.

Table 5: Correlation analysis between constraints faced and participation in empowerment programmes

Variable	N	r-value	p-value
Constraints	72	-0.35	0.003*

*Significant at 5%

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

Summary

Based on the empirical findings of this study, it can be said that majority of the respondents were between the age bracket 36-56years, they were married with farming as their major occupation, while the household size ranges between 5-8 person and a little above average had no formal education.

Majority of the respondents attested that OYSADEP, WIA, FADAMA, and religious society are available to them as empowerment programmes, while a good number of them indicate that YEAP, FEAP YISA, and WAAPP were not available to them as empowerment programmes and that majority of them took part in implementation of the programmes.

Financial resources of the respondents are not adequate since they lack credit facilities. The entire respondent experienced insufficient basic amenities, conservatism due to illiteracy and multiple roles plays by women.

There was no significant relationship between socio- economic characteristics of the respondents and their level of participation in empowerment programmes.

Conclusion

It can be concluded that majority of the respondents participated in one empowerment or the other, and took part in planning and implementation of the programmes. Respondents encountered one constraint or the other such as; lack of credit facilities and multiple roles played by women.

Recomendation

Based on findings of this paper, it was recommended that extension agents should encourage women farmers' participation in empowerment programmes. Adult literacy education, credit facilities and basic infrastructural amenities should be provided for women farmers in the study area as they feature as constraints to participation in empowerment programmes, so that they can contribute immensely to grass root development in their area.

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WOMEN'S INVOLVEMENT IN CROP PRODUCTION: A MEANS OF LIVELIHOOD IN SABON GARI LOCAL GOVERNMENT AREA, KADUNA STATE

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ABSTRACT

The study assessed the involvement of women in crop production as an additional means of livelihood. Women's participation in crop production in agriculture has been gaining recognition in recent times. One hundred women were purposively selected for this study. The Local Government Area has eleven wards, four wards were purposively selected due to high concentration of women farmers in the areas. Structured questionnaires were administered to 25 women from each of the wards. Data collected were analyzed using descriptive statistics and multiple regression. The results showed that majority (63%) were within 25 -40 years, those married are (71%), major occupation (53%), highest formal education was primary school (14%) while majority (73%) had Quranic education. The results revealed that the women were involved in land preparation, harvesting, weeding and processing. The results showed that about 71% cultivate maize, sorghum 66%, cowpea 53%, millet 30% and vegetables. Mixed cropping is being practiced by only 36% while 64% plant sole crop. The results further showed that 65% had ≤1ha of land and about 55% got land through inheritance. Majority (85%) use family labour. Personal savings (59%) was the women's source of income. The results of regression analysis showed that marital status and household size were negative but significantly influenced the women's involvement in crop production at 1%, education was negative but significant at 10%. Age was positively significant at 1%. The results further showed that inadequate funds, lack of awareness, lack of market, labour and religious barriers were the women's constraints in crop production. It was recommended that there is need of having women for extension service to serve more women.

Keywords: women, involvement, crop, production, livelihood

INTRODUCTION

In Nigeria, agricultural production is still at subsistence level amongst most rural farmers and women constitute half of the labor force in these areas. Studies involving rural women have gone wide with several distinct phases. In Africa, Morgan (1990) stated that women are responsible for up to 70% of food production and marketing. Ekong (2003) reported that substantial contributions of rural women in agricultural production directly affect the gross domestic product (GDP) of the national food security in Nigeria. There has been in recent times an increase in the contribution of rural women to agricultural production.

The recent fall in global oil prices is credited for government's continued shift in emphasis from oil dependency to seeking non- oil sector growth and diversification of Nigeria's economy. Agriculture has now become a major area of focus, recording a 4.1% year on year growth (against a contradiction of 13.7% in the oil sector) and continues to be a viable alternative source of foreign exchange earnings for the country (PwC 2017). As women comprise about 50% of the agricultural labor force (SOFA Team et al 2017), the government wants this to impact women by alleviating poverty as this will impact the family and broader community.

Over the years, women have established more defined roles in agriculture. In Nigeria, women are involved in agricultural production, processing and utilization. A woman's role in the agricultural sector is significantly affected by socio-economic factors such as income, education and access to infrastructure. Once again at the center of global debates, agriculture is recognized as a fundamental driver of economic growth and poverty reduction for many developing countries and a priority area for investment. A characteristic of the revitalization of the agriculture sector has been the recognition that past efforts have failed in part because they overlooked women's role in the sector and the role of gender inequalities in reducing agricultural productivity (Cristina Manfre et al 2010). According to the 2010-11 FAO report "The State of Food and Agriculture," "Women comprise, on average, 43 percent of the agricultural labor force in developing countries, ranging from 20 percent in Latin America to 50 percent in Eastern Asia and Sub-Saharan Africa" (FAO, 2011: 5). The report argues that reducing gender inequalities in access to productive resources and services could produce an increase in yields on women's farms of between 20 percent and 30 percent, which could raise agricultural output in developing countries by 2.5 percent to 4 percent (FAO, 2011).

Though women constitute a large portion of the farming population, women's possibilities in agriculture are hindered by formal and traditional rules. Generally, the extent of gender involvement in agricultural production varies across ethnic groups in Nigeria. Nigerian women farmers work alongside with their male counterparts with some clear distinctions in activities between them. In most cases, the men execute the tedious tasks such as land clearing and felling of trees, gathering and burning of bush, and making ridges, while the women engage in planting, weeding, harvesting, on farm processing, and marketing of farm produce. Generally, women

are rarely connected with agricultural export crops such as cocoa, rubber, cotton, but rather involved with the production of food crops such as maize, cowpea, melon, pepper, cassava, and vegetables. In some cases, women participate in small scale animal production including small ruminants, poultry and aquaculture.

Women usually have limited accesses to resources and opportunities and their productivity remains low relative to their potential. Due to lack of awareness in our society women's role has not been recognized (Lynda, 1991) noted that we live in a society in which there is substantial level of gender inequality. The inequality in the provision of education reflects the deep rooted tradition and values within the ideological, political, economical and socio-cultural structure of societies. The purpose of this study was therefore to evaluate the involvement of rural women in agricultural production.

Specifically the study:

- Described the socio-economic characteristics of women farmers
- Determined the extent of women involvement in crop production
- Identified the socio-economic factors influencing women's involvement crop production.

METHODOLOGY

One hundred women were purposively selected for this study. The Local Government Area has eleven wards, four wards were purposively selected due to high concentration of women farmers in the areas. Structured questionnaires were administered to 25 women from each of the wards. Data collected were analyzed using descriptive statistics and multiple regression.

RESULTS AND DISCUSSION

Socioeconomic characteristics of respondents

The results showed that majority (63%) were within 25-40 years, the women were within active productive years and 71% were married. About 53% of the respondents had farming as major occupation with majority (65%) having 1-5 years experience. Most (55%) of the women acquired farm land through inheritance and 65% had ≤ 1 ha of farm land, this implies production is at subsistence level. The highest formal educational level was primary school (14%) while majority (73%) had Quranic education.

Table 1: Distribution of respondents Socio-economic characteristics

Variables	Percentage (n = 100)
Age	
15-25	16.0
25-40	63.0
41-65	18.0
Above 65	3.0
Marital status	
Single	19.0
Married	71.0
Widow	8.0
Divorce	2.0
Occupation	
Farming	53.0
Hand craft	18.0
Petty trading	22.0
Civil servant	7.0
Years of farming experience	
1-5 years	67.0
6-10 years	18.0
11-15years	12.0
16 years and above	3.0
Land acquisition	
Inheritance	35.0
Purchase	22.0
Lease	18.0
Loan	2.0
Gift	3.3

Farm size	
≤ 1ha	65.0
1-2ha	23.0
3ha and above	12.0
Level of education	
Primary education	14.0
Secondary education	6.0
Tertiary education	7.0
Quranic education	73.0

Extension contact

The results show that majority (64%) of the women don't have assess to extension information this can affect their productivity.

Table 2: Distribution of respondents contact with extension agents, n = 100

Variables	Percentage
None	64.0
Once	11.0
Twice	23.0
Thrice	2.0

Involvement in crop production

The results revealed that the women were involved in land preparation, harvesting, weeding and processing. The results showed that cultivate maize, sorghum, cowpea, millet, rice, groundnuts, soy bean, vegetables, onions, okra, pepper and tomatoes. About 64% plant sole crop while mixed cropping is being practiced by 36%. The results further showed that 65% had ≤1ha of land and about 55% got land through inheritance. Majority (85%) use family labour. Personal savings (59%) was the women's source of income.

Table 3: Distribution of respondents' involvement in crop production

Variables	Percentage (n = 100)
Land preparation	11.0
Harvesting	24.0
Selling of produce	23.0
Processing	84.0
Cropping method	
Sole cropping	64.0
Mixed cropping	36.0
Crops grown	
Maize	71.0
Sorghum	66.0
Cowpea	53.0
Millet	30.0
Groundnut	45.0
Soy bean	27.0
Rice	20.0
Vegetables	7.0
Onions	8.0
Okra	5.0
Pepper	5.5
Tomatoes	17.0

Access to farm inputs

The results show that 63% of the women had access to farm land through inheritance, this may be the reason for them to be operating at small scale. About 65% of them use family labor, 40% had access to improved seeds, 15% had access to credit, 77% had fertiliser and 20% had storage facilities.

Table 4: Distribution of respondents' access to farm productive resources

Variables	Percentage (n = 100)
Land (inheritance)	63.0

Labor (family)	85.0
Improved seeds	40.0
Credit	15.0
Fertiliser	77.0
Storage facilities	20.0

Factors influencing respondent's involvement in crop production

The results of regression analysis showed that marital status and household size were negative and significantly influenced the women's involvement in crop production at 1% level of probability. Education was negative and significant at 10% level of probability. Age was positively significant at 1% level of probability.

Table 4: Socioeconomic factors influencing the involvement of respondents in crop production

Variables	Coefficient	Std. Err.	t-value
Constant	0.856	0.297	2.884
Marital status	-0.220	0.061	-3.613 ***
Age	0.187	0.073	2.556***
Education	-0.122	0.068	-1.794*
Household size	-.115	0.040	2.896***
Extension contact	0.035	0.103	0.732^{ns}
Cooperative membership	-0.027	0.018	-1.454^{ns}
Income	0.014	0.027	0.513^{ns}
$R^{2=}0.258$			
R^2 adjusted =0.192			

*** = significant at 1% level of probability * = significant at 10% level of probability
Ns = not significant

Constraints

Table 5: Distribution of respondents according to constraints

Variables	Percentage (n = 100)	Rank
Inadequate credit	90.0	1^{st}
Lack of awareness of new technologies	82.0	2^{nd}
Lack of Market	75.0	3^{rd}
Labor	50.0	4^{th}
Religious barrier	35.0	5^{th}

Multiple responses

CONCLUSION AND RECOMMENDATIONS

The study showed that women are involve in crop production, despite the traditional and cultural norms prevailing in the study area. The livelihood activities women were mostly involved were crops related with major crops being maze, sorghum, cowpea, millet and groundnut, rice and some vegetables. The rate of illiteracy is still high among the women with only 27% who had formal education. Majority of them (65%) are small scale farmers having ≤ 1ha of land under cultivation of which was acquired through inheritance. Extension contact was very low and the women had little or no access to formal source of credit. The results also showed that that marital status and household size were negative but significantly influenced the women's involvement in crop production at 1%, education was negative but significant at 10%. Age was positively significant at 1%. It was recommended that there is need for the creation of awareness on crop production technologies among the female gender by extension agents. The women should be linked with market outlets for the sales of their produce and formal financial institution for easy access to credit for crop production activities. Women should be encouraged to join social/market organisations so as to boost market information sharing activities.

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WOMEN'SPERCEPTION TOWARDS TRAINING NEEDS IN CASSAVA PROCESSING IN IBADAN/IBARAPA AGRICULTURAL ZONE OF OYO STATE

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ABSTRACT

Cassava is almost a daily staple food material in households in Nigeria. However, massive involvement of women in cassava processing has not translated to commensurate improvements in their socioeconomic status which in turn has not led to development at the grassroot since most of this women are still poor.The perception of women cassava processors towards training needs in cassava processing was investigated in this study. A multistage sampling technique was used to select 180 respondents for the study.Descriptive statistics (frequency, percentages and means) and inferential statistics(Pearson's Product Moment Correlation)were used to analyse the data for the study.The majority (72.7%) of women cassava processorswere between ages of 36 and 53 yearsandwere mostly (59.1%) Muslims.Information sources available to most respondents were fellow processors and neighbours.The women cassava processors identified their training needs in the following areas; finance/numeracy(173.3), cost saving techniques(169.4), business management(169.3), value addition techniques(166.0) and labour saving technique(153.4).There exists a high (59.7%) level of training needs among the processors.More (60.2%) of the respondents had unfavourable perception towards training on cassava processing. No significant relationship existed between perception(r= 0.011) and training needs on cassava processing. The study concluded that the processors' perceptiondoes not influence their training needs on cassava processing.Therefore,the study suggested thatrural women should be motivated through training for continuity in the enterprise for increased food production, increased income which inturns lead to grassroot development.

Keywords: Women perception, training needs, cassava processing

INTRODUCTION

Democracy as a system of government has become popular in Africa and in Nigeria in particular. Democracy has been perceived as the government of the people by the people and for the people. In Nigeria, democracy has its way back and grounded since 1999 which ushered in the fourth replublic with a lot of hopes and expectations since the country has been battling with development especially in the rural areas which is the most deprived and underdeveloped. Studies have shown that majority of the population in Nigeria (over 60%) live in the rural areas with major socio-economic problems. This is also corroborated by Otaki(2005) who argued that about seventy per cent (70%) of the population of Nigeria and other developed countries live in rural areas. This should have made the government to focus more on the rural areas over the years but the rural areas have been a place of neglect and devoid of development. This is further argued by Ezeah (2005) who observes that; The Nigeria rural areas are neglected areas, even though social services are also not adequate in some urban areas.

The underdevelopment at the rural areas which is the grassroot of food production has also affected Agriculture especially in the production and processing of Cassava which is a very versatile commodity with numerous uses and by products and largely processed by women (UNIDO, 2006).

Women are the key players in cassava production and processing in Nigeria. They are involvedin the planting, harvesting, processing, distribution and sales. Cassava processing operationsinclude peeling, grating, fermentation, pressing, roasting, cooking and milling. Cassava is one of the most important food items available in Nigeria and the whole of West Africa. It is a popular product because it is cheap and easy to produce in all tropical regions. It is found to be extremelytolerant to environmental stress which makes it suitable for present farming and food system in Africa. Also, it is a versatile crop, all parts of the plant including its root can be processed into a number of products. These include food for human consumption, animal feeds and industrial based products. Cassava-based diets are main sources of dietary energy. Cassava food products include *gari,lafun, fufu,* flour, tapioca and chips. Dextrins, starch, syrups, alcohols and dextrose are products from cassava. Some of these serve as raw materials in different industries (Ashaye*et al*., 2007). Nigeria is the largest producer of cassava in the world. Cassava plays an important role in the agriculture of developing countries, especially in sub-Saharan Africa. It is a food security crop which serves both as subsistence and cash crop to poor resource farmers. Cassava tubers and the various products hold an important position in Nigerian economy and also in its gross domestic product, which also is found common to Ghanaian economy

Women make a significant contribution to food production. They provide 60-80% of agricultural labour and are responsible for 80% of food production (Mgbada, 2002). Women play a central role in cassava production, harvesting, processing and marketing, contributing about 58 percent of the total agricultural labour in the Southwest, 67 percent in the Southeast and 58 percent in the central zones (FAO, 2004, Onyemauwa, 2012). Cassava is usually consumed

in processed forms. The processing of cassava in Nigeria can be categorized into different capacity levels as cottage or household, micro, medium and large-scale levels. The cottage level requires no labour but members of the household. The microprocessing level requires one or two units of labour and the large scale requires three to 10 workers (FAO, 2004). Women face several constraints during cassava processing and some of these include: lack of steady supply of cassava throughout the year and drudgery in traditional processing of peeling, grating and dewatering due to inadequate processing equipment. In addition is inadequate infrastructural and storage facilities for both the raw and finished products, ineffective linkages between processors, farmers, transporters and marketers is another challenge to processors in the cassava value chain (Ayoade and Adeola, 2009). This could lead to untimely delivery of cassava roots for processing thus delaying cassava processing. If fresh roots are held over 5 days before processing is initiated, the possibility of end-productcontamination with aflatoxin is much increased (FAO, 2004). Lack of funds, unstable agricultural policies high processing cost, poor power supply are other constraints women processors are facing (Ayoade and Adeola, 2009). The findings of Okocha*et al*., 2006 highlighted that lack or delayed technical support in form of information on improved practices due to insufficient access to extension services is another constraint faced by the processors. Cassava processing in Nigeria is still not done in largescale and traditional processors have limited capacities for its production which requires training but lacking, but where existing farmers training occurs it is with some deficiencies.Yet, the contribution that training can make to agricultural development cannot be overemphasized. Therefore, intensifying efforts to improve the cultivation and processing of cassava through the training of processors will enhance adequate food production. Base on the aforementioned points, the study was conducted to determine thesocio-economic characteristics of the women cassava processors, to identify the means through which the women sourced information on cassava processing, to identify the training needs of the women cassava processors and their perception towards training needs in cassava processing.

The hypothesis of the study stated in null form is as follows;

$H_0$1. There is no significant correlation between the perception of women processors and their training needs in cassava processing.

METHODOLOGY

The study was carried out in Ibadan/Ibarapa agricultural zone of Oyo State. It is one of the four agricultural zones of the Oyo State Agricultural Development Programme (OYSADEP). The zone consists of eight local government areas which are Lagelu, Ido, Akinyele, Egbeda, OnaAra, Ibarapa North, Ibarapa Central and Ibarapa East. Each local government area represents an extension block of the OYSADEP. All rural women involved in cassava processing in Ibadan/Ibarapa agricultural zone of Oyo state constituted the target population for the study. A multistage random sampling technique was used to select the respondents for this study. Four ADP blocks from the zone were randomly selected namely; Lagelu, Ona-Ara, Akinyele and Ibarapa central. Secondly, one village was then randomly chosen from each of the selected blocks; hence, four villages were selected. Thereafter, cluster sampling technique was used to select cassava processing locations in the selected villages, where 45 women cassava processors were randomly selected to have a total sample size of 180 respondents for the study. Data were collected with interview schedule administered to the respondents.

Measurement of Variables

The respondent's perception about cassava processing activities was gauged via their responses to a 21 statement scale using the response options; strongly agree, agree, undecided, disagree strongly disagree. Strongly agree was scored 5, agree scored 4, undecided scored 3, disagree scored 2 and strongly disagree scored 1 for positively worded questions while negatively worded questions were scored in the reverse. Descriptive statistics used to analyze the socio-economic characteristics of the respondents were frequencies, percentages and mean. Pearson Product Moment Correlation was used to test the hypothesis. This was employed to investigate if the perception of women cassava processor significantly influenced their training needs on cassava processing.

RESULTS AND DISCUSSION

Socioeconomic characteristics of the cassava processors

The results in Table 1 show that majority (72.7%) of the women cassava farmers were between 36-53 years old with a mean age of 41.5±9.1years. This implies that middle-aged women dominated cassava processing in the study area. This result is in line with the finding of Nwakor*et al.* (2007), which reported that majority of women cassava processors are in their forties. Most of the farmers had formal education: primary (25.0%), secondary (26.7%) and tertiary (4.5%) but 43.8% of them had no formal education. The inadequate educational attainment of processors will inhibit the adoption of modern cassava processing techniques, except for semi-modern techniques (Davies *et al*, 2008). The Table also shows that most (60.8%) of the respondents had

between 4 and 6 persons in the family, 28.4% of the households had less than 4 persons, while 10.8% of them had more than 6 persons. According to findings of Adeoti and Ibitoye (2002), the number of persons in the household is important in determining the labour availability as well as household responsibility burden On monthly income , most (73.9%) of the cassava processors earned between ₦10,000 and ₦56,000 monthly, 17.0% made between ₦56,001 and ₦102,001 and 9.1% made more than ₦102,001 monthly from their enterprises. The mean monthly income of ₦45,931±39,404 suggests that most of the entrepreneurs operate on small scale. This is a reflection of small holdings common among Nigerian and West African women cassava farmers. This agrees with the findings of FIIRO (2005) that most players in the cassava value chain are smallholders and low income earners. This also by implication means that if this women cassava processors acquire more skills or education, it will increase their knowledge and lead to increase in production and positive impact on their monthly income which lead to grassroot development.

Table 1: Distribution of respondents by their socio-economic characteristics

Variable	Frequency	Percentage
Age (years)		
18-35	35	19.9
36-53	128	72.7
More than 53	13	7.4
Marital status		
Single	19	10.8
Married	143	81.3
Divorced	9	5.1
Widowed	5	2.8
Years of formal education		
None	77	43.8
1-6	44	25.0
7-12	47	26.7
Above 12	8	4.5
Household size		
1-3	50	28.4
4-6	107	60.8
Above 6	19	10.8
Monthly income (₦)		
10,000 – 56,000	130	73.9
56,001 – 102,001	30	17.0
102,002 – 148,002	9	5.1
148,003 – 194,003	6	3.4
Above 194,003	1	0.6
Total	176	100.0

Access to sources of information

The results indicate that most (60.8%) of the respondents had access to information through fellow processors (157.4), by friends and family (145.5) and neighbours (126.1). This implies that person-to-person diffusion plays an important role in information dissemination process in the study area. Extension agents (109.10) and radio (88.7) were not as accessed as the informal sources of information on cassava processing. The sources least patronised were the internet (9.0), print media (15.4), mobile phones (33) and television (46.1). This result disagrees with the assertion of Torimiroand Oluborode (2006) that radio is always the most accessed source of information in rural communities.

Table 2: Distribution of cassava processors' access to sources of information

Sources of information	Never		Rarely		Always		Weighted score
	Freq.	%	Freq.	%	Freq.	%	
Extension agents	31	17.6	98	55.7	47	26.7	109.10
Fellow processors	6	3.4	63	35.8	107	60.8	157.40
Friends and family	22	12.5	52	29.5	102	58.0	145.5
Neighbours	22	12.5	86	48.9	68	38.6	126.10
Radio	34	19.3	128	72.7	14	8.0	88.7

Television	102	58.0	67	38.1	7	4.0	46.1
Print media	150	85.2	25	14.2	1	0.6	15.4
Mobile phones	141	80.1	12	6.8	23	13.1	33.0
Internet	162	92.0	12	6.8	2	1.1	9.0
Total	176	100.0	176	100.0	176	100.0	

Areas of training needs

The areas of cassava processing in which the respondents required additional training as given in terms of weighted scores on Table 5 shows that most of the respondents had needs in finance/numeracy (173.3), cost-saving techniques(169.4), business/enterprise management (169.3), value addition techniques (166.0), labour saving techniques (163.6) and environmental management (153.4). This implies that most of the processors desired to have training in areas that will facilitate profits for their enterprises. It is important to note that all the processors indicated that they needed no training in marketing their cassava products, thereby implying that there is no problem of patronage for these products. This is contrary to the position explained by Anga (2003), who stated that agro-producers are not well informed of all available market options and thus are not keen on marketing assistance. The training needs of the women cassava farmers were found at the medium level in the study area.

Table 3: Distribution of respondents by areas of training need

Activities	To a large extent		To a lesser extent		Not at all		Weighted score
	Freq.	%	Freq.	%	Freq.	%	
Finance/numeracy	144	81.8	17	9.7	15	8.5	173.3
Cost-saving techniques	136	77.3	26	14.8	14	8.0	169.4
Business management	138	78.4	22	12.5	16	9.1	169.3
Value addition techniques	130	73.9	32	18.2	14	8.0	166.0
Labour-saving techniques	131	74.4	26	14.8	19	10.8	163.6
Environmental management	120	68.2	30	17	26	14.8	153.4
Steering	33	18.8	89	50.6	54	30.7	88.2
Roasting	41	23.3	65	36.9	70	39.8	83.5
Sifting	16	9.1	109	61.9	51	29.0	80.1
Fermenting	15	8.5	101	57.4	60	34.1	74.4
Pressing	14	8.0	83	47.2	79	44.9	63.2
Grating	12	6.8	85	48.3	79	44.9	61.9
Sorting	8	4.5	75	42.6	93	52.8	51.6
Washing	13	7.4	48	27.3	115	65.3	42.1
Peeling	7	4.0	53	30.1	116	65.9	38.1
Marketing	0	0.0	0	0.0	176	100.0	0

Perception of the processors about cassava processing

In the reporting of the responses to the perceptions scale in Table 4, strongly agree and agree options as well as strongly disagree and disagree options were merged for ease of reporting. The results show that 68.7% of the processors agreed that cassava processing is difficult to practice, while 31.2% disagree with the statement. Also, 83.5% of them agreed that cassava processing is capital intensive, 60.3% agreed that there is little profit on cassava processing while 94.9% agreed that cassava processing is labour intensive. Generally, 60.2% of the cassava processors had an unfavourable perception about their cassava processing enterprise. This result implies that the motivation of the processors to continue in the enterprise is as a matter of engagement of necessity. Taiwo and Fasoyiro (2015) noted that underperformance, as usually found in small and medium scale enterprises, is mostly a function of their perception and entrepreneurial skill.

Table 4: Distribution of processors by their perception of cassava processing

Perception statements	Strongly Agree	Agree	Undecided	Disagree	Strongly Disagree
Cassava processing is difficult to practice	21.0	47.7	0.0	30.1	1.1
Cassava processing is capital intensive	26.1	57.4	0.6	15.3	0.6
There is only a little profit on cassava processing	11.4	48.9	2.3	32.4	5.1
Cassava processing is labour intensive	16.5	78.4	0.0	5.1	0.0
Cassava processing is time consuming	31.3	52.8	1.7	13.6	0.6

Perception statements	Strongly Agree	Agree	Undecided	Disagree	Strongly Disagree
Cassava processing always makes food available	18.8	69.9	1.1	10.2	0.0
Cassava processors are prone to many ailments	2.3	58.5	4.5	31.8	2.8
Cassava processing is not a profitable enterprise	1.1	10.2	4.5	81.3	2.8
Shortage of input is a challenge in the enterprise	6.8	56.3	6.8	29.5	0.6
There is no dignity in cassava processing	2.8	2.3	5.7	83.5	5.7
Products of cassava processing are poorly priced	5.1	33.5	5.1	54.5	1.7
I discourage my children to choose the enterprise for a career	18.2	24.4	8.0	47.2	2.3
Inadequacy of labour makes the activity too tedious	3.4	65.3	2.8	27.8	0.6
I am only involved to avoid the spoilage of my cassava tubers	4.0	2.8	3.4	79.5	10.2
Smoke and heat is a serious setback	13.1	80.1	3.4	3.4	0.0
Cassava processing techniques are crude	9.1	79.0	4.5	7.4	0.0
I am getting better at cassava processing	8.5	73.3	2.8	15.3	0.0

Table 5: Distribution of respondents by level of perception

Level of perception	Frequency	Percentage
Unfavourable	106	60.2
Favourable	70	39.8
Total	176	100.0

Test of hypothesis

The hypothesis was to test for significant relationship between respondents' perceptions to cassava processing enterprises and training needs. The respondent training needs were tested against their perceptions of cassava processing using Pearson Product Moment Correlation (PPMC). The result of the analysis on Table 4.13 shows that there was no significant relationship (r=0.011, p=0.883) between the women cassava processors' perception of cassava processing and their training needs on cassava processing. This implies that their training need is not a function of their perception of the enterprise.

Table 6: PPMC for test of relationship between respondents' perceptions and training needs

Variable	r-value	p-value	Decision
Perception	0.011	0.883	Not significant

CONCLUSION

Most of the women cassava processors operate on small scale level and characterised with limited financial outlay, use of own labour and hence limited income from enterprises. Cassava processors mostly sourced information from cassava through the radio. The areas of training needs of most respondents were financial planning/numeracy, business/enterprise management, cost-saving techniques, labour saving techniques, value addition techniques and environmental management. The study concluded that the processors' perception does not influence their training needs on cassava processing. Therefore, the study suggested that rural women should be motivated through training for continuity in the enterprise for increased food production and it also shows that there is no much development at the grassroot in terms of education both formal and informal. This requires the intervention of a democratic government to make democracy more meaningful and impactful at the grassroot.

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WORK PLACE CONFLICT MANAGEMENT STYLES INFLUENCE ON EMPLOYEE PERFORMANCE: A PANACEA FOR GRASS ROOT ADMINISTRATION IN NATIONAL HORTICULTURAL RESEARCH INSTITUTE (NIHORT), NIGERIA

Bolarinwa, K. K. and Oyeyinka, A. R.

ABSTRACT

Conflict is inevitable in organizational life because the goals of different stakeholders such as manager and the staff are often incompatible. Hence, the need to examine the influence of workplace conflict management styles on employee performance in an organisation such as National Horticultural Research Institute (NIHORT), Nigeria. Survey research method was used in eliciting information from the employee.A sample size of 82 employees was randomly sampled out of 824 employees. The data collected were analyzed using relevant statistical tools. The findings show that 68.3% of the employees were within the age range of 20-40 years while 56.1% were males. The employees' educational status indicated that 98.8% of the employee obtained a bachelor of agriculture hence they belong to senior staff categories. The predominant causes of conflict were the anti-union poster of management and perceived autocratic styles of manager with a higher mean rating score of 2.91 and 2.79 respectively. Conflict management styles employed by the management were integrating, obligation, compromising, dominating and avoiding out which integrating had the highest mean rating scale of 2.91. Employee job performance was at 72.1% as at when the survey was conducted. There is a significant relationship between conflict management styles and employee job performance at $p<0.5$, $r = 0.721$. The conflict management styles contributed significantly to employee performance, however, there is need to improve on the styles in order to maximise employee productivity.

Keywords: Conflict, causes, management styles, and job performance.

INTRODUCTION

An organization is the collection of a large number of individuals striving towards the accomplishment of a common objective. Every employee must work to their full potential to further the organization's reputation and interests. Thus, on the basis of the level of commitment, the employees can be classified into three categories: management/principal officers, senior officers, and junior officer. The reasons for laying emphasis on grass root administration organization stems from the need to facilitate the smooth running of organization among the categories of employees. Grass root administration will generate the sense of belongingness, safety, and satisfaction among the categories of employees. Whatever is the mode of organization, grass root administration is a path to, and guarantor of, organization integration, administration, and development. Therefore head of groups in an organization must realize that the fact that other people have different points of view and ways of doing things often causes tension and conflict at work. It is not possible for all workers to view things from the same perspective. While at work, some employees often think that the perfect way of solving challenge or problem is so obvious without exploring the different perspectives in solving the challenges. Whereas manager or head of unities must be able to see a broader perspective of issues and should not be limited in his worldview. Mutual trust and respect can only underpin any organization ethic when the leaders and managers understand this and allow it to happen. That is employees need to contribute their ideas to the solving problems and challenges, otherwise, all of them will only be climbing up the one beaten track to the top, following in the footsteps of the current leader. Hence, there is a need for the manager to realize that there is the polarization between people who are working together which often lead to conflict and disharmony within the organization. A human being their ideas cannot be the same. Hence as English proverb, "Variety is the spice of life." How this concept is made use in the work place, especially when there is a polarization between people who are working together will predict whether workers efficiency and organization productivity will increase or decrease.

Conflict to anybody brings to mind images such as antagonism, struggles between individual, opposition processes and threats to cooperation, but not all conflicts come in these forms especially in an organization. They come in form of needs to be met or desires to be satisfied, disagreements to be settled and ideas to be shared that will eventually lead to a change of attitudes, feelings, and perceptions (Mba,2013). It is usually fuelled by the opposition of one party to another, in an attempt to reach an objective different from that of the other party in the organization (Brad, 2015).In other words, conflict happens when employees are not getting what they want (Tamara,2015). Some people think that conflict is when serious issues and anger is invoked in the communication process. Conflict is simply misinterpreting one's words or value, inappropriate/ poor communicated information and selection of the wrong channel to transmit the information(Lim , 2012). However, not all conflicts are bad and not all conflicts are good; and dealing with conflict is a great challenge to management. According to Mba (2013), there are two sides to the conflict in an organization, one is

destructive and unhealthy and the other has a problem-solving base. In the problem-solving base the employee involved, are willing to accept personality differences, to listen to others' views and to be opened and honest with each other, to be supportive and helpful whereas, the destructive defeats cooperation. This simply means a conflict is said to be positive when it is constructively discussed by the employees. Furthermore, human beings are the most influential part of each organization. So, they bring the conflict to the organization when mingling in an organization. But the dysfunctional conflicts among the employees in the organization have proved to have a negative impact on organizational efficacy and performance if it is not properly managed. Hence, any attempt to manage and lead an organization without taking into consideration probable conflicts inevitably results in failure (Tamara,2015). Huczynski, and,Buchanan (2001) illustrated in Figure 1 the relationship between the level of conflict and the level of organizational performance. The normal curve indicated 3 levels of organizational conflict A, B, and C, each showing the effects conflicts can have on organization performance.

Level A shows the low level of conflict in organization which results in low level of organizational performance. The level B shows an optimum level of conflict, where there is a high level of organizational performance and the medium level of conflict. When the conflicts continue to escalate, the level of performance decreases and is marked by C in Figure 1. It can be inferred from the curve that organization should always strive towards the optimal level because it has positive effects on organization performance.

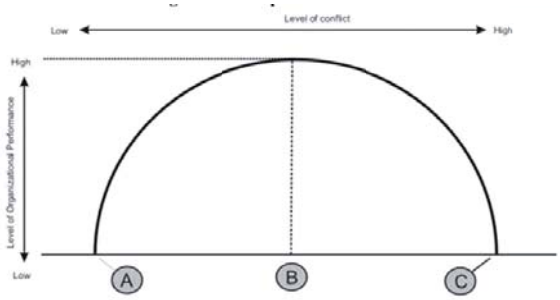

Figure1: Normal Curve showing relationship between the level of conflict and the level of organizational performance

Source: Huczynski A., Buchanan D (2001): Organizational Behavior, Pearson Education Limited, Harlow *p. 775.*

The conflict between individuals may result from role-related pressures. It would arise between individuals and groups if the goals are not specified for individuals within a group. According to Tomi (2015) conflict is usually a symptom of an underlying problem and not just a problem in itself. It can be a symptom of weak organizational design, ineffective communication, bad leadership, or poor selection of employees. Digvijaysinh (2013), he explained some primary sources of conflict in any organization. These are; economic conflict, differing interests, value conflict, power conflict and poor communication.If these sources of conflict are not properly managed in an organization, employee become frustrated when there's no solution in sight, or if they feel that their opinions go unrecognized by other group members in the organization. As a result of this, members become stressed if conflict management styles are not properly used or not used at all in an organization. Moreover, it will adversely affect their professional and personal lives. Members of the organization, may have problems sleeping, loss of appetite or overeating, headaches and become unapproachable. In fact, the health of the employees in the organization is at stake. More so, whenever the conflict is not properly managed, it causes employee in the organization to focus less on the project at hand and more on gossiping about the problem or venting about frustrations into the decrease in production. As a result, organizations can lose money, donors and access to essential resources. In some instances, employees may avoid meetings that are organized by the organization to prevent themselves from experiencing stress and stress-related symptoms. Employees who are frustrated with the level of conflict within an organization when the conflict is not properly managed or manage at all may decide to end their membership. This means that the rate of turnover will be very high. For these reasons, the conflict must be properly managed to be able to reduce the occurrence from the viewpoint of the manager. Conflict itself is neutral it is a matter of two parties wanting different things from the same situation. What determines whether the conflict is productive or counterproductive is how we handle it, both at the employee and the leaders level. While some people have developed either intuitively or with training the skills to handle conflict many people including very senior leaders dread conflict and will do almost anything to avoid it. Conflicts are an integral part of human life in all aspect it cannot be avoided in a family at work or even when watching

the news on television. Just like any other organization, National Horticultural Research is still confronted with various forms of conflict both interpersonal and task conflicts. The organization has also been criticized that they do not live up to the expectation of their mandate. Therefore, it is very important to examine conflict management strategies/styles that could endanger increase in employees' performance in the workplace given the fact that conflict is inevitable in any dynamic organization. Objectives of the study are to: describe the personal characteristic of the employee in the organization, identify the causes of conflict within the organization, identify types of conflict in the organization, examine the contribution of conflict management styles on employee's performance and examine the relationship between various conflict management and employee performance.

METHODOLOGY

The study adopted a descriptive research design. The self-developed questionnaire was used in data collection. The population of the study comprised eight hundred and fifty employees in National Horticultural Research Institute (NIHORT). The determination of sample size was done using the Taro Yamene formula and stratified random sampling technique was used to select 90 employees. The organization register was used as the sampling frame.The basic criteria for inclusion in the sample were job rank and organizational tenure of not below 5years.The instrument was pretested for reliability and the Cronbach Reliability coefficient of 0.92 was obtained for the whole questionnaire. Out of the 90 copies of the questionnaire administered by the researcher, 82 copies were retrieved and fit for analysis, with a response rate of 91.1%. The questionnaire survey followed all the required ethical considerations. Multiple regression was adopted for studying the relationship between one dependent variable and more than one independent variable. It is applied to determine how well a set of variables are able to predict a particular outcome, and which variables are a significant predictor of the outcome.

RESULT AND DISCUSSION

Socioeconomic characteristic of the employees

Data in Table 1 indicated the biographical details of the employees; show that majority 68.3% of the employees were within the age range of 20-40. The implication of the finding is that most of the employees are in their active years. This finding was in line with Adegbiteand Olaoye (2008) and Akinsola 2014, where they found that greater proportion of employees were within the age bracket of 20-40 years in the government institution.The gender distribution of respondents revealed a disproportionate representation, where male employee accounted for56.1%, the study confirmed low female participation in the industrial labor market. This result confirmed the earlier findings that majority of employees in the organization in Nigeria are males (FITC, 2011). Marital status indicated that 74.4% of the employees were married while the significant number (80.5%) of the employees possessed education qualification above OND. The result shows that majority (87.8%) of the employees were Christian while few (12.2%) of the employees were Muslim.

Table 1: Personal characteristics of employees, N=82

Variables	Frequency	Percentage
Age		
20-30	21	25.6
31-40	35	42.7
41-50	23	28.0
>50	3	3.7
Sex		
Male	46	56.1
Female	36	43.9
Marital status		
Single	20	24.4
Married	61	74.4
Divorce	1	1.2
Education status		
NCE	1	1.2
OND	16	19.5
HND	29	35.4
BSC	21	25.6
Others	15	18.3
Religion		
Christian	72	87.8
Muslim	10	12.2

Source: Field survey, 2015

Determining the causes of conflict within the organization

The result in Table 2 shows that 'anti-union poster of management' has the highest mean score of 2.91 that is "anti-union poster of management", has the highest tendency of causing conflict in the organization. This is followed by 'perceived autocratic' with the mean score of 2.79. Unacceptable terms of employment with the mean score of 2.37, was the lease among the causes of conflict in the organization.

Table 2: Determine the causes of conflict within the organization. N=**82**

Variable	Mean Score	SD
Unacceptable terms of employment	2.37	1.365
Poor human relations	2.65	1.251
Non consultationwith employees before key decisions	2.49	1.434
Perceived autocratic style of managers	2.79	1.239
Anti-union poster of management.	2.91	1.239
Poor decentralization of decision making	2.73	1.228
Cumbersome and ineffective means of communication	2.68	1.396

Source: Field survey, 2015

Types of Conflict Prevalent in the Organization

Data presented in Table 3 indicated the types of conflict that were common in the rganization. On the whole, the union-management conflict has the highest mean score (4.70) thereby presenting this conflict as the most predominant in the organization. By contrast, the personal conflict has the lowest mean score (2.52) and the least type of conflict in the establishment. Table 3 also indicated the means and standard deviations of prevalent types of conflict in the organization. The management in the organization needs to put into consideration union opinion in planning decision affecting the organization.

Table 3: Types of Conflict Prevalent in the Organization N=82

Variables	Sample Size	Minimum	Maximum	Mean	Standard Deviation
Union management conflict	82	1	5	4.70	1.30
Procedural conflict	82	1	5	3.65	1.32
Job task-related conflict	82	1	5	3.52	1.37
Interpersonal conflict	82	1	5	2.89	1.83
Personal conflict	82	1	5	2.52	1.42

Source: Field survey, 2015

Determining the conflict management styles that are used in the organization

Data presented in Table 4 reveal integrating or collaborating' style has the highest mean score of 2.91 and Obligation' (OB) or accommodation with a mean score of 2.81 as the integrative conflict management styles being used in the organization. Other methods of managing conflict rated below 2.5 include compromising; dominating and avoiding styles with ground mean scores of 1.41, 1.32, and1.25 respectively. Findings reveal that integrating or collaborating' style is the most extremely important and most productive conflict management strategy in the organization. It can be inferred from the result that the organization rarely uses the palliative methods such as compromise avoidance, and dominating which are non-integrative conflict management styles. Corroborating this study findings George, Miroga and Omweri, (2013) found out that integrating and obliging styles to increase job satisfaction and performance of the employees in their study.

Table 4: Determine the conflict management styles that are used in the organizations, N=82

Variable	Mean Score	SD
Integrating (IN) or Collaborating	2.91	
Obligation style (OB) or Accommodation	2.81	
Compromising	1.41	
Dominating	1,32	
Avoiding	1.25	

Source: Field survey, 2015

Regression analysis showing contribution of conflict management styles on employees' job performance

Regression analysis as shown in Table 5 was employed to predict the contribution of the conflict management styles on employees' job performance. The overall model fit for regression equation was determined by F-statistics. The model reveals positive and statistically significant relationship (F = 15.822 P< 0.001). The independent variables accounted for 71.2% (R2 =0.625) of the variance in employees job performance. Integrating (IN) or Collaborating with highest beta -coefficient (0.560) is the most effective, predictor of dependent variables and has higher significant impact among integrative conflict management styles followed by Obligation style (OB) or Accommodation with beta coefficient (0.432), compromising (Beta = 0.281), dominating (Beta = 0.217) and avoidance (Beta = 0.215) respectively.

Table 5.Regression analysis showing contribution of conflict management styles on employees' job performance

Indicators	Proposed Effect	Beta Coefficient	Observed t test	Sig Level
Integrating (IN) or Collaborating	+ve	.560	5.24	000*
Obligation style (OB) or Accommodation	+ve	.432	4.85.	000*
Compromising	-ve	.281	2.98	000*
Dominating	-ve	.217	2.39	000*
Avoiding	-ve	.215	2.198	000*

Significance level *p, 0.001, N = 82
Overall model 15.822, p < 0.00 R2 = 0.712, Adjusted R2 = 0.542
Source: Field survey, 2015

CONCLUSION AND RECOMMENDATIONS

The study empirically reinforced the results of previous studies with regard to the link between workplace conflict management styles and employee job performance. The main causes of conflict and types conflict that often hindered employee job performance was unveiled. Integrative conflict management styles essentials for the constructive handling of conflicts to promote the enhancement of organizational performance in the workplace were revealed. Based on the findings of the study, the following recommendations have been found necessary. Management in the workplace must try to adopt inclusive and collaborative styles in conflict management and involve union leadership or employee representative in vital decisions that affect the workforce. Both management and employees must formulate potent strategies and sustain acceptable policies for managing conflict on a continuous basis in organizations. Channels of communication and open discussions of conflict in the workplace must be encouraged with an attempt to avoid negative conflict management styles such as compromise, competition, and domination as conflict management styles. Mutual survival optimum job performances are both the goal and basis for the existence of employees and employers in the industrial work-setting hence; management must encourage and practice both in their organization.

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YOUTH INVOLVEMENT IN ELECTORAL VIOLENCE: AN ABERRANT DISSONANCE TO RURAL DEVELOPMENT IN NIGERIA

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ABSTRACT

Since the return of democratic governance to Nigeria in 1999, the political atmosphere has been thrown wide open for all citizens including the rural youth to participate in the political process to speed rural development. However, their involvement in electoral violence such as killing and mutilating of electoral officials and political opponents, snatching of ballot boxes and stuffing, voter intimidation, chanting provocative songs, attacking security personnel and election observers, harassment of electoral officials and party agents are becoming recurring decimals in the country. This behaviour exhibiting by the rural youth has become an albatross to credible, free and fair elections in Nigeria. Secondary data were used while frustration aggression theory developed by John Dollard and his associates was employed to interrogate this phenomenon among the rural youth. This paper discussed democratic governance and its universal acceptability, examined the concept of rural development and rural youth and the development process. It looked at the electoral system, rural youth and electoral violence in Nigeria as well as x-trayed the determinants and challenges of youth involvement in electoral violence in the country. Therefore, this paper advocated that to enhance rural development in Nigeria, the aberrant acts of electoral violence by rural youth need to be checkmated through reorientation and enforcement of law. There is also the need for these youth to be involved in the entire electoral process right from the planning stage to discourage them from involving in political thuggery and electoral violence in rural Nigeria.

Keywords: Democratic Governance, Electoral Violence, Rural Areas, Rural Development, Rural Youth

INTRODUCTION

In Nigeria, the youth represent a very important demographic segment of the population because of their sheer number, energy and vibrancy (Abubakar, 2011). The youth have been variously been described at different fora as the future of a nation and the leaders of tomorrow. In both rural and urban centres, the youth are the most active and productive group. This can be seen from their contributions in agricultural production, manufacturing industries, micro-enterprises, sports, law enforcement, construction and security services (Alanana, 2006). Without a vibrant, well-trained and empowered youth, the future of any group, nation, or society is bleak. Hence, if a society wants to invest in her future, the best thing to do is to invest in the youth (Gadzama & Usman, 2016). It is therefore, incumbent upon the social institutions and government to train, equip and prepare the youth to play an active role in the socio-economic development of Nigeria. Although public policy, national development plans and objectives have captured the essence of youth development and empowerment since independence, yet such policies have not been effective in capturing the youth segment of the population adequately (Abubakar, 2011). This has led to challenges such as unemployment, poverty, and frustration in the lives of Nigerian youth leading to vices like crime, drug abuse and lawlessness (Imam & Kyari, 2011).

At Nigerian independence, hope was raised that the large pool of active and able-bodied young men and women would act as catalysts to ensure a speedy national development. This hope has not been realized and a large number of rural and urban youth out of frustration have now become active agents in the hands of the politicians who recruited and sponsored them to engage in electoral violence and thuggery (Maikano, 2014).The situation has been deteriorating over the years as poverty and unemployment continued to increase at unprecedented rates in Nigeria.

Democracy is anchored on the rule of law and a free, fair and decent electoral system/process. This is a situation whereby the youths are engaged actively in electoral violence and other misdemeanours before, during and after elections in rural areas of Nigeria (Oyekale, 2011). The high prevalence of involvement of rural youth in the perpetration of electoral violence is an issue of concern and consternation to all true lovers of democracy and development (Maikano, 2014). For instance, given the numerous challenges facing rural areas as regards poverty, diseases, illiteracy, resource limitations, absence of infrastructure, etc democracy seems to be a viable opportunity for such areas to elect credible and visionary leaders to pull them out of the problems (Alanana, 2006). At present, this doesn't seem to be the case as many rural areas are in the firm grip of electoral violence and this has led to the enthronement of corrupt, visionless, greedy and opportunistic leaders at the local level in most areas in Nigeria. Thereby, further complicating the challenges faced by rural dwellers (Oyekale, 2011). Consequently, this scenario has forced the youth to mortgage their future needs thereby making it a bane to political leadership and development at the local level.

Frustration-aggression theory is used to understand the phenomenon examined in this paper. The theory was developed by John Dollard and his associates in 1939. It was further developed and expanded by scholars such as Leonard

Berkowitz and Aubrey Tates in 1962 (Isaiah, 2014). This theory explains violent behaviours stemming from an excessive desire to achieve a pre-determined objective or an inability to fulfill denial needs. This perspective utilizes psychological theories of motivation and human inclinations/proclivities that propel action, expectations and reactions to outcomes. In their explanation of aggressive behaviour, scholars point to the difference between what people feel is their want, need or desire (expectation-fulfillment gap) and what they actually get (outcome). Thus, when expectation is not attained the tendency is for people (youth) out of frustration to attack the system, attack their perceived enemies (opponents) and utilize violent means to either achieve their objectives or vent their anger.

This is more pronounces in a social system that is characterized by high levels of poverty, unemployment, ethno-religious tensions and a greedy political elite class willing to utilize monetary inducement and misinformation to redirect the frustration of the youths and their political opponents to achieve their aim of winning at all cost during electoral contests. Since frustration is already present in the psyche of rural youth they can easily fall prey to aggressive and violent actions against those purportedly responsible for their current situation but are in reality willing tools in the hands of politicians.

This theory posits that aggression is the outcome of frustration when a person's legitimate desires are not met by specific individuals, institutions or the social system as a whole. It is easy to pinpoint the deprivation suffered by the rural youth while assuring them that electoral violence directed to ensure electoral victory during elections will change their situation for the better. In fact, this could be a major strategy used by the All Progressive Congress (APC) to mobilize rural and urban youth to defeat the ruling People's Democratic Party (PDP) in the 2015 general elections. Despite the favourable outcome of the elections in favour of the current ruling party whether, the condition of Nigerian youth has changed for the better needs to be properly assessed (Gadzama & Usman, 2016).

Another perspective within the frustration - aggression complex is that of the so called "revolution of rising expectations." This view locates the genesis of violence in the feeling of dissatisfaction among the youth. Arising out of comparison between what one currently enjoys and what is due. When one thinks of those who are comfortable and doing better without necessarily working harder or having better qualifications except for connections and privileged birth. A feeling of being cheated by the well to do, political opponents and the social system can instigate one to engage in violent political behaviours such as electoral violence out of despair (Isaiah, 2014).

Democratic Governance and its Universal Acceptability

Democracy is a system of government that originated from Greek city States in ancient times and spread all over the world over time. The American and French revolutions that occurred in the 18th century helped to spread the ideas of liberalism, equality, freedom and progress all over the world (Rawls, 1996). According to Cox & Nyeri (2010), the ideas of democratic governance gained impetus in Europe and spread to developing countries as a result of colonialism which insisted on handing over power to democratically elected leaders on the eve of its departure in Africa and other developing countries. In accordance with the democratic culture of Western societies, democratic governance is anchored on the law and the concept of freedom from oppression by the State and its apparatus as a characteristic of monarchy and dictatorship (Van Creveld, 1999).

Globally, democratic governance in principle and practice has become the universal norm. States currently operating on non-democratic principles are viewed as "Pariah States" and are excluded from regional and global politics. Democracy is therefore seen universally, as the only system that is in line with the principles of rule of law, equity, justice and equality in the operation of the State apparatus (Rawls, 1996). In severe cases, undemocratic nations with despotic regimes that trample on the fundamental human rights of citizens are sanctioned and diplomatically isolated from the international system (Allahmagani, 2005; Agubamah, 2013). This has resulted in the global acceptance of democratic principles, practices, institutions and system of governance by most nations. At present, even in the United Nations (UN) system, democratic principles are adhered to and utilized in the General Assembly and the Security Council to give credibility, acceptability and unanimity to decisions taken and resolutions made in line with the principles of international law and natural justice (Agubamah, 2013). Thus, democratic governance has gained universal currency and is on the ascent in both developed and developing countries of the world.

Both the parliamentary system and presidential system of governments have their basis and foundation in the people who agree in principle to elect leaders to rule on their behalf in accordance with agreed laws (Dugan-Listana, 2010). Democratic governance due to its unique attributes and positive effects on the social system has gained acceptance worldwide. Indeed, it is attributed as the reason for the development of Western societies (Maikano, 2014). Today, most countries have democratic governance and it is a pride over the

adoption of democratic principles which is described as a "government of the people for the people and by the people."

Nigeria is not left out in the universal phenomena of democratic governance. Thus, after the failed experiments in the 1960s, 1979, 1983, the "still born" Babangida transition programme of the 1990s, and the returned of Nigeria to democratic governance in 1999 - the first time in the history of the country uninterrupted democratic governance continuous for 18 years in 2017. This is the longest ever in Nigeria's history as a nation and has gained the country immense regional and international clout in the committee of nations (Maichiki, 2017). For instance, several scholars (Adelakan, 2010; Usman, 2015; Anwar, 2015; Gadzama & Usman, 2016), agreed that ideally, democracy means individual participation in the decisions that involves one's life. In a democratic system, there is the necessity for the citizenry to be fully involved in the democratic procedures of the choice of rulers and effective communication of the policies and attitudes.

Concept of rural development

Rural social systems represent what is commonly referred to as "traditional societies" (Alanana, 2006). Ekong (2010) defines rural areas from an agrarian perspective as rural social systems which have at least half or more than half of their adult male population engaged in agricultural activities. He further argues that about 70% of Nigeria's population is rural. The development of the rural system implies identification of how the rural sector is organized in terms of production, occupational structure, social stratification, power structure, social relations, land tenure, resource availability and utilization, rural-urban linkages, its needs and improvement of the entire rural social system (Haralambos & Holborn, 2008). According to Ekong (2010) gaining an accurate and factual understanding of a rural sector enables development planners to know its felt needs and adequately design appropriate change programmes and projects for its upliftment.

This suggests that rural development is an improvement in the rural sector such that its challenges are totally eliminated or minimized while at the same time maximizing it capacities. Rural areas have low scores on the Human Development Index (HDI) and the Physical Quality of Life Index (PQLI) (Todaro & Smith, 2011; Jhingan, 2013). This also indicates that rural areas have health, water, sanitation, literacy, infrastructural, economic and resource challenges that need to be urgently dealt with to address the pervasive underdevelopment in the rural sector (World Bank, 2007; World Bank, 2015).

Development of rural areas does not just entail provision of infrastructure, modernization of production systems but also improvement in the standard of living and quality of life (Alanana, 2006). The pervasiveness of tradition and culture limits the rural sector hence, the need for approaches that translate into adoption of better alternatives and recommended practices that enhance rural development (Ekong, 2010). Development is all about social change in a positive direction. It is pervasive and alters the structure and function of the rural social system leading to higher productivity, efficiency and quality of life (Rogers, 2003).

According to Rodney (1972), rural development is a many-sided process, at the individual level; it implies increased skill and capacity, greater freedom, creativity, self-discipline, responsibility and material wellbeing. At the level of social groups, development implies an increasing capacity to regulate both internal and external relationships. Heinecke (1986:28) asserts that "development means rapidly increasing productivity accompanied by simultaneous elimination of poverty." Thus, a major indicator of rural development is a reduction in poverty rate and disease (Cox & Nyeri, 2010).

Although, there is no single instrument or methodology for measuring development in all aspects of social life but there seems to be a general agreement regarding the variables and indicators that constitute progress in the development trajectory. Today, most scholars, policy makers, development planners and administrators, and the people themselves believe that development is about making impact in the quality of life of citizens, empowerment, increase in income and political participation (Gadzama, 2015). Other aspects of development such as education, hospitals, roads, electricity, dams and recreation centres among others to the empowerment and freedom that the development process offers from the poverty, constraints and limitations of underdevelopment places on rural dwellers aspirations and life chances (Akirinade & Barling, 1987).

Rural youth and the development process

The youth have continued to feature prominently in the agenda of African nations and the programmes of the newly reformed Organization of African Unity (OAU) tagged "African Union" (AU), culminating in the declaration of the African Youth Charter in 2006 (Abubakar, 2011). That is why Gadzama (2007) hinted that a youth lifestyle is transformed by his/her state of mind. A positive mindset is equal to a positive transformation, peace, growth, development and progress. Perhaps, it is upon this philosophy the African Youth Charter was formed.

Nigeria, and indeed, Africa are youth dominant social systems. Nigeria, with an estimated population of 193 million (NBS & NPC, 2016) and a projected population of 217.4 million

by 2025 (PRB, 2010) has an ever growing youth population. The population is therefore, bound to increase exponentially with the youth making up over 50% thereby, making them crucial to the development process in both rural and urban areas of Nigeria.

The youth represent the energy and future of any socio-economic system because they are energetic, vibrant, visionary and innovative. The youth are the innovators and drivers of change in the modern world as traditions and customs take a back seat and ideas (knowledge) take centre stage. In the United States of America for instance entrepreneurs such as Mike Zuckerberg, Bill Gates, Steve Jobs, Donald Trump, Andrew Carnegie, Ford, Rockefeller and leaders such as J. F. Kennedy, Bill Clinton and Barrack Obama made their mark as youth. Such highly capable young persons had transformed the entire social system through the diffusion of ideas and technological innovations (Bolton & Thompson, 2005; Igwe, 2011).

Ironically, after fifty seven (57) years of independence, the youth have been neglected in terms of their needs to function optimally as a demographic group in the development of Nigeria. The opportunity they need to fully participate and contribute to the development process. Meanwhile, the population of the youth in Africa had risen to 303 million by 2007 (UN, 2007). The rural sector needs vibrant and progressive youth to contribute to the development process by adopting innovations in agricultural production to boost productivity and efficiency in the sector. In rural areas, young farmers offer extension services opportunity to impact on agrarian activities, health and sanitation positively due to their exposure and education as non-literate farmers gradually phase out (Auta, Akpoko & Arokoyo, 1995).

The youth are crucial in the rural development due to their energy and education which makes them more receptive to change and development initiatives. Development programmes in rural areas failed in the past due to high level of illiteracy, ignorance and cultural bondage (Ekong, 2010). For instance, the youth are assets that must be trained and empowered to utilize better ideas, creativity and innovativeness to transform rural systems for better outcomes. While, according to Oyekale (2011), the youth have a great role to play in rural development in the areas of agricultural production and behavioural change through extension services. As an active working demographic group, it is crucial to imperatively and strategically mainstream the youth into the rural development process to revamp the deteriorating agricultural sector in Nigeria. Without actively engaging the youth, no development agenda can succeed in the rural-agricultural, industrial and technological sectors (Jhingan, 2013). Today, rural youth involvement as development partners and not as electoral violators and thugs should be the case in the rural electoral process in the country.

The Electoral System in Nigeria

The Nigerian electoral system encompasses the electorate, political parties, politicians, the Independent National Electoral Commission (INEC), security services, the legislature and the judiciary (Maikano, 2014). Democratic governance is anchored on the electoral system and reinforces the democratic institutions and system of government. Besides constitutional provisions for instance, the electoral Act serves as the legal and procedural guide for electoral institutions and processes (Gana, 1999). The Nigerian electoral system also partners with different local, regional and international institutions such as National Orientation Agency (NOA), Election monitors, NGOs, ECOWAS, African Union, European Union, USAID, DFID, etc. Thus, to plan, fund, monitor and assess electoral processes as stakeholders to ensure free, fair, credible and acceptable elections in Nigeria (Abiola & Olaopa, 2006). The electoral system operates by law and is subject to the law hence; it depends on legal decisions and legislative actions to guide its activities. The law stipulates the roles and responsibilities of electoral participants such as INEC, political parties, candidates, party agents, election observers, security agents, law enforcement agents and the media (Maikano, 2014).

The electoral process in Nigeria involves planning of electoral activities, registration of political parties, release of electoral guidelines and time table, training of electoral staff, voter registration, party primaries and submission of party candidates, mobilization and public enlightenment, elections via voting, declaration of winners, presentation of certificates of return, legal redress, etc. (Electoral Act, 2010). According to Abiola & Olaopa (2006), the electoral process is part of the electoral system and a critical part by which the election of political leaders via voting is carried on.

During elections in Nigeria tension usually mounts and in many cases violence erupts as a result of the activities of political thugs who are mainly jobless youth engaged by money bags, godfatherism and desperate party candidates. This is as a result of the attractiveness of political office in the country and an absence of what Schumpeter (1943) cited in Maikano (2014) considers as essential factors for the consolidation of electoral process and democratic governance. These factors justify the presence of career politicians who are willing to serve, a well-trained bureaucracy, democratic culture, voluntary subordination of

citizens to the State and large measures of tolerance for differences of opinion.

Rural youth and electoral violence in nigeria

Rural youth are the backbone of the rural agrarian economy because they are the most active farm workers and agricultural producers (Auta *et al.,* 1995). Since the rural economy is overtly agricultural, there is need to ensure that the rural youth continue to play their role as catalysts in the development process. According to Nzimiro (1999), nobody is born a criminal but it is the society that makes some people to become either criminals or angels. The Nigerian society as a social environment shapes and transforms its people according to the opportunities, challenges and difficulties it places on their path. Nzimiro asserts that right from the colonial period in Nigeria there has been in existence a relationship between political power and economic power. Thus, the ascension of a person into a political position carried with it immense economic benefits. This reality has therefore, made political contests in Nigeria a do-or-die affair because each politician and political party is eager to get into a position that grants it access to state resources to ostensibly, obtain its share of the national cake.

This state of affairs in the context of the political economic structure of Nigeria has led to the design and origination of many strategies by politicians and political parties to outwit one another in order to gain an upper hand during electoral contests. The strategies evolved include godfatherism, bribery, rigging, thuggery and electoral violence. To capture state power, for political patronage and economic benefits (Maikano, 2014). According to Nzimiro (1999), the violent struggles for electoral victories place victorious parties in a position to use political power to control the economy and distribute the wealth among themselves, family members, close associates and cronies. This motivation among the political class leads to the reinforcement of violence perpetrated by rural youth through a recruitment and sponsorship scheme designed by the political class in Nigeria. Thus, politics in Nigeria as a means of primitive accumulation for the political class justifies means to capture political power and the benefits that go with it (Maikano, 2014; Maichiki, 2017).

According to Jason (2003), the types of electoral violence and fraudulent acts witnessed all over Nigeria during elections include rigging, ballot box snatching and stuffing, attacking political opponents and their supporters with lethal weapons, thuggery, kidnapping of opponents and electoral officials, verbal abuse, intimidation, multiple voting, under age voting and disruption of the voting process. And consequently, the rural youth usually use hate speeches before, during and after elections in Nigeria to foment trouble.

Youth involvement in electoral violence in Nigeria: determinants and challenges

A major determinant of violence in Nigeria's electoral process is the attractiveness of political office as a means for primitive accumulation of wealth and economic power (Nzimiro, 1999). Right from the colonial period, the colonialists were at the apex of the economic ladder because of their control of political power and the elites who fought for independence and took over political power were to a large extent motivated by economic interest (Maikano, 2014). This is evident in the fact that after taking over power from the British the political elite in Nigeria maintained the privileges, structures and institutions inherited from the colonialists (Alanana, 2006). Thus, in contrast to their earlier condemnation of colonial "apartheid" system of excluding the indigenous population from political and economic opportunities they became the new masters who excluded ordinary Nigerians and the working class from privileges reserved for themselves and their children. Thereby, maintaining the neocolonial and imperialist exploitation of Nigeria via a dependency syndrome (Akirinade & Barling, 1987). In effect, electoral violence in rural areas is utilized by the political class to maintain this aberrant neo-colonial political economy.

Rural youth involvement in electoral violence is instigated and sponsored by politicians, political parties and party moneybags who do anything to capture and keep political power because of the economic benefits that accrue to them (Maikano, 2014). In addition, challenges such as youth unemployment and poverty (defined by the World Bank in 2015 as earning less than US $ 1.9 a day) make it easy for youths to be easily manipulated and sponsored through financial inducement to engage in electoral violence in resource poor and poverty stricken rural areas (Gadzama, 2015). In rural areas in Nigeria, the major occupation is agriculture and electoral activities especially voting are conducted during the dry season when the rural youth are idle. This makes them prey to politicians who recruit them for mere pittance to engage in electoral violence as well as militancy, terrorism and cult activities perpetrated by the youth for political purposes (Nzimiro, 1999).

Other causes of electoral violence by rural youth include lack of political ideology, ethno-religious manipulations, poor party organization and discipline, monetization of the electoral process, and endemic corruption in the body polity (Maikano, 2014). The operations of political parties and the entire electoral system in advanced democracies is based on principles which promote dialogue, peace and the national interest but this is

not the case in Nigeria due to interference and violence in the electoral process (Jason, 2003).

Rural youth involvement in electoral violence first of all negatively affects the youth themselves because in the process of perpetrating violence, some of them might lose their lives or get injured. In addition, the youth mortgage their future because those elected via a corrupted electoral process turn out to be bad leaders with no policies or programmes for youth empowerment (Abubakar, 2011). Rural youth also stand to lose a lot due to their acts of violence and thuggery because the elected leaders end up focusing on recouping their financial investment in the political process while development takes the back stage (Alanana, 2006).

Electoral violence also leads to social problems such as crime, drug abuse and insecurity. This is as a result of the fact that, the youths use drugs and psychotropic substances to boost their morale during electoral violence and end up as drug addicts. Furthermore, those rural youth who engage in electoral violence after the period of the election cycle usually turn to crime to make money and this has impacted on the social system negatively. On the whole, the lethal weapons used during elections lead to proliferation of light weapons which remain in the possession of political thugs and can be used against fellow citizens and law enforcement agents at the slightest provocation.

CONCLUSION

Rural youth engagement in electoral violence is an aberration to democratic governance and national development. The grassroots need good governance to benefit from democratic governance and national development. This implies that the grassroots also need good governance to benefit from democratic dividends in terms of peace, security, education, poverty reduction, increased production of goods and services, infrastructure, potable water, good health services, etc. Electoral violence cannot lead to the attainment of good governance and/or to improved quality of life.

Developmental objectives are best attained through democratic governance and democracy as a system of governance that abhors violence. Democracy is rooted in peaceful dialogue and freedom of choice. In principle and as practiced in advanced democracies in Europe and North America, democracy allows the majority to have their way and the minority to have their say. Democracy promotes tolerance of different opinions and welcomes alternative views. The aberrant behaviours by rural youth constitute electoral violence during elections and must be curbed to allow free and fair elections to take place for the promotion of good governance and speedy development in Nigeria's rural sector.

RECOMMENDATIONS

The youth in rural areas should be educated and informed about the dangers and consequences of engaging in electoral violence and employment and entrepreneurial opportunities should be given to them.

The youth should be involved in the entire electoral process right from the planning stage to give them a sense of ownership of the process to discourage them from involving in political thuggery and electoral violence in Nigeria. For instance, agencies such as the National Orientation Agency (NOA) and Independent National Electoral Commission (INEC) should keep on educating the rural youth on the benefits of proper conduct during elections and to shun aberrant behaviours in the society.

Those found engaging in electoral violence and their sponsors should be prosecuted and punished according to extant laws and the Electoral Act of the country.

Adequate security should be provided before, during and after elections to minimize violence while political offices should also be made less attractive. This will help in check-mating the use of money to influence the electoral process by politicians in Nigeria.

Traditional and religious leaders should be involved in discouraging the rural youth involvement in electoral violence which serves as a dissonance to rural development in the country.

The electoral process should be made to be free, fair and transparent to prevent post-election agitations and contestations that can result into violence due to perceived injustice.

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YOUTH PARTICIPATION IN COMMUNITY DEVELOPMENT PROGRAMMES IN KWAMI LOCAL GOVERNMENT AREA, GOMBE STATE, NIGERIA

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ABSTRACT

The study investigated the participation of youths in Community Development programmes in Kwami Local Government Area, Gombe State, Nigeria. Primary data were used for study which was obtained using semi-structured questionnaire administered to 122 randomly selected respondents. Percentages, means, frequencies and multiple regression were used for the data analysis. The findings revealed that more than half (54.9%) of the respondents were male, 95.1% were within 21-40 years and 66.4% were married with an average household size of 5. About 60% has farming as their main occupation and also majority (73%) of the respondents had attended different levels of formal education. The findings also revealed 61.5% and 64.8% of the respondents participated in infrastructural development programme and security maintenance respectively. The regression analysis results revealed that the variables of age (X_1), household size (X_3) and education (X_5) were significantly related to level of participation in community development programmes (R^2= 0.8792). Low level of literacy, lack of adequate communication infrastructure, environmental degradation was the major constraints faced by the respondent. The study recommend among others youths should be enlightening on the significant of beings in community development programmes by the extension workers and youths association.

Keywords: Youth, community, development, Kwami

INTRODUCTION

Community development according to Jibowo (1992), is a social process by which human beings can become more competent to live with and gain some control over local conditions and the changing world. Community development in the words of Fadayomi (1998) helps local community residents to identify unmet needs. It seeks to build capacity by improving skills and knowledge for individual and community as a whole. Central to the idea of community development is that it allows community residents to come together to plan, generate solutions and take action towards developing the social, economic, environmental and cultural aspects of community. The whole process of community development according to Mukarumashana *et al.* (2016) emphasizes the importance of participation as a means of strengthening local communities. Community development has a long history, it is as old as human existence, because it seeks to improve man‘s standard of life. Community members who have the capacity to do something to enhance their quality of life are portrayed as having the ability to think, to decide, to plan and to take action in determining their lives. Therefore, in any community development programme both economic and individual growth must be given equal attention to ensure that the process of community development achieves its due balance (continuity and sustainability through adequate participation of all the key players in the community).

Youths participation in community development is a situation whereby group of young people who consciously and creatively employ their knowledge, skills and resources in recognizing and nurturing their strengths, interests, and abilities through the provision of real opportunities for themselves to become involved in decisions that affect them at individual and community level (Mukarumashana *et al.,* 2016).Young people are a major force in contemporary world (Girei and Usman, 2015). They are at the forefront of global, social, economic and political developments. They are one of the greatest assets that any nation can have (Federal Republic of Nigeria, 1999). In addition to their intellectual and energy contribution and their ability to mobilize support of their peers, young women and men have a unique perspective (Pur *et al*., 2007). The life period of these set of people is filled with of fantasy; excitement, mystery and loneliness. They are the main force of social life and the backbone of any society. They represents the link between the present and future and as well as the reservoir of labour (Pur *et al*., 2007). How our society’s progress is determined, among other things, on how much we involve youths in designing and building the future of our societies. About 1.8 billion people of the world are youths aged between 15 – 29 years (Commonwealth, 2017). Out of this number, about 75% live in rural areas where they are contributing to the achievement of community effort toward a common goal. In Africa, 65% of the total population are below the age of 35 years, making Africa the most youthful continent. By 2020, it was projected that out of 4 people, 3 will be on average 20 years old. About 10 million young African youth arrive each year on the labour market (African Union, Youth Division, 2016).

A report of a national survey conducted on youths by National Bureau Statistics (2014), revealed that out of 166 million people in Nigeria in 2012, 70 million were youths between the ages of 15-35 years. The above statistics indicate that youths constitute a serious development opportunity as well as a challenge particularly in developing countries. They have been noted to play

a pivotal role in community development especially in less developed countries like Nigeria where their contribution is paramount. According to Girei and Usman (2015), youths constitute the extension clientele, and are agents and medium of change as well as source of information for mobilization and sensitization of their peers and other people and provide both material and human resources. Youths also involved themselves in challenging action that meets genuine needs, with opportunities for planning and or decision making in agriculture and other community development programmes, whose impact or consequence is extended to others that is outside or beyond the youth participants themselves (Girei and Usman, 2015). The importance of the efforts of youths towards participation in community development cannot be ignored. Attempts have been made to study the contributions of youths to community development of country. These studies were conducted in Lagos State, Nigeria (Olujide, 2008);Dass,Bauchi State, Nigeria (Abdullahi *et al*., 2010). There is no empirical study available on the participation of youths in the community development programmes in the study area. From the foregoing therefore, this study was undertaken to analyse youths' participation in community development programmes in Kwami Local Government Area of Gombe state, Nigeria. Therefore, this research was carried out to provide answers to the following questions;

i. What are the demographic characteristics of respondents?
ii. Are youths participating in community development programmes in study area?
iii. Are there relationship between demographic characteristics of respondents and their participation?
iv. What are the constraints affecting youths participation in the study Area?

Objectives of the study

The main objective of the study was to analyze youths' participation in community development programmes in Kwami Local Government Area of Gombe State, Nigeria. The specific objectives of the study were to;

i. describe the demographic characteristics of the respondents in the study area;
ii. examine the community development programmes participated by the respondents;
iii. ascertain the relationship between demographic characteristics of the respondents and their level of participation; and
iv. identify the constrains affecting youths' participation in community development programmes.

METHODOLOGY

Study Area

The study was conducted in Kwami Local Government Area, Gombe State, Nigeria. The area lies between latitudes 10.30^0 and 10.50^0 N of the equator and longitudes 11.15^0 and 11.25^0 E of the Greenwich meridian (Kwami-Wikipedia, 2012). It occupies a land area of about1,787 km^2 with a population of 195,298 persons (NPC, 2006). The vegetation of the area, availability and abundance of water and also the culture of the inhabitants influence their engagement in crop and livestock farming. There are also traders and civil servants.

Sampling Procedure and Sample Size

Kwami Local Government Area has ten wards; four out of the ten wards were randomly selected. From 4 wards selected, the lists of the 972 registered youths in the areas were collected from the youths' leaders (*Sarkin Matasa*) which was served as sampling frame. 122 respondents were randomly selected proportionate to the number of registered youths in each of the wards selected (Table 3.1).

Table 1 Sampling frame and Sample size

Wards selected	Registered Youths (sampling frame)	Number of respondents selected
Kwami	264	33
Zongoma Gaji	240	30
Malam Sidi	232	29
Doho	236	30
Total	**972**	**122**

Source: Pre-survey, 2017

Analytical Techniques

Frequencies, percentages and mean were used to analyzed the socio-economic characteristics of the respondents (objective i); the community development programmes participated by the youths (objective ii); and constraints to participation in community development programmes by youths (objective iv). Multiple regression analysis by means of ordinary least square (OLS) was employed to ascertain the relationship between socio-economic characteristics of the respondents and the level of youths in community development (objective iii). The model was explicitly stated as: $Y= b_0+b_1X_1+b_2X_2+b_3X_3+b_4X_4+b_5X_5+U$

Where;

Y = Participation in community development programme (% of development programmes participated by youth)
X_1= Age (years)
X_2 = Sex (Male = 1; Female = 0)
X_3 = Household Size (Number)
X_4= Extension contact (Yes=1; No=0)
X_5= Educational level (proxy by number of years spent in school)
b_{1-5}= Regression coefficients
U = Stochastic error

RESULTS AND DISCUSSIONS

Result inTable 2 indicated that 54.9% of the respondents were male while 44.1% were female. This shows that majority of the respondents are male. This implies that men participate more in organized youth activities in the study area than women. This could be as a result of socio-cultural, religious barrier affecting women participation in organized activities. The result is in line with the findings of Abdullahi *et al*. (2010) who reported that men participate more in a study he conducted in Dass Local Government Area, Bauchi State, Nigeria on Attitude of Rural Youths towards Family Farming.Table 2 also depicted that 49.2 % of the respondents were within the ages of 31-40, 45.9% were within the ages of 21-30 only 4.9% below 21 years of age. This result indicated that majority (95.1%) of the respondents were within the ages of 21-40 which means they are in their youthful and active age, energetic and can participate actively in community development programmes.

The marital status of the respondents as shown on Table 2 revealed that majority (66.4%) were married, 28.7% single and only 4.9% are divorced. This shows that married youths dominated the community development programmes in the study area. The high proportion of married respondents may be because marriage is a respected institution in the rural areas; some marry early so as to have helping hands in their farm operations. According to Usman *et al*. (2014), marriage bestows social status on people, brings recognition and makes individuals to be considered as responsible. Household size of the respondents showsan average 5 people per household. About 33% of the respondents have household size of 5-6 persons, while has 12.3% only between 1 to 2 people as household members. The result show that there was an average house hold size of 5, which is below African rural average house hold size of 10 (Timothy, 2012). This could be because most of the respondents' children marry very early and become independent. Occupation refers to the activity carried out by an individual on which time is spent to earn means of living. Result in Table 2 revealed that 59.8% of the respondents are farmers, 13.1% are into business as their main occupation, 8.2% are civil servants while 14.8% are commercial Motor cycle Riders only 4.1% are students. The result shows that most (66.4%) of the respondents are farmers. This contradicts the findings Olujide (2008) who reported that majority of his respondents were students in a study he conducted on attitudes of youths towards rural development projects in Lagos State, Nigeria.

Result of educational status of the respondents revealed that41.0% of the respondents had secondary education, 22.7% had primary education while 27.0% had non-formal and tertiary education and only 11.5% attained tertiary education(Table 2). This shows that majority (73%) of the respondents attended formal education. The result also implied majority (61.5%) of rural youths do not further their education after secondary. This may due to economic problem or lack of enlightment on the importance of education. It could also be due early marriage that the respondents engaged in. About 80% of the respondents had no contact with extension agents, only 19.7% had contact with extension agents. Those that had contact are the respondents that live in the local government headquarter.

Table 1: Socio-economic Characteristics of the respondents

Variable	Frequency	Percentage	Mean
Sex			
Male	67	54.9	
Female	55	44.1	
Age			
≤ 20	06	4.9	
21-30	56	45.9	27
31-40	60	49.2	
Marital status			
Single	35	28.7	
Married	81	66**.4**	
Divorced	06	4.9	
Household size			
1-2	15	12.3	
3-4	34	27.9	5

Variable	Frequency	Percentage	Mean
5-6	40	32.8	
>6	33	27.0	
Occupation			
Farmers	73	59.8	
Civil servants	10	8.2	
Business	16	13.1	
Motor cycle riders	18	14.8	
Students	5	4.1	
Educational attainment			
Non-formal education	33	27.0	
Primary school	25	20.5	
Secondary school	50	41.0	
Tertiary	14	11.5	
Extension contact			
Yes	24	19.7	
No	98	80.3	

Source: Field survey, 2017

Community development programmes participated by the respondents

Result in Table 3 revealed that majority (61.5%) of the respondents participated in road/bridge construction and maintenance activities. This may be because the respondents are interested in what will help in smooth running of their business and movement of people in and out of their communities. About 65% are participating in maintaining security (vigilante) of their communities, 43.4% were into religious promotion programmes/activities and only 10.91% were into conflict resolution and social unity promotion programmes/activities who are mostly elders in the society. Most of these conflict resolution programmes/activities were misunderstanding involving married couples and neighbours. 76.2% of the respondents participated in self help farm operations, while 54.1% participated in village claeaning and 32.8% were involved in adult literacy programmes. The result corroborates the findings of Deshmukh *et al.* (2008) who reported that majority of their respondents participated in temple construction, village cleaning campaigns, tree planting, marriage ceremonies, and adult education in a study they conducted in Marathwada region of Maharashtra, India, to assess participation of youths in rural in development programmes. They went further to report that majority of the youths participated in farm activities.

Table 2: Distribution of Respondents Based on Development Programmes participated

Development Programmes	*Frequency	Percentages (%)
Adult literacy programmes/activities	40	32.8
Children education and discipline/activities	39	31.9
Town hall construction and maintenance/activities	31	25.4
Construction and maintenance of feeder road/bridges	68	61.5
Coppers lodge maintenance, construction/activities	18	14.8
Community mobilization and empowerment	48	39.3
Political awareness and orientation programmes/activities	62	50.8
Agricultural based programmes/activities	65	53.3
Conflict resolution and social unity promotion	13	10.9
Cultural promotion programmes/activities	39	31.9
Religious promotion programmes/activities	53	43.4
Security (Vigilante)	79	64.8
Self help farm operations	93	76.2
Village cleaning	66	54.1

Source: Field Survey, 2017 *Multiple responses exist

Relationship between respondents' demographic characteristics and community development programme participation

The result of the relationship between socio-economic characteristics of the respondents and participation in community development programmes by the respondents was presentedin Table 4. Three explanatory variables namely age (X_1), household size (X_3) and education (X_5) have positive coefficients and statistically significant at 1%, while extension contact (X_4) at 5% level of significance.

The positive coefficient of age (X_1) and its statistical significance at 1% indicates that an

increase in the age of the respondents will increase the participation in community development programmes. This may be because age increase in age will make someone responsible and brings about more experienced and know the importance of participating in development programmes.

The positive coefficient of Household size (X_3) and its statistical significance at 1% implied that youth from larger households tend to participate more than those with smaller household. This is expected, since more hands are needed in any community development effort.Education level (X_5) was also significant at 1% and positively related with youths participation. This means that an increase in the educational level of the respondents will lead to increase in participation in community development programmes by the respondents. This contradicts the findings of Olujide (2008) revealed in a study he conducted on attitudes of youths towards rural development projects in Lagos State, Nigeria, that educational level does not have any effect on the respondents' participation in rural development projects. The result is in line with the findings of Deshmukh *et al.* (2008) who reported that education, size of family and extension contact showed a positive relationship with participation of youths in rural development programmes in a study they conducted in Marathwada region of Maharashtra, India, to assess Participation of youths in rural in development programmes.

The positive coefficient of extension contact (X_4) and its statistical significance at 5%means those respondents who had contact with extension will participate more. Extension contact brings more awareness on the more than methods of agricultural, home economics and rural development practices. The coefficient of multiple determination (R^2) was estimated at 0.63 indicating that 63.0% of the variations in participation was explained by the variables included in the model.

Table 3: Relationship between respondents' demographic characteristics and community programme participation

Variable	Coefficient	Standard error	T-value
Age (X_1)	42.587	7.907	5.30*
Sex (X_2)	3.004	2.333	1.29^{NS}
Household Size (X_3)	28.979	8.612	3.36*
Extension Contact (X_4)	499.7	218.1	2.29**
Education Level (X_5)	94.215	8.443	11.16*
Constant	6735.0		
R^2	0.8792		
Adjusted R^2	0.8792		
F-ratio	116.01		

Source: Field Survey, 2017; * = Significant at 1%; ** = Significant =at 5%; NS= Not significant

Constraints of effective participation in community development programmes

Result in Table 5 revealed the constraints to effective participation in community development programmes by the respondents. 68.0% of the respondents identified inadequate communication infrastructure, 74.6% reported low level literacy, according to the respondents most of developmental programmes need assistance from the government and they have to be well educated before accessing support from government. About 51% of the respondents complained of environmental degradation and 68.0% depicted that insurgency affect their effective participation in the community development programmes. The result contradicts the findings ofGirei and Usman (2015) who revealed that improper and inadequate awareness, low level of exposure, insufficient training, lack of encouragement by chiefs and elders of the community, intermittent change of government, and selfishness on the part of the youth leaders were the factors that affected youth participation in development programmes. Similarly, Onuekwusi and Effiong (2002)indicated that inadequate funding hamper the execution of major developmental projects by youthsin Yakurr Local Government Area, Cross River State.

Table 4.8: Constraints of Effective Participation in Community Development

Constraints	*Frequency	Percentages
Inadequate time for community development programmes	30	24.6
Low level educational qualification	91	74.6
Inadequate communication infrastructure	83	68.0
In adequate supportby government/ NGOs	60	49.2
Women discrimination in terms of resources	51	41.8
Environmental degradation and adverse weather conditions	62	50.8
Lack of appropriate mechanisms for discipline erring local leaders	48	39.3

Lackofinterestincommunitydevelopmentprogrammes	58	47.5
Insurgency	83	68.0
Interference by opposition groups in the community	49	40.2

Source: Field Survey, 2017. *Multiple responses exist

CONCLUSION

The study revealed that Youths Participation in Community Development in the study area is a male dominated activity/programme by youths who are relatively young, married, with average family size of 5 and attained one form of formal education and engagedin farming as their main occupation. Majority of the respondents were participated in Self help farm operationssecurity (Vigilante)and construction and maintenance of feeder road/bridges development programmes.The result of multiple regression showed that age, household size, extension contact and level of education exerted positive influence on the number of development programmes participated by the respondents

In view of the findings of this study the following recommendations are proffered:Youths should be enlightening on the significant of beings in community development programmes by the concern citizen.Media (television, radio, newspaper, magazine among others) should broadcast programmes on community development in order to win the interest of youths and train them on how to handle such programmes.Youths should try to form association/union which through it others should be enlighten on the importance of creating and belonging in one or more development programme.

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THE ROLES OF COMMUNITY BASED ORGANIZATIONS IN LIVELIHOOD DIVERSIFICATION OF FARMERS IN RIVERS STATE, NIGERIA

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ABSTRACT

This study was conducted to investigate the roles of community based organizations (CBOs) in livelihood diversification of farmers in Rivers State. A multi-stage sampling technique was used for the selection of sampled respondents with structured questionnaires administered to generate data from the respondents. A total of 120 respondents were used for the study. The data were analyzed using descriptive statistics. Also, asample of 60 cassava farmers who were members of CBOs and 60 cassava farmers who were not were randomly selected from three (3) agricultural zones.Primary data was utilized in this study. The study revealed that majority of the respondents (75%) fell between the age rangeof 31-40 years, 45% were illiterate, 66% had farming experience from 10years and above. The result of this study further identified some roles played by community based organization in livelihood diversification of farmers. These include provision of credit facilities, awareness campaign, provision of basic amenities, and organization of farmers' cooperatives, capacity building and opening of ways for farmers' involvement in grassroots development.The result of the Z-test analysis showed that, there were significant differences between the output and income of cassava farmers who were with CBOs and those who were not.The major constraint tofarmers' involvement in CBOs' programmes was inability of CBO to identify farmers' felt needs (100%) which was ranked first, followed by high membership dues (86%) and age discrimination (72%) which were further ranked 2nd and 3rd respectively. Other constraints were inadequacy of credits given (55%), high level of illiteracy (46%). These were ranked 4th and 5threspectively. Therefore, this study recommended thatthe organized farmers' cooperative societies by CBOs should contribute money together monthly to assist themselves individually. Farmers should make a list of their felt needs known to CBOs.

Keywords: Roles, CBOs, livelihood, diversification, farmers and Rivers State.

INTRODUCTION

Community based organization can be defined as an organizational process by which individuals become more competent in their skills, attitudesand concept in order to gain control over local aspects of their communities through democratic participation. Community based organizations seek to broadly empower community members with the goal of distributing resources equally throughout the community (arts, 2008). Based on this perspective, it could mean that community based organization's primary goal is to meet the unique needs of the community it serves as whole and individual in particular.In addition, community based organization generates and utilizes available resources and skills, as well as those untapped skills to meet the varied needs of the community and those of its residents.

Community based organizations are set up by a collective efforts of indigenous people of heterogeneous attributes that are living within the same environment to create conditions which broaden the base of self-reliance and diffusion of agricultural information, ideas or technologies. The concept of community development is not new in Nigeria. Before achieving independence from colonial powers, some communities in the country had developed indigenous approaches in organizing development activities at local levels to diversify rural livelihood and reduce poverty.The idea of livelihood diversification refers to the collection of activities carried out to assist individuals and households to meet their basic needs. According to Igonoh (2011), diversification has become imperative for poverty alleviation and ensuring food security because of shortage of food due to adverse climatic conditions. Rural livelihood diversification can therefore be defined as the process by households construct a diverse portfolio of social support activities for the survival in order to improve their standard of living and poverty reduction (Harper and Dunham, 2005).

METHODOLOGY

This study was carried out in Rivers State. The state was formed in 1967 with the split of the Eastern Region of Nigeria. Until 1996, the State contained the area now known as Bayelsa State. Rivers State is one of the 36 states of Nigeria. According to census data released in 2006, the state has a population of 5,185,400, making it the sixth-most populous State in the country. Rivers State is bounded in the south by the Atlantic Ocean, to the North by Imo State, Abia and Anambra States, to the East by Akwa Ibom State and to the west by Bayelsa and Delta States. It is a home to many indigenous ethnic groups: Ikwere, Ibani, Opobo, Okrika and Kalabari, Etche, Ogba, Ogoni, Engenni and others. Major cash crops produced are Oil palm products, rubber, coconut, raffia palm and jute. Other crops grown for food include vegetable, melon, pineapple, mango, pepper, banana and plantain. The fish industry is an important sector in Rivers State. Also, the State provides valuable sea foods such as crabs, oysters, shrimps and sea snails among others. Rivers State comprise of twenty (23) Local Government Areas divided into

three (3) major agricultural zones (zone I, zone II and zone III). Based on a reconnaissance survey carried out on the study area, a multistage sampling procedure was used in this study. In the first stage, one (1) LGA each was purposively selected from each of the three agricultural zones. Those were portHacourt LGA from zone I, Obgba/Egbema LGA from zone II and Emohua LGA from zone III. The criteria used for the purposive selection was based on intensity of community based organizations and data given by Rivers State Agricultural Development Programme (RADP). In the second stage, two communities each were randomly selected from each of the three (3) LGAs. Hence, a total of six (6) communities were chosen for the study. Those were Oroworukwo and Ogbunuabali from PortHacourt LGA; Akabuka and Obite from Ogba/Egbema LGA; and Ogbakiri and Rumuji from Emohua LGA. The third stage involved a compilation of a list of cassava growers in these communities. The final stage involved random selection of respondents at 10% from the sampling frame of those communities. The sampling frame was the list of community based organizations compiled during the reconnaissance survey (Table 1). A sample size of 120 out of 1,200 sample frame was used to collect data for analysis.

Table 1: Distribution of sampled respondents in the study area

ZONES	Name of LGA/ Communities	Registered cassava farmers (Sample frame)	10% of farmers (Sample size)
I	PortHacourt LGA		
i.	Oroworukwo	200	20
ii.	Ogbunubali	205	21
II	Ogba/Egbema LGA		
i.	Akabuka	200	20
ii.	Obite	205	21
III	Emohua LGA		
i.	Ogbakiri	200	20
ii.	Rumuji	190	19
TOTAL	1200	120	

To examine determine the livelihood diversification of farmers on the output and income of cassava farmers, 60 CBO farmers and 60 non-members were interviewed using Z- test statistic. the formula for Z-test statistic is as follows;

$$Z = \frac{\bar{X}1 - \bar{X}_2}{\sqrt{\frac{S_1^{\ 2} + S_2^{\ 2}}{n_1 + n_2}}}$$

Where:

Z= calculated value

X_1= Mean output and income of cassava farmers with CBOs

X_2= Mean output and income of cassava farmerswithout CBOs

S^2_1= Standard deviation ofcassava farmerswith CBOs S^2_2= Standard deviation of cassava farmerswithout CBOs

n_1= Number of cassava farmerswho were involved in CBOs activities

n_2= Number of cassava farmerswho did not in CBOs activities

RESULTS AND DISCUSION

The study revealed that majority of the respondents (75%) fell between the age ranges of 31-40 years, 45% were illiterate, 66% had farming experience from 10years and above. This findings is synonymous with that of Davies *et al.* (2014), who reported that majority of cocoyam farmers in Southeastern Nigeria were between the age ranges of 31-40years

Table 2: Distribution according to farmers' age

VARIABLE	FREQUENCY	PERCENTAGE
20-30	2	1.6
31-40	90	75
41-50	18	15
51-60	10	8.3
TOTAL	120	100

Table 3: Distribution according to farmers' farming experience

VARIABLE	FREQUENCY	PERCENTAGE
Farming experience		
1-5	11	9.2
6-10	30	25
10 and above	79	66
Total	120	100

Table 4: Distribution according to farmers' educational level

VARIABLE	FREQUENCY	PERCENTAGE
Educational level		
Non-formal education	54	45
Primary education	25	20.8
Secondary education	20	16.6
Tertiary education	21	17.5
Total	120	100

The result of this study in Table 5 below, further identified some roles played by community based organization in livelihood diversification of farmers. These include provision of credit facilities, awareness campaign, provision of basic amenities, and organization of farmers' cooperatives, capacity building and opening of ways for farmers' involvement in grassroots development.

Table 5: Distribution of roles of community based organizations

ROLES OF CBOs	FREQ.	%	RANK
Provision of credit facilities	115	95.8	1st
Awareness campaign	100	83.3	2nd
Provision of basic amenities	89	74.2	3rd
Organization of farmers' cooperatives	76	63.3	4th
Capacity building	55	45.8	5th
Opening of ways for farmers' involvement in grassroots development	42	35	6th

Table 6 revealed the Z-test result ofoutput and income of cassava farmers as indices for measuring the livelihood diversification of cassava farmers' output and income. The result revealed that the mean output (1832.78) and mean income (177326.75) of cassava farmers who are members of CBO were greater than the mean output (656.60) and meanincome (76326.19) of those who are not members. This implies that, the activities of CBOs had significant effect on the output and income of the cassava farmers who were members but did not significantly influenced the output and income of cassava farmers who were not members.

Table 6: Result of Z-test on output and income of cassava farmers for livelihood diversification

Item		**N**	**Mean**	**SD**	**SE**	**Z-test**	**Sig**
Cassava output	With CBOs	60	1832.78	2122.92	267.47		000*
	Without CBOs	60	656.60	480.68	60.56	4.29	
Income from cassava	With CBOs	60	177326.75	0.2.1	16241.4		000*
	Without CBOs	60	76326.19	24600.68	3099.39	6.12	

*=Significant at 5% level of probability

From the result in Table 7below, showed that, the major constraint to farmers' involvement in CBOs' programmes was inability of CBO to identify farmers' felt needs (100%) which was ranked 1st followed by high membership dues (86%) and age discrimination (72%) which were further ranked 2nd and 3rd respectively. Other constraints were inadequacy of credits given (55%), high level of illiteracy (46%). These were ranked 4th and 5th respectively.

Table 7: Distribution of constraints to youths' acquisition of agricultural credits

Variable	**Freq**	**Percentage**	**Rank**
Inability of CBOs to identify farmers' needs	120	100	1st
High membership dues	104	86	2nd
Age discrimination in credit given	86	72	3rd
Inadequacy of credits given	66	55	4th
High level of illiteracy	55	46	5th

CONCLUSION

From the findings of this study, it can be concluded that, the community based organizations in the study area benefited farmers in many ways such as provision of credit facilities and basic amenities and creating farmers' awareness about the availability of useful agricultural information. Others were by grouping farmers into registered cooperative societies and capacity building. The result of the Z-test analysis showed that, there were significant differences between the output and income of cassava farmers who were with CBOs and those who were not.Despite this, the farmers still faced some problems in participating in community based organizations activities.Some of these problems include inability of CBOs to identify farmers' needs, high membership dues, Age discrimination in credit given and inadequacy of credit given to farmers.

Recommendations

i. This study recommended that, the organized farmers' cooperative societies by CBOs should contribute money together monthly to assist themselves individually.
ii. Farmers should make a list of their felt needs known to CBOs.
iii. Adult education should be established and encourage farmers to enroll in it
iv. Government and private owned credit institutions should be made more accessible to farmers with low interest rates and without collateral security attached.

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