RURAL SOCIAL PROTECTION AND INTERVENTIONS IN NIGERIA

PROCEEDINGS

of the

27th ANNUAL NATIONAL Congress

of the

RURAL SOCIOLOGICAL ASSOCIATION OF NIGERIA (RuSAN)

held at

Ahmadu Bello University, Zaria

Between

8 and 11 October 2018

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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 27th Annual National Congress held at Ahmadu Bello University, Zaria between 8th and 11th October 2018. 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.

Content

INVITED PAPERS

SPEECH DELIVERED BY PROF O. B. OYESOLA, THE NATIONAL PRESIDENT OF RURAL SOCIOLOGICAL ASSOCIATION OF NIGERIA (RuSAN) AT THE OPENING CEREMONY OF THE 27TH ANNUAL CONGRESS OF RuSAN ON 8TH - 11TH OCTOBER, 2018 AT ABU ZARIA

Protocol

I am glad to welcome you all to 27thannual RuSAN Congress holding here at the prestigious campus of Ahmadu Bello University, Zaria, Kaduna State tagged ABU 2018, under the theme "Rural Social Interventions and Development in Nigeria".

Rural Sociological Association of Nigeria (RuSAN) is the umbrella body for all rural sociologists in Nigeria from fields of agriculture, sociology, extension, human ecology, medicine, educationand so on. RuSAN is an associate member of International Rural Sociology Association (IRSA) with headquarters in USA and Nigeria Forum for Agricultural Advisory Services (NIFAAS).

It is a privilege for me to serve in the last two (2) years as the 6th National president of this association, building on the solid foundation of our past leaders. It is necessary to say at these juncture that that we all contributed significantly to the achievement recorded so far because your continuous contributions and commitments to the association is panacea to the achievements recorded. Thanks to you all.

2018 RuSAN Congress is to discuss Rural Social Interventions and Development in Nigeria. Rural development interventions is not new as a tool to protect and move rural households out of shock, stress, risk as well as lack of command and right over basic needs of life in most African countries, especially Nigeria. In other to address this aforementioned challenge, different organizations (government and non-governmental) had in the last few years implemented social fortification projects and programs in rural areas of Nigeria. On this note, it is germane to deliberate on the outputs and outcomes of these social fortification projects and programson National development. The theme shall be deliberated upon under different sub-themes: community engagement and development, poverty and vulnerability, gender, youth empowerment and entrepreneurship, food security and livelihood, infrastructure and sustainability, health, environment and climate change, sharp practices, advocacy and policy trends and improved natural resources management and clashes mitigation.

This year RuSAN Congress is expected also to feature capacity-building workshop and interactive session between academia and other practitioners in the field of extension and rural development in Nigeria. The capacity building workshop will focus on global vulnerable and poor targeting methods, finding funding opportunities and enhancing participation in international short courses and programs.

Conclusively, I want to appreciate the support and welcome given to us by the Vice Chancellor of this great University, Prof Ibrahim Garba, thank you sir. I also appreciate the support of the following persons: Senator (Dr.) YahayaAbdullahi, our Guest Speaker; Dean of the Faculty of Agriculture, ProfOlufunmilayoAlabi; Head of Department of Agricultural Extension and Rural Sociology, ProfAkinola; Executive Director of Institute of Agricultural Research, ABU Zaria, Prof. I. U. Abubakar; Executive Director of NAERLS/ABU, Prof. Muhammed Khalid Othman; Director, Research, Premier Seeds, Zaria; COC Chairman, Prof T. K. Atala and other members of the COC, we are indeed grateful.

On behalf of the NEC of RuSAN, I want wish you happy deliberations and safe trip back to your respective destinations at the end of the Congress.

Thank you

FINDING FUNDING OPPORTUNITIES

Ladele, A. A.
Dean, Faculty of Agriculture, University of Ibadan, Nigeria

OUTLINE

- Background
- Possible Sources of Funding
- Funding agencies
- What do funding agencies look for?
- Elements of a winning proposal
- Conclusion

BACKGROUND

Proposal writing is not a cheap process!

It takes time, research, concentration and team efforts. Grants are best written on projects you know very well. They are reviewed by experts in the field, and always competitive. Hence, you must stand out.

Possible sources of funding

Sources of funding vary in types and purposes. Some of them are:

1. Proposal/Grants applications and Fellowships
2. Fundraising events like Dinner and Raffles
3. Personal/Institutional savings (fees, rent, consultancy and others)

We all need to understand that funding has never been as competitive as it is now therefore, hence more efforts are required to access them.

Available funding agencies

1. Corporate Donors; Business entities like Coca-Cola, Shell, MTN; etc.
2. Families and Foundations; *Bill & Melinda Gates, Wellcome Trust, etc.*
3. Individuals Donors; Norman E Borlaug etc.
4. NGOs & Church agencies; CARE, Plan, Oxfam, World Vision
5. Multi-National/ UN agencies;FAO, UNDP etc.
6. Government Agencies; USA (USAID), England (DfiD), Japan (JICA), IDRC Canada, Sweden (SIDA)
7. Multilateral Development Banks; African Dev't Bank, World Bank, NEPAD etc.
8. Government sources/ Departments & Ministries; NIFA
9. Local companies and Banks
10. Community Foundations; NOAN.
11. Service and Membership Clubs; Rotary & Rotary Clubs

What do funding agencies look for?

- What's the title? Is it interesting?
- Who is/are the applicant(s)?
- Which institution(s) are the applicants affiliated with?
- What's the basic idea? Is it within the scope of the call?
- Is the proposal "**Assessor-friendly**"?
- Readability should take priority
- Recognition of a problem and creation of a "dire need"
- Description of how research will uniquely contribute to the solution
- Clarification of how research results will be evaluated
- Investigator's capacity to provide the proposed solution

The question is 'is there any best or standard format?'Not really. Since most grant research proposal would be in response to a 'Request for Applications', it is advisable to carefully read (and adhere to) the review criteria, guidelines and any special instructions before preparing the proposal.

Elements of a winning proposal

The basic components are:

1. Summary or Abstract
2. Introduction
3. Statement of Need/Problem
4. Objectives and hypotheses
5. Methods and design
6. Evaluation
7. Future funding/sustainability plan
8. Conclusion
9. References
10. Management plan or key personnel

12. Budget and budget justification
13. Letter(s) of support
14. Curriculum Vitae
15. Appendices

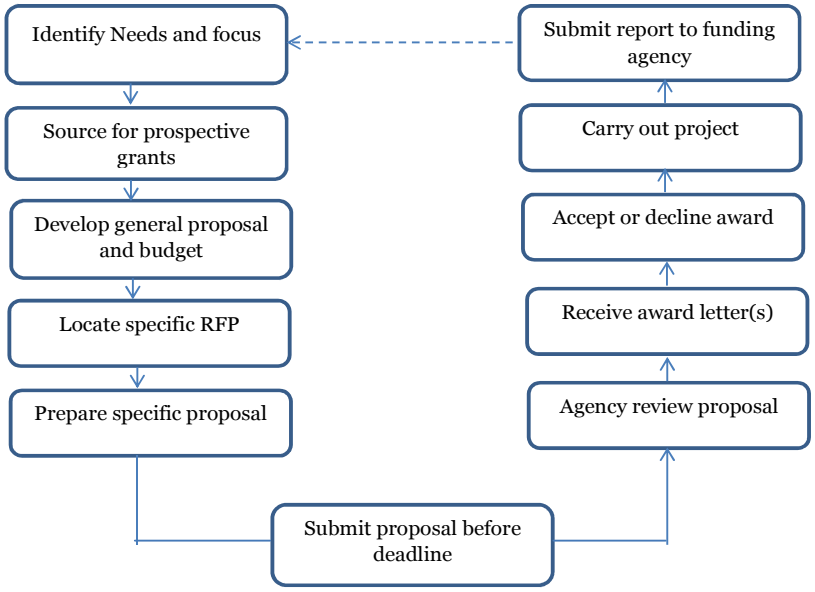

Fig.1: The Grant writing process
---------- Dash line indicates possible additional step.

Project abstract

The abstract is very important; it is widely read and sometimes formsthe basis for assessors to select their reviewing assignments. A good abstract should contain the following:

- Brief description of applicant
- Statements of objectives to be achieved
- Outline of activities
- Statement of cost to funding agency

This section should be written last

- ***Introduction***

To include brief background to the project and its importance and places it will beimplemented. This must be situated in the context of the current study/project area.

- ***Statement of Need or Problem***

This involves stating the need of the target population. How will the project take care of the problem with the solution that the project or study will provide.

- ***Objectives and Hypotheses***

These must be clearly stated separately. Objectives must be SMART, that is Specific, Measurable, Achievable, Realistic and Time bound. You must give the rationale why hypotheses are important to be investigated

- ***Methods and design***

This entails stating how objectives will be achieved;

- What will project or study offer?
- Be specific and descriptive
- Who will do what? When will it be done?
- Where will it take place? How will it be done?
- Buttress your methods and design with supportive research

- ***Evaluation***

Evaluation addresses how it will be known that your project is accomplishing its stated objectives? Both quantitative and qualitative approaches could be adopted. You need to create measures for deliverables to address

- How will you measure?
- Who will measure what?
- When will you measure?

- ***Future funding/sustainability plan***

State how you will support the project after funding expiration

- ***Conclusion***

Brief paragraphs to restate why the fund is needed and what it will do

- ***References***

Authors cited must be appropriately listed

- ***Management plan or key personnel***

Provide a review of who will manage the project and staffing that will support. This must include all staff working on the project even if not supported by the grant

- ***Budget and Budget Justification***

To contain a detailed budget necessary to accomplish the research- project staffs, operational expenses, overhead costs etc.There must be a separate budget for each year of the project as well as a cumulative budget for the entire project. Provide justification for all budget items in

sufficient detail to enable review of the appropriateness of the funding requested.

- ***Letter(s) of support***

Provide letters of support from stakeholders and collaborating institutions.

- ***Curriculum Vitae***

Include the curriculum vitae of all personnel/investigators

- ***Appendices***
- Necessary attachments like pictures, charts, tables and figures that were not put in the body of the proposal should be provided here.
- **Important tips to consider**
- Consider the deadline- Ensure there is sufficient time
- Explore the opportunity of the contact person; Any change in application procedure or deadline?Additional information or insight into priorities, review process, etc.
- Start early; Set personal deadlines; Use a checklist
- Write first draft and review it
  - Give to colleagues to review technical content
  - for adherence to guidelines and general readability
  - How well is the information presented?
  - What are the specific strengths and weaknesses?
  - What are suggestions for improvements?
- Revise before submission; avoid spelling or grammatical error
- **The Do's of a winning proposal**
- Do make contact with grant officers if you have questions
- Do read the entire RFP before beginning to write
- Do check your proposal against evaluation criteria
- **The Don'ts of a winning proposal**
- Don't guess on anything you don't understand
- Don't copy someone's else proposal even if similar
- Don't submit proposal without letters of support except you are not in partnership
- Don't make up lies of things you are not doing

Conclusion

If your proposal wins and it is selected for funding; diligently proceed and pursue efficient implementation.

If not accepted; get reviewers' comments and rework it for future submission.

Keep working on, Remember: overnight success usually takes about 15 years!

DO NOT BE DISCOURAGED!!

Acknowledgement

- Dr. A. O. Akinwole, Department of Aquaculture and Fisheries Management, Faculty of Renewable Resources, UI, Ibadan

Olumuyiwa M. Desmennu, Research Management Office, UI, Ibadan

GLOBAL VULNERABLE AND POOR TARGETING METHODS

PROF O. B. OYESOLA
National President, Rural Sociological Association of Nigeria

INTRODUCTION

One of the core challenges of poverty reduction programmes across the globe, especially developing countries over the years, is ensuring that investments reach the intended beneficiaries.

What is targeting?

Targeting refers to a set of rules, criteria and other elements of program design that define beneficiary eligibility.

Why targeting?

1. To reduce type I errors – errors of inclusion: when non-beneficiaries are included in the program due to inaccurate eligibility specification incentive effective effects, elite capture – also known as linkage.
2. To reduce type II errors – errors of exclusion: when beneficiaries are excluded from program benefits due to budgetary limitations, geographical delimitations of program scope, lack of outreach to inform the beneficiaries of the program. This is also called "Under coverage".
3. To increase overall economic growth rates as persistent inequalities is detrimental to economic growth.
4. To promote more balanced growth rates and development between regions.
5. To optimize resource expenditures in the face of budget constraints.
6. To redistribute wealth via public resources transferred to poor households in other to pursue equity.
7. To maximize impact on key development indicators.
8. To solidify nation-building and reduce conflict.
9. To address crisis and vulnerability.
10. To support political objectives.

Targeting methods

1. Geographical targeting (GT)
2. Categorical targeting (CT)
3. Community Based Targeting (CBT)
4. Proxy Means Testing (PMT)
5. Self-Selection (SS)

Geographical targeting

This selection method is based on regions, zone, district or villages – on the basis of poverty data, where poverty is known to be chronic or on the basis of other criteria like pronese to flooding, erosion and where natural disasters are common and can lead to transitory poverty.

Categorical targeting

Categorical targeting is targeting using social characteristics such as ethnicity, gender, family status, level of marginality, age, educational attainment, etc to select beneficiaries of a programme

Community based targeting

It is the process that contracts community groups or intermediary agents to identify, validate and select specific members of the community for targeting interventions. This is a method where members are allowed to use their subject knowledge about parameters like poverty / vulnerability in their respective locality to identify beneficiaries.

Proxy means testing

Proxy means testing basis access to program benefits on easy-to-collect household or individual characteristics that correlate with welfare. It provides a cheaper and more easily veritable. Data is collected on both income and potential indicators on a sample of population. Indicators are selected and their relative importance established through statistical analysis or calibration.

Self-selection

This relies on the identified beneficiaries to opt into program participation and non-poor to opt out based on type of service or good provided. Subsidies applied to goods consumed largely or disproportionately by the poor.

PRESENTED PAPERS

SOCIOECONOMIC ANALYSIS OF RICE FARMERS UPTAKE OF IMPROVED SEEDS FOR ENHANCED WELLBEING IN WUSHISHI COMMUNITY IN NIGER STATE, NIGERIA

Tsado, J. H., Ajayi, O. J., Tyabo, I. S., Pelemo, J. J. and Adebayo, E.
Department of Agricultural Economics and Extension Technology, Federal University of Technology Minna, Nigeria

ABSTRACT

The study analysed the socio-economic characteristics affecting rice farmers' uptake of improved seeds for enhanced wellbeing in Wushishi Community in Niger State. Data were collected through interview schedule and well structured questionnaire from 90 respondents. Data were analyzed using simple descriptive statistical tools. The result shows that 34.4% of the respondents were between the age ranges of 41 – 50 years. Most (93.5%) of the respondents had one form of education or others. Furthermore, 77.8% had farming experience of between 1 – 10 years. Majority of the respondent (73.4%) were small-scale rice farmers cultivating 1.51 – 2.50 hectares. Majority (77.8%) of the farmers obtained information about improved rice seeds from other farmers. Uptake of improved rice seeds significantly affected the respondents' sociological wellbeing in the areas of increased rice production ($\bar{X}$=4.63) and ability to send more children to school ($\bar{X}$=4.62). The most adopted improved rice seeds were FARO 52 and FARO 44 (SIPI). It is recommended that alternative extension services be provided to rice farmers to improve their uptake of improved seeds and there is need to subsidize farm inputs to farmers for convenient uptake of improved rice seeds for enhancing wellbeing. Variables that influenced the uptake of improved rice seeds were age (-110), family size (-0.75), farming experience (0.071) and access to extension agent (-1.602) which had significant relationship with improved rice seeds uptake.

Keywords: Rice farmers, improved rice seeds, Technology adoption, FARO 52, FARO 44 (SIPI).

INTRODUCTION

Rice is an annual crop and the most important staple food crop in tropical countries. Commercially, it is the most important cereal after wheat. It is widely consumed and there is hardly any country in the world where it is not utilized in one form or the other (Bamidele *et al.*, 2010). In Nigeria, rice is one of the few food item which consumption as no cultural, religious, ethnic or geographical boundary. Out of all the food items, rice is the most widely consumed, it has risen to a position of predominance with a total annual production of about 5 million metric tons, and it is the fourth largest cereal crop grown in the country behind sorghum, millet and maize (Basorun and Fasakin (2012; Akpokodje, *et al*., 2001; Akande 1999). The importance of rice in Nigeria has gone beyond its present status as a primary staple food. According to NRDS (2014), it is a food security commodity while USAID (2009) reported that it serve primarily as cash crop for those farmers who produce it (selling nearly 80 percent of total production and directly consuming only 20 percent), and it generate more income for Nigerian farmers than any other cash crop in the country. Nigeria is West Africa's largest producers of rice, rice acculturation is widely spread within the country extending from the Northern to Southern Zones with most rice grown in the eastern and middle belt of the country. Consistently during the period of 2000 –2003 Niger and Benue states were the largest producer of rice. In 2001, Niger state produces over 500,000 metrics tons of rice, but of recent however, Kebbi is said to be the leading producer of rice because of the political will of the state government.

It is believed that awareness promotes demand, and demand is a force for rapid uptake and spread. Where farmers receive some seeds of a new variety without proper knowledge of its superiority, they simply sow it. Nigeria has the capacity to be self-sufficient in rice production as virtually all ecologies in the country are suitable for rice cultivation, however, as mentioned above, several literatures and official records have reported poor uptake of improved seeds among small scale farmers in Nigeria as the key factors responsible for low productivity, as such despite the high potentials associated with the use of improved seeds, its distribution and spread is very slow, which consequently affect it acceptance and uptake by the farmers (Akramov, 2009; Awotide, 2010). On this basis it is important to investigate the factors responsible for low uptake of improved seeds. The objectives of this study includes: to describe the socio-economic factors affecting the uptake of improved seeds, types and extent of uptake of improved seeds, effect of uptake of improved seeds on the wellbeing of the farmers and factors influencing uptake of improved rice seed by farmers.

METHODOLOGY

This study was conducted in Wushishi community of Niger State. Wushishi is a local Government Area in Niger State with its headquarter in Wushishi town, it has an area of 1879 kmsq and a population of 817,383 as at 2006 census in Nigeria and cover a land mass of 1,930,901sqkm. It share common boundary with Mariga, Mashegu, Gbako and Bosso Local Government Areas. The major ethnic groups are;

Gbagyi, Hausa and Nupes who are mainly grower of crops like rice, beans, maize and millet. Six (6) major rice producing villages were randomly selected from the community. Namely: TunganKawo dam, Maita, Kanko, Yalwa, Abba and Gwari Akare. A total of fifteen (15) respondents were randomly selected from each of the six (6) villages, making a total of 90 rice farmers. Primary data were collected with the administration of structured questionnaire(s) and interview schedule designed in line with the stated objectives of the study. Objectives were achieved using descriptive statistics which includes the use of frequency distribution tables, percentages and mean.

Relative Importance Index (RII) was used to analysed the effect of uptake of improved rice seeds on farmers socio-economic wellbeing, this was used as it revealed the specific area that contribute most to the respondents wellbeing.

RII = Sum of weights

$(W_1+W_2+W_3+W_4+W_5+W_6+W_7+W_8+W_9+W_{10})/AXN$

Where W= weight given to each effect which ranges from1-5. 1= highly insignificant, 2= insignificant, 3= neither, 4= significant and 5= highly significant. A=highest weight in this case is 5 and N= total number of respondents.

RESULT AND DISCUSSIONS

The result in Table 1 revealed that majority (85.3%) of the respondents where within the age range of 20-50 years, it showed that most of the rice farmers were still within productive and active age. This agrees with the findings of Ekweanya *et al.* (2017), who reported that most of the farmers adopting new technologies were still in their active working ages.

The result further revealed that a good proportion (91.1%) had one form of education or the other. This implies that majority of the respondents had the capacity to read instructions that comes in most cases in English in adopting improved rice seeds. This is in line with the findings Nwokocha (2017), who pointed out that a large proportion of his respondents could read and comprehend the instructions on the instruction manual with little or no assistance. Table 1 also shows that 68.9% of the respondents had farm sizes of between 0.50-2.0 hectares, implying that most famers in the study area were small holder farmers.

Table1: Socioeconomic characteristics of the respondents

Variables	Frequency	Percentage
Age		
Below 20 years	6	6.7
20-30 years	16	17.7
31-40 years	30	33.3
41-50 years	31	34.3
51-60 years	7	7.8
Level of Education		
No formal Education	8	8.9
Primary Education	14	15.6
Secondary Education	62	68.7
Tertiary Education	6	6.7
Years of Farming Experience		
1 – 5	6	6.7
6 – 10	14	15.6
11 – 15	37	41.1
16 – 20	33	36.7
Above 20years	19	21.1
Farm Size		
0.50 – 1.00	8	8.9
1.01 – 1.50	12	13.3
1.51 – 2.00	42	46.7
2.01 – 2.50	24	26.7
3.1 – 3.50	2	2.2
Above 3.509	2	2.2

Source: Field Survey, 2017

Table 2 revealed that the awareness about improved rice seeds was on the high side; however the extent of trial and adoption varied greatly. The most adopted improved rice seed in the study area were FARO 44 (SIPI) and FARO 52 with high extent of adoption, this may not be unconnected with their peculiar characteristics such as high yielding and early maturity. FARO 54 was moderately adopted while FARO 61 and 62 recorded low uptake rate, this may be because they

were relatively new seeds varieties that the farmers were not too conversant with, as farmers tend to shine away from new practices that they have not find yet compatible with their existing practices.

Table 2: Farmers awareness and extent of uptake of improved rice seeds

Rice seed Varieties Cultivated	Aware (%)	Tried (%)	Adopted (%)	Extent of up take
FARO 52	100	87.50	76.67	High
FARO 44 (SIPI)	100	87.23	90.83	High
FARO 54	100	71.83	56.33	Moderate
FARO 61	84	52.3	32.7	Low
FARO 62	72	34.5	23.6	Low

Extent of uptake- 60% and above=High, 40%-59%=Moderate, less than 40%=Low

Source: Field survey, 2017

Table 3 shows the effect of uptake of improved rice seeds on the socioeconomic wellbeing of the rice farmers. The result showed that the uptake of improved seeds significantly affected rice farmer's wellbeing in the areas of: improvement in family food security status ($\bar{X}$=4.63), ability to send children to school ($\bar{X}$=4.62) and increase income ($\bar{X}$=4.58) which ranked 1st, 2nd and 3rd, respectively. This implies that the uptake of improve rice seeds by the famers had significant and positive effect on their socioeconomic wellbeing. This is in line with the findings of Kadiri and Eze (2015), that rice farmers in Niger Delta of Nigeria claimed to have increase yield, income, ability to train children in school and easy feeding and clothing as a result of uptake of improved rice seeds. Table 5 also indicated that the uptake of improved rice seeds does not significantly and positively affected the socioeconomic characteristic of the farmers in areas of marrying of more wives ($\bar{X}$=2.66) and improved sanitation ($\bar{X}$=1.91). This implies that rice farmers in the study area were more concerned with the improvement of their socioeconomic wellbeing than accumulating more liabilities.

Table 3: Effects of uptake of improved rice seeds on the socioeconomic wellbeing of the rice farmers

Variables	HI	I	N	S	HS	Sum	Mean	Rank	Remark
Increase food security through rice production	3	3	4	4	76	417	4.63	1st	S
Increase income	4	4	3	4	75	412	4.58	3rd	S
Infrastructural provision	21	16	14	17	22	273	3.03	7th	S
Ability to acquire more assets	14	24	16	31	23	349	3.88	5th	S
Access to rice marketing opportunities	18	28	6	8	30	271	3.01	8th	S
Ability to send children to school	2	4	3	8	73	416	4.62	2nd	S
Ability to marry more wives	23	32	8	7	20	239	2.66	9th	NS
Improved sanitation	42	32	4	6	6	172	1.91	10th	NS
Improved housing and clothing	18	14	6	21	31	303	3.36	6th	S
Access to improved health care services	2	4	20	31	33	359	3.98	4th	S

Source: Field Survey (2017)

Note: HI=High Insignificant, Insignificant=I, Neither=N, Significant=S, Highly Significant=HS, NS=Not Significant

The result in Table 4 shows that, the estimated model had a Pearson Goodness of Fit Test of Chi-square value of (154.822) which is significant at 1% level of probability. The coefficient of Age (X_1) is significant at 1% level but negatively correlated with the adoption of improved rice seed. This implies that the older the farmer become's the rate of uptake of improved seeds decreases. The coefficient of family size is significant at 1% level but negatively correlated with improved rice uptake. This implies that as the family size increases the rate of uptake of improved rice seeds reduces; this is because farmers with large family size are not likely to adopt new technologies because of financial constraint. Furthermore the farming experience of the respondents was significant at 5% level and is positively correlated with the uptake of improved rice seeds, which implies that as farming experience increases the rate of uptake of improved rice seeds will consequently increase. Access to extension service was significant at 1% level of probability but was negatively correlated with the uptake of improved rice seeds.

Table 4: Factors influencing uptake of improved rice seed by farmers

Variable	Coefficient	Standard Error	T-value	Sig
Constant	-4.939	1.570	9.893	0.002***
Age (X1)	-110	0.039	8.112	0.004***
Family size (X2)	-0.75	0.045	2.745	0.98*
Farm size (X3)	0.244	0.287	0.723	0.395
Farming exp (X4)	0.071	0.034	4.304	0.038
Edu level (X5)	0.034	0.042	0.651	0.420
Access to Ext Agt (X6)	-1.602	0.484	10.949	0.001***
Marital status (X7)	-598	0.550	1.182	0.277

Source: Field Survey 2017
Pseudo R^2= 0.337
Chi-square value =154.822***
Note: *** =Significant at 1%** = Significant at 5%* =Significant at 10%

CONCLUSION AND RECOMMENDATIONS

The study revealed that majority of the respondents were aware of the improved rice seeds existing in the study area, which includes majorly FARO 44 and FARO 52. The result showed that the uptake of improved seeds significantly and positively affected rice farmer's socioeconomic wellbeing in the areas of: improvement in family food security status ($\bar{X}$=4.63), ability to send children to school ($\bar{X}$=4.62) and increase income ($\bar{X}$=4.58) which ranked 1st, 2nd and 3rd, respectively.

Based on the result of the findings, the following recommendation were made

1. Effort should be made to improve the frequency of contact of extension workers to rice farmers in creating awareness and to encourage them to adopt improved technologies,
2. Cooperative societies should be formed to enable rice farmer benefit from assistance usually rendered by government, NGOs and donor agencies,
3. There is also the need to subsidize farm inputs (improved rice seeds) to rural farmers to serve as a motivating factor and incentives to them.

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EVALUATION OF FARMERS' KNOWLEDGE ON POST-HARVEST TECHNOLOGIES OF SOME SELECTED CROPS IN NORTH CENTRAL, NIGERIA

[1]Pelemo, J. J., [1]Tsado, J. H., [1]Olaleye, R. S., [1]Ayaji O. J., and [2]Mohammed, U.
[1]Department of Agricultural Extension and Rural Development, Federal University of Technology, Minna, Niger State, Nigeria
[2]Department of Planning, Research and Statistics, Niger State Ministry of Agriculture, Minna

ABSTRACT
Post-harvest technologies are vital for several reasons. It is a major contributor to income and standard of living of farmers'. This position paper is aimed at evaluation of farmers' knowledge on post-harvest technology of some selected crop and challenges of post-harvest technologies in Nigeria. The position paper revealed that one of the major problem of food security in Nigeria is improper and inadequate knowledge on post-harvest technologies, which has resulted to 20-30% loss of agricultural produce annually and also hindered farmers from making more income and improved livelihood. It was stressed that increase in farmers'knowledge on post-harvest technologies will enhance their income and livelihood. This could also make food cheap and avoidable for consumers in the market thereby enhancing economic growth and development. The reveiw revealed that improved in farmers knowledge on post-harvest technologies is the only solution to post-harvest losses in North Central Nigeria. It is recommended that attempts should be made by Agricultural extension agencies to arrange training, motivational campaigning and provide post-harvest technologies guide for increasing post-harvest knowledge of farmers. Also, it is recommended that action should be taken to provide technical support to the farmers to minimize their problems in cultivation, harvesting, post-harvesting and marketing.
Keywords: Postharvest technology, Farmers' knowledge, Economic growth, Loss of agricultural produce

INTRODUCTION

Post-harvest can be defined as the stage of crop production immediately after harvesting. It involves stages such as drying, shelling, cleaning, sorting and packing (Vellema, 2008).Post-harvest technologies on the other hand can be defined as an inter-disciplinary science and methods applied to agricultural products after harvesting for the purpose of preservation, conservation, quality control/enhancement, processing, packaging, storage, distribution, marketing, and utilization to meet the food and nutritional requirements of consumers in relation to their needs. The roles of post-harvest technology in agricultural production cannot be over-emphasis, post-harvest technology enhance agricultural production by reducinge post-harvest losses to the bearest minimum, improves nutrition, adds value to agricultural products by opening new marketing opportunities, generating new jobs and enhance other related economic sectors for viable growth. However, the major problem food security in Nigeria is improper and inadequate knowledge on post-harvest technologies, which has resulted to 20-30% lossparticularly this occurs as a result of post-harvest pests,this scenario most time force farmers' to sell their farm produce immediately after harvesting, only for them to buy it back at an exorbitant price in few months after harvesting. The potential increase in income and greater livelihood security will not be achieved if farmers' always sell surplus at the point of production (Saran *et al.,*2012),this position paper evaluate farmers' knowledge on post-harvest technologies of some selected crops.

Objectives of the study are to;

1. Evaluate farmers' knowledge on post-harvest technology of some selected crops
2. Examine the challenges of post-harvest technologies in Nigeria

Evaluation of farmers' knowledge on post-harvest technology of some selected crops

The research conducted by (Karnataka, 2006) on the knowledge of the tomato growers about improvedproduction and practices indicated that nearly half the number of growers(49.14%) had medium level of knowledge on post-harvest technologies of tomatoes whileonly 27.50% had high knowledge on post-harvest technologies of tomatoproduction. Tomato being a remunerative crop said by the author. He further stressed that farmers should possesscomplete knowledge of tomato production to getincreased yields. Their knowledge regardingmechanical sorting and scientific grading by usingrecommended size and weight was very poor according to the author. The author stated that farmers packed their produce in big bamboobaskets. The processing of tomato was knownto only 55% farmers. The author revealedthat farmers were ignorant of appropriate post-harvesttechnology. It is of the opinio that adequate and proper understanding of post-harvest technologies will benefit the farmers'.

Findings from Javed (2013) on the knowledge of farmers in post-harvest handling of vegetable revealed that 56% of the respondents felt in medium knowledge category followed by 35.8% in high knowledge category and only 8.3% in low knowledge category. The author considered Knowledge as vision of an explanation in any

aspect of the situation regarding vegetable cultivation in the research work. The findings according to the authour revealed that farmers most of the farmers' had moderate knowledge and not so good for handling of post-harvest technologies. Muhammad *et al.* (2012) on the assessment of the post-harvest knowledge of fruits and vegetable farmers in Garun Mallam L.G.A of Kano, Nigeria, showed that there is complete lack of proper post-harvest knowledge among the farmers, as only 10% of the respondents were found to harvest at an appropriate time of harvesting i.e. morning and evening. This findings is not that good to compel the menace of post-harvest losses in the study area.

Also observed from the result was that majority (95%) of the farmers harvest when it is fully ripe and only 5% harvest when half ripe. Some fruits and vegetables like tomatoes are best harvested when fully matured and still in the green stage, matured tomatoes stays longer as they ripen gradually while tomatoes that are already ripe will have a short storage life. The author further stressed that the losses recorded among the farmers was due to lack of proper knowledge and the use of local baskets in packaging of their produce after harvest, the basket are rough and easily bruises the produce and poorly ventilated, hence rot sets in.

Mande *et al.* (2007) on the Knowledge level of farm women about post-harvest technology reveals that almost all farmwomen possessed either high or low knowledge. The author indicated that (42.7%) have low knowledge. 86% of farmwomen possessed low knowledge about safestorage methods followed by practices.Also, control measures for storage pests (80.7%) storage pests and their nature of damage(80.0%),drying period for safe storage(67.3%), low cost storage structures (66.6%),making of processed products of fruits andvegetable (59.3%) and modernmachinery for harvesting (54.0%). The researcher concluded that majority of farm women possessed lowknowledge in these areas. The outcome of this findings is not that good since majorities posssesed low knowledge which should have been high knowledge in order to curtail post-harvest lossess. The post-harvest technologies to be effective farmers must posses high knowledge. The research carried out by Javed (2013) and Karnataka (2006) revealed that most of the farmers possessed moderate knowledge about post-harvest technologies which indeed should not have been so. Effort should be put in place for farmers knowledge to be revatilized.

Challenges of post-harvest technologies in Nigeria

Pan *et al.* (2008) stressed that the agricultural value chain comprises production, harvest, technologies and storage, processing,distribution and, finally, consumption. Food loss occurs all along this chain but is most acutebetween harvest and distribution. In developing countries, the root causes of food loss are interlinked and complex, but theprimary drivers include: lack of extension services to build skills in technologies, packaging, andstorage; insufficient post-harvest storage facilities or on-farm storage technologies; and poormarket access. Research and interventions in developing countries have largely focused ontechnology-based approaches that look for solutions to specific food loss problems at singlepoints in the value chain for example, on-farm storage in hermetically sealed bags, fruit andvegetable refrigeration through solar powered coolers, and mobile drying systems for grain.

Transportation challenge

Transportation challenge because transport facilities are grossly inadequate, especially in the rural areas who are themajor producers of food. Motorable roads are lacking and where available, they are notmotorable throughout the year or are laced with potholes, which make it difficult for vehiclesto get to the farm sites and convey farm produce to the markets. The bad roads have increasepost-harvest losses through damage to farm produce (Labaris *et al.*, 2014).

Inadequate infrastructures

Inadequate infrastructures is another problem that affectspost-harvest technologies in Nigeria. Infrastructures such as storage and warehousing are lackingin most part of the country. Insufficient storage facilities often lead to produce loss due topremature germination, fungal and bacterial attack, insects and rodents attack. This often ledto increase marketing cost leading to higher retail prices and reduce marketing efficiency.Infrastructure in this instance is construed to include physical infrastructure, such as roads and railway system,educational and health facilities, social services such as potable water and electricity and communication system. (Caswell *etal.,* 2010). Agricultural performance in Nigeria is greatly impaired by the low level of development of infrastructure.

Market information

Market information is also lacking. Sellers and buyers are not well informed about thesources of food supply and thereby reducing potential efficiency in the market. Otherfacilities such clean environment, communication facilities, health facilities, fire services,banking facilities, security facilities, water supply and good toilets are also lacking in mostmarkets (Rico *et al*., 2007).

Shortage of funds

Adequate fund is required in the area of bulk purchases, development of storagefacilities, transport and processing facilities. Sometimes prospective food marketers are oftendiscouraged because of shortage of funds (Lu *et al.,* 2010)

Shortage of processing facilities

Absence of these facilities sometimes compel farmers to sale perishablecrops such fruits, tomatoes, orange, pineapple and bananas at low prices immediatelyafter harvest to avoid post-harvest losses. This depresses the income of farmers, reducing hispurchasing power and a result if food insecurity.The lack of adequate storage and processing facilities accounts for divergence between national food securityand household food security. Even if the total production of food seems adequate at the aggregate level, it willnot lead to significant improvement in food security unless the food is available for consumption at the right timeand in the right form. Whereas food must be consumed on a daily basis, production has a different specific timeprofile. Storage and processing are critical in ensuring that the commodities produced at a particular period areavailable for consumption whenever and wherever they are required (Mbuk *et al.,* 2011). A significant quantity of products harvestedin Nigeria perishes due to lack of storage and processing facilities. Simple, efficient, and cost effectivetechnologies for perishables, such as roots, tubers, fruits and vegetables, are not as highly developed in thecountry compared to the storage technologies for cereal grains and legumes. Consequently, post-harvest foodstorage losses are very high, approximately 40 per cent for perishables, compared to cereal grains and pulses atabout 15 percent. Traditional storage facilities have certain deficiencies, including a low elevated base givingeasy access to rodents, wooden floors that termites could attack, weak supporting structures that are notmoisture-proof, and inadequate loading and unloading facilities (Mbuk *et al.,* 2011).

CONCLUSION

Post-harvest lossess has been serious issues affecting agricultural production in North Central Nigeria. This scenerio has not only negate the livelihood but also hampered economic development. However, for the menace of post-harvest lossess to be controlled to bearest mininmum, farmers must possess adequate knowledge on post-harvest technologies of agricultural produce. Also, there is need to motivate farmers so that they can adopt modern post-harvest technologies of crops in order to minimize the post-harvest losses. Lastly, it is vital for farmers to use traditional post-harvest technologies in order to reduce post-harvest lossess and also enhance food security.

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ANALYSIS OF INDIGENOUS KNOWLEDGE SYSTEM FOR SOIL FERTILITY MANAGEMENT AMONG FARMERS IN SELECTED LOCAL GOVERNMENT AREAS OF KADUNA STATE, NIGERIA

[1]Usman, Z. A., [2]Akpoko, J. G. [2]Ajala, M. K., [1]Ibrahim, S. and [1]Mohammed, K. O.
[1]Department of Agricultural Technology, Kaduna Polytechnic
[2]Department of Agricultural Extension and Rural Development, Ahmadu Bello University, Zaria

ABSTRACT
The study was carried out to analyse the indigenous knowledge system for soil fertility management among maize farmers in selected Local Government areas of Kaduna State, Nigeria. A multi-stage sampling procedure was used to select 152 farmers for the study. Data were collected using a structured questionnaire. Descriptive statistics and Logit regression analysis was employed to analyse the data. The results showed that age, farming experience and years spent on the education of the farmers were 42, 13 and 12 years respectively with an average household size of 12 persons. The result also showed that age, farming experience and farm size positively influenced the application of indigenous knowledge system for soil fertility management. However, educational status has a negative influence on the application of indigenous knowledge system in maintaining soil fertility. Mixed cropping, application of organic manure, supplementation of organic fertilizer with inorganic fertilizers and crop residues were the frequently used indigenous methods of maintaining soil fertility in the study area. The study recommends the encouragement of the use of the indigenous system in soil fertility management to reduce cost or avoid damage to the environment
Keywords: Analysis, Indigenous Knowledge System, Soil Fertility Management, Nigeria.

INTRODUCTION
Soil fertility is the capacity to receive, store and transmit energy to support plant growth. These processes require healthy soils – living, self-organising systems with physical, chemical and biological components all functioning and in balance. Continuous use of acidic or salty synthetic fertilisers, insecticides, fungicides and herbicides disrupts this delicate balance (Stapper, 2004). Sustained agricultural production in most Sub-Saharan countries is under threat due to declining soil fertility and loss of topsoil through erosion (Hellin, 2003; Sanchez, 2002). These interacting factors must be understood, as judicious soil fertility management is of vital importance for sustaining food production in smallholder communities. As soil is the basic resource of farmers, it needs to be nurtured in order to improve, conserve and sustain its use.

Since soil fertility management practices are of substantial significance in agriculture, the inherent indigenous knowledge and values of the farmers must be considered to achieve sustainability in maize production. The broad objective of the study was to analyse factors influencing application of indigenous knowledge system for soil fertility management among maize farmers in the study area, the specific objectives were to:

i. describe the socio-economic characteristics of maize farmers in the study area;
ii. determine the socio-economic characteristics influencing the application of indigenous knowledge system for soil fertility management;
iii. identify the indigenous knowledge system for soil fertility management employed by the farmers.

METHODOLOGY
The study was conducted in Kaduna State which lies between latitude 9°N and 12°N of the equator and between longitude 6°E and 9°E of the prime meridian. Kaduna state shares boundaries with Katsina and Kano States to the north, Plateau state to the north east, Nasarawa and Abuja to the south, and Niger and Zamfara States to the west (Kaduna State Government, 2012). The predominant crops grown are maize, yam, rice, millet, sorghum, cowpea, groundnut, soya bean and vegetables. The dominant rural population of the Local Government Areas consists of nomadic pastoral Fulani origin and crop farming population of both Hausa and Fulani origin and majority of the people are Muslims. The average yield per hectare of hybrid maize was 2240.6kg and 1261.04kg for open pollinated maize respectively (Taiwo*et al.* 2010).

Sampling and data collection
A multi-stage sampling technique was used in this study. Two Local Governments Areas were purposively selected based on their high involvement in maize production (Giwa and Lere). Two villages in each of the selected Local Government Areas Giwa(Yakawada and Kaya) and Lere: (Saminaka and Yarkasuwa) were also purposively selected based on high involvement of maize production, making a total of four villages. Finally, a random sampling was employed to select 20% from the sample frame (761) of maize farmers from each of the villages making a sample size of 152 maize farmers. Primary data were used for this study. Primary data were collected through

interview method using structured questionnaire which was administered on the respondents.

Analytical technique

The descriptive statistics such as mean and percentage were used to discuss objective i and iii while logit regression analysis was used todiscuss objective ii.

The explicit logit model is expressed as:

$Y=\beta_0+\beta_1 \ln X_1+\beta_2 \ln X_2+\beta_3 \ln X_3+\beta_4 \ln X_4+\beta_5 \ln X_5+\beta_6 \ln X_6+\beta_7 \ln X_7+U$

Where:

Y=1=applicators and 0=non applicators of any of the indigenous knowledge system identified for this study

X_1 = Age (years)

X_2 = Level of education (years spent in schooling)

X_3 = Household size (no. of people under the care of the household head)

X_4 = Farming experience (years spent in maize farming)

X_5 = Farm size (hectares of land for maize production)

X_6 = Extension contact (no. of visits either by extension agents or the farmers)

X_7 = Cooperative societies(of years spent in cooperative societies)

β_0 = Constant

$\beta_1 - \beta_7$ = the parameters to be estimated

U = Error term

RESULTS AND DISCUSSION

Socioeconomic and institutional characteristics of the farmers

Age distribution of maize farmers: The study revealed from Table 1 that the mean age of the farmers was 42 years which implies that the farmers are still in their economically active age that can make positive contribution to agricultural production. This supports the findings of Otitoju and Arene (2010) that it was expected that as a farming household head becomes older, they tend to have higher Indigenous technical knowledge than the younger ones.

Educational status: The average years spent on education by the maize farmers was about 12 years from Table 1 which implies that they are literate enough to provide them with the ability to read, and interpret messages relating to their farm operations. Ogunniyi and Ojedokun (2012) have pointed out that education was a key to enhancing productivity among farming households in the humid forest, dry savannah, moist savannah and guinea savannah agro-ecological zones of Nigeria

Household size: From table 1the average household size was12 persons. Although large family size can sometimes be an asset to the farmers in terms of available work force, often time a farmer is faced with the challenges of providing social and welfare facilities for such a large number of dependents. In a related study, Achem, *et al*.(2013) also found low overall yield from cassava farmers as a result of large family size.

Farming experience of the respondents: Table 1 revealed that the average farming experience was 13 years which implies that they are relatively experienced in maize farming. As a result, this could influence the farmers' awareness of and interest to a given technology and their ability to implement it.

Farm size: From Table 1 it was revealed that the average farm size was about 2 hectares. This indicates that the farmers were small-scale farmers. Farmers with larger farm sizes are expected to be more cost efficient owing to the advantage of economies of scale, as the unit cost of output decreases with increased production. Farmers with larger farm sizes are expected to practice better land management practices.

Table 1: Distribution of respondents according to socio-economic characteristics

Characteristics	Min.	Max.	Mean	Std
Age of the farmer (Years)	22.00	63.00	42.18	2.88
Education (Years)	3.00	18.00	11.86	4.13
Household size	4.00	17.00	12.00	5.45
Farming Experience (Years)	2.00	27.00	12.74	4.92
Farm Size (Ha)	1.00	3.00	1.82	0.38
Cooperative society (years)	1.00	18.00	7.30	7.04
Extension Contact	1.00	6.00	3.54	2.16

Source: field survey data, 2015

Cooperatives society: The result in Table 1 revealed that the average number of years spent in cooperative societies was about 7 years. This implies that maize farmers in the study area could have benefitted in one form or the other from their respective groups or associations as members of cooperatives societies. According to Obare*et al.*(2010), farmers who belong to cooperatives are better informed on resources use and farm planning which enables them to utilize resources more efficiently.

Extension contact: Findings from Table 1 revealed that the average contact with extension services by maize farmers per year in the study area

was about 4 contacts per year. This is relatively good because visit or contact with extension services provides opportunity for transfer of skills, knowledge and information which facilitate adoption

Socioeconomic characteristic influencing the application of indigenous knowledge system for soil fertility management

Age: The coefficient estimate for age (2.7444) had a positive influence on the application of indigenous knowledge system for soil fertility management at 10% probability level. This implies that older farmers had a higher probability of applying the indigenous knowledge system for soil fertility management than the younger farmers. The positive influence of age on application in the current study is contradictory with the findings of Odera*et al*. (2000) in Kenya who found age to negatively influence application of soil fertility replenishment practices.

Educational level: Educational level of the farmers (-11.961) had a negative influence on farmers'decision to apply indigenous knowledge system for soil fertility management at 1% significant level. This implies that an increase in education level of the farmers by one year will decrease the probability of applying the indigenous knowledge system for soil fertility management. This is contradictory to the findings of Luka *et al*. (2012) in Nasarawa State, Nigeria that formal education can give an unparalleled advantage to the people of an area in terms of quick understanding of scientific principles underlying the use of indigenous soil management practices.

Table 2: Socio-economic characteristics of the farmers influencing the application of indigenous knowledge systems for soil fertility management in the study area.

Variables	β	Standard Error	t-ratio
Age (X_1)	2.7444*	1.3878	1.9775
Education (X_2)	-11.9610***	3.3497	-3.5708
Household size (X_3)	0.8239	1.2024	0.6852
Farming experience (X_4)	0.5881***	0.2139	2.7494
Farm size (X_5)	1.0408*	0.6108	1.7040
Extension contact (X_6)	0.0263	0.0389	0.6761
cooperative societies (X_7)	0.0489	0.0358	1.3659
Constant	17.686*	9.0377	1.9569
No. of observations		152	
L R test		77.6511	
Log-Likelihood Function		-38.060	

Source: survey data, 2015, S E = standard error
*, **, *** Significant at 10%, 5%, and 1% level of probability.

Farming experience: The coefficient estimate of farming experience (0.5881) of the farmers positively influenced application of indigenous knowledge system in soil fertility management at 1% probability level. This implies that an increase in farming experience of the household head by one year will increase the probability of applying the indigenous knowledge system for soil fertility management. This is in agreement with the findings of Edeoghon (2008), who reported that farmers usually are more involved in practices that they are more familiar with than other practices.

Farm size: Farm size had a positive and significant coefficient (1.0408) from the result which implies that an increase in farm size will lead to an increased probability to apply indigenous knowledge system for soil fertility management. This was significant at 10% probability level. This implies that farmers with relatively larger holdings had higher probability of applying indigenous knowledge system for soil fertility management. This result is consistent with the findings of Okoye (1998) in Nigeria and Mbaga and Folmer (2000) in Tanzania where comparative analysis of factors in the adoption of traditional and recommended conservation practices in Nigeria, recommended soil erosion controlling practices adoption responded to farm size positively and significantly. That means, application tend to increase as farm size increases

Indigenous soil fertility management practices employed by the farmers

Results in Table 3 shows that more than half (52%) of the respondents identified mixed cropping as one of the frequently used indigenous methods of maintaining soil fertility. Mixed cropping systems create favourable condition for the soil, water, nutrients and provide excellent environmental conservation and sustainability. Forty nine percent (49%) of the respondents identified crop rotation to be a common practiced in maintaining soil fertility and improve on maize production. It was revealed that about 32% identified organic and inorganic fertilizer as a method of managing soil fertility , about 26% of the respondents had to leave crop residues in their

farms after harvesting for soil texture and nutrients preservation which also helps in soil erosion control as well as protect the soil from exposure to harsh environmental conditions. The result also revealed that 21% of the respondents apply organic manure and about 20% of the farmes use cow dung for managing soil fertility. This is in line with the study of Saidou*et al.* (2004) that farmers rotate maize with cowpea, which has a growing period of about 60-70 days, because of its food value and marketability and to maintain the fertility of their farmlands. According to the farmers, maize grown after cowpea grows faster and yields higher even if inorganic fertilizer is not applied. Farmers also attribute the yield increase in maize after cowpea to an increase in fertility of the soil as a result of the decomposition of the cowpea foliage that is left on the land after harvest.

Table 3 Indigenous Soil Fertility Management Practices Employed by the Farmers

Indigenous Knowledge System	Frequency	Percentage	Rank
Mixed cropping	79	51.97	1
Crop rotation	75	49.34	2
Use of Organic and Inorganic manure	48	31.58	3
Use of crop residue	41	26.97	4
Use of organic manure	32	21.05	5
Use of cow dung	31	20.39	6

Source: field survey data, 2015

CONCLUSIONS AND RECOMMENDATIONS

It is evident that older farmers, the more experience farmers and farmers with relatively larger holdings had higher probability of applying indigenous knowledge system in soil fertility management. The analysis also showed that 52% rural farmers use mixed cropping as indigenous methods for maintaining soil fertility mixed, 49% practice crop rotation, 31% use organic and inorganic fertilizers, 26% use crop residue management, 21% practice organic manure application and 20% use cow dung application as indigenous methods for maintaining soil fertility. The study recommends indigenous knowledge system in soil fertility management such as the use of crop residues, crop rotation, mixed cropping should be encouraged particularly for subsistent maize farmers to improve soil fertility. There is no doubt that modern agriculture has not been successful in feeding the poor in Nigeria. Modern agriculture should complement rather than compete with indigenous agricultureto reduce cost or avoid damage to the environment.Indigenous farming practices must be promoted and not denigrated by agricultural extension workers.

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STRATEGIES FOR INCORPORATING YOUTHS INTO RURAL EXTENSION SERVICES IN ORUMBA-NORTH LOCAL GOVERNMENT AREA OF ANAMBRA STATE, NIGERIA

Nwaogwugwu, O. N. and Okonkwo, M. K.
Department of Agricultural Economics and Extension, Faculty of Agriculture, University of Port Harcourt, Nigeria

ABSTRACT

The study explored the strategies for incorporating youth into rural extension services in Orumba North Local Government Area of Anambra State, Nigeria. The study specifically described the socio-demographic characteristics of the respondents, ascertained the relevant rural extension services for youths in the study area and identified the strategies for incorporating youths into rural extension services in the study area. Data for the study was obtained through a structured and validated questionnaire administered to a sample size of eighty (80) respondents randomly selected from the registered youth associations in the study area. Data obtained were analyzed using frequency, percentage and mean. The result on the socio-demographic characteristics of the respondents revealed that majority of the members of the youth associations in the study area were male (76.3%), within the ages of 20 – 30 years (68.8%) and single (73.8).The relevant extension services available to the respondents include: skill training and acquisition schemes (mean=3.63), rural youth employment scheme (mean=3.36), health and immunization awareness (mean=3.2).The strategies to incorporate youth in rural extension services include: encouraging their participation in agribusiness ventures (mean=3.88), organizing recreational activities and social events (mean=3.86), encouraging self–employment scheme (mean=3.84), and organizing field trips to established agricultural station and farms (mean=3.79) . The study concludes that youths' participation in relevant rural extension services could be enhanced through the use of appropriate strategies. Based on the findings it is recommended that extension agents should adopt variety of strategies to effectively incorporate youth associations in the study area into rural extension services since such associations are the platforms through which the youths can be organized and made functional.

Keywords: Strategies, youth, youth associations, rural extension service.

INTRODUCTION

Rural extension services have the responsibility to achieve rural development through the provision of updated information in on-farm and off–farm activities for people living in rural climes. In practice, rural extension services, which are advisory in nature, utilizes a wide range of communication and teaching methods. Learning activities are organized for rural people by field extension professionals with generalist view in disciplines including agriculture, agricultural marketing, health, home economics and agribusiness management and other aspects of rural life. These services are expected to be targeted on the entire rural family which Nwaogwugwu and Emordi (2014) categorized into four functional components such as men, women, youths and children for productive activities in the homestead.

Of the above components of the family, recent studies have focused on the youths (United Nations, 1990; Onyeoziri, 2002; Soeze, 2006; Nwaogwugwu and Taekor, 2016). This may be due to the fact that the youths remain significant in national development and represent the bridge between the present and the future in any society. No wonder Maunder (1972) described the youths as young people who consciously and creatively employ their knowledge, skills and resources to bring about increased and effective changes in their economic, physical, psychological, social and political wellbeing. Youths are usually composed of individuals between the ages of 15 – 40 years and constitute a formidable force in community and national development in any nation as indicated in some studies (United Nations, 1990; Soeze, 2006).

In Nigeria, about 45,400,000 of the estimated 150 million populations are youths. Onyeoziri (2002) revealed that about 61 per cent of the estimated population of Nigerian youth lives in rural areas while about 39 per cent are in the urban centres. Wherever they live, the fact remains that youths are characterized by energy, intelligence and attributes which encourage activities promoting developmental growth. Therefore, the incorporation of youth into rural extension services is an important factor towards agricultural and rural development. This is because youths are found to possess certain characteristics desirable for sustainable development such as innovative behavior, greater physical strength, and fast learning ability (Olujide 2008). Involvement of youths in extension services is a way of increasing their skills, knowledge, confidence, self-reliance and opportunity to collaborate and engage in sustainable development (Imonikebe and Tibi, 2015). Youths are said to constitute the backbone and future of any nation therefore, Adegboye, *et.al* (2010) observed that sustained extension services are vital for the youths because they are the link between the present and future as well as a reservoir of labour in all productive activities. Hence, the incorporation of youth associations in extension services is therefore an important factor towards rural development.

However, over the years various agencies and government have failed to sustainably integrate rural youths into the mainstream of the numerous rural development programmes implemented (Okonkwo, 2010). This has resulted in general apathy and lackadaisical attitude among the youth towards community and national development. The consequences are far reaching and includes various social vices, crimes, restiveness, mass unemployment, lack of sustainable livelihoods and migration among the youths while their actual contribution and roles in national development are lost (Usman, et.al, 2014; Nwaogwugwu and Taekor, 2016). In view of the above background, this study explored the strategies for incorporating youths into rural extension services in Orumba-North Local Government Area of Anambra State, Nigeria. In specific terms, the study described the socio-demographic characteristics of the youths, ascertained the relevant extension services for the youths, and identified the strategies for incorporating youths into rural extension services in the study area.

METHODOLOGY

The study was conducted in Orumba North Local Government Area of Anambra State, Nigeria. Orumba North Local Government is one of the 21 Local Governments in Anambra State. It lies between longitude 6^0 37 E and 7^0 27 E and latitude 5^0 40 N and 6^0 48 N. It is bounded in the North by Awka South L.G.A, in the West by Aguata L.G.A, in the South by Orumba South L.G.A, and in the East by Enugu State. A sample size of 80 subject were selected from a population of 1,655 youths in the sixteen registered youth organizations in the study area. A multi-stage random sampling technique was used to select a sample size of 80 youths from the 16 youth associations in the study area using a multi-stage random sampling technique. Data for the study was collected with the aid of a structured questionnaire designed and validated by the researchers. Likert–type 4 point summated rating scale of agreement (strongly agreed (SA) = 4, Agreed (A) =3, Disagree (D) = 2, Strongly Disagree (SD) = 1 was used to measure the responses on the items in the questionnaire. The mean of the sum total of values of the scale (Mean=2.50) was the basis for accepting or rejecting any item. Data analysis was done using frequency, percentage and mean.

RESULTS AND DISCUSSION

Socio-demographic characteristics of youths in the study area

The result shows that more males than females and within the age range of 20 and 30 years with majority of them (75.0 percent) single, indicating that most of them may not have divided attention and conflicting interests that may arise from having family responsibilities.

Table 1: Socio-demographic characteristics of youths in the study area

Variables	Frequency	Percentage
Sex		
Male	61	76.3
Female	19	23.7
Age		
15-20 years	4	5.0
21-25 years	22	27.5
26-30 years	33	41.2
31-35 years	14	17.5
36-40 years	6	7.5
40 years and above	1	1.3
Marital Status		
Single	19	23.7
Married	60	75.0
Divorced	1	1.3
Widow/Widower	-	0.0
Educational level		
No formal education	1	1.3
Primary	7	8.7
Secondary	31	38.7
Tertiary	41	51.3
Major occupation		
Fishing	2	2.5
Farming	38	47.5
Civil service	14	17.5
Trading	26	32.5

Variables	Frequency	Percentage
Tenure of membership		
1-5 years	33	41.3
6-10 years	41	51.2
11-15 years	3	3.7
16-20 years	2	2.5
21 years and above	1	1.3

Source: Field Survey, 2017

Relevant extension services for youths in the study area

The result on Table 2 revealed that skill training and acquisition; rural youth employment scheme; Health and immunization awareness; healthcare and sanitization projects are among the relevant extension services for youths in the study area

Table 2: Respondents rating of relevant extension services for youths in the study area

Variables	Mean	Remark
Skill training and acquisition schemes	3.63	Accept
Rural youth employment schemes	3.36	Accept
Health and immunization awareness	3.28	Accept
Healthcare and sanitation projects	3.24	Accept
Community sign post erecting scheme	3.16	Accept
Environmental and beautification schemes	2.85	Accept
Fundraising/capital mobilization scheme	2.75	Accept
Tree planting and beautification activities	2.66	Accept
Social development and home making activities	2.56	Accept
Awareness campaigns	2.40	Reject
Holiday/vacation job placement	1.89	Reject
Organizing holiday/vacation lessons	1.81	Reject

Source: Field Survey (2017)

Items with mean score ≥ 2.50 were accepted while items with mean score ≤ 2.50 were rejected.

Strategies for incorporating youths into rural extension services in the study area

The result on Table 3 revealed that integrating youths into rural development activities; encouraging youth agribusiness ventures; organizing recreational activities and social events; organizing field trips are among the strategies for incorporating youths into extension services in the study area.

Table 3: Respondents rating of strategies for incorporating youths into rural extension services in the study area

Variables	Mean	Remark
Encouraging youth agribusiness ventures	3.88	Accept
Organizing recreational activities and social events (sports, field days, etc.)	3.86	Accept
Self – employment schemes	3.84	Accept
Integrating youths into rural development activities	3.64	Accept
Organizing field trips to established agricultural station and farms	3.79	Accept
Serve as members of extension service implementing committee	3.58	Accept
Involved in extension service monitoring and evaluation team	3.43	Accept
Appoint them as members of rural extension service planning committee	3.33	Accept
Organizing demonstration projects for youths	2.60	Accept
Involved in deciding and selecting appropriate extension services	2.58	Accept
Encouraging club-based projects within youth associations	2.48	Reject
Mobilizing youth through club-based activities	2.36	Reject
Play advisory roles for rural extension activities	2.21	Reject
Engaging youth in club-based projects	2.11	Reject

Source: Field Survey, 2017.

Items with mean score ≥ 2.50 were accepted while items with mean score ≤ 2.50 were rejected.

CONCLUSION

Based on the findings, it is concluded that rural youth engage actively in available extension services in their community through their association. Evidently, some strategies such as, encouraging youth agribusiness ventures, organizing recreational activities and social event, self-employment scheme, organizing field trip to established agricultural station and farms, integrating youth into rural development activities, serve as members of extension services implementing committee among others are been adopted by extension agents to incorporate youths into rural extension services in the study area.

RECOMMENDATIONS

Based on the findings from the study it is recommended that:

- Extension agencies should carry out effective orientation targeted at female youths in rural areas to encourage them to participate as members of the youth association to provide them equal opportunity to contribute to the development of their community.
- Extension service agencies with the assistance of government should encourage more youths to engage actively in the relevant extension services available for the youths in the study area.
- Extension agents should adopt variety of strategies to effectively incorporate youth associations into rural extension activities implemented in the various communities since such associations are the platforms through which the youths can be organized and made functional.

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UTILISATION OF HIV AND AIDS INFORMATION AMONG PEOPLE LIVING WITH HIV AND AIDS IN RURAL COMMUNITIES OF OYO STATE

[1]Alabi, A. F. and [2]Olajide, B. R.
[1]Oyo State College of Agriculture and Technology, Igbo Ora
[2]Department of Agricultural Extension and Rural Development, University of Ibadan

ABSTRACT
HIV and AIDS information is an indispensable factor in enhancing the well-being of People Living with HIV and AIDS (PLWHAs) and remains a major challenge in rural areas. Therefore, utilisation of HIV/AIDS information among PLWHAs in rural communities of Oyo State was investigated in this study. Multi-stage sampling procedure was adopted to sample 183 PLWHAs. Data were collected on respondents' personal characteristics, source of information, utilisation of HIV/AIDS information and constraints faced in utilizing HIV/AIDS information. Data were analysed using descriptive (frequency counts, percentages, mean and standard deviation) and inferential statistics (Chi square and PPMC) at p = 0.05. Mean age of the respondents was 39±11, most of the respondents (73.8%) were female, married (62.3%), Muslims (53.6%) and 32.8% had tertiary education. Respondents' main sources of information were health workers (84.2%) and radio (69.4%). Respondents level of utilisation of HIV and AIDS was low for 63.4%. Fear of ART side effect (0.519), difficulty in understanding the language of the source (0514) and depression (0.508) were the major constraints respondents faced in utilising HIV and AIDS information. Respondents' age (r =0.196) and constraints faced were positively correlated with their utilisation of HIV/AIDS information. There was also significant relationship between respondents' marital status (χ^2=11.049), occupation(χ^2=24.791) and HIV/AIDS information utilisation. State and local action committee on AIDS, NGOs should sustain various campaigns currently on-going to address the importance of utilisation of HIV/AIDS information.
Keywords: HIV/AIDS, information needs, information utilisation, rural community

INTRODUCTION

Acquired Immune Deficiency Syndrome (AIDS) is an acute life threatening condition which is caused by Human Immunodeficiency Virus (HIV). HIV is a public health challenge that has defied global efforts at producing a cure. HIV/ AIDS is a problem of critical importance for social, economic, political and agricultural development of any nation. Peterson and Obileye (2002) opine that information is vital to People Living with HIV/AIDS (PLWHA) for the relief of physical pain and mental anguish. The need therefore becomes quite pressing for intense campaigns to be mounted to enlighten the masses on HIV/AIDS information. These campaigns would not just be limited to the health sector but to the rural communities. Agriculture provides a livelihood for most of the three quarters of the world's poor that live in rural areas, particularly in Asia and Africa (Ravallion, Chen and Sangrala, 2007). The overall result of the impact of HIV/AIDS is a decline in agricultural production and off farm sources of livelihood. HIV and AIDS information is a paramount factor in enhancing the well-being of People Living with HIV and AIDS (PLWHA) and it remains a major challenge among the PLWHA in rural areas. Non-utilisation of HIV and AIDS information could affect their health and limit their participation in agricultural activities. Past studies have focused on access to and utilisation of HIV/AIDS information among general population of PLWHAs but rarely focused on the rural population of PLHWAs. Hence, this study. Specifically, the study addressed some research questions by considering the following objectives: identify the personal characteristics of the PLWHA in the study area, access the sources of HIV information available to PLWHA in the study area, examine utilisation level of HIV/AIDS information by PLWHA in the study area, identify the constraints faced by PLWHA in using HIV/AIDS information in the study area.

METHODOLOGY

The study was conducted in Oyo state which is located in the Southwest geographical zone of Nigeria. Oyo state is divided into 3 senatorial districts namely Oyo North, Oyo Central and Oyo South with 13, 11 and 9 LGAs, respectively. The population of the study were People Living With HIV and AIDS that registered with the support groups in the Local Government Areas of Oyo state. A multi-stage sampling procedure was adopted to sample the respondents for this study. The first stage was purposive selection of two rural local government areas per senatorial district based on presence of registered PLWHA support groups. This gave selection of Iseyin and Saki-West from Oyo North, Ona-ara and Oluyole from Oyo Central and Ibarapa Central and Ibarapa East from Oyo South. In the second stage, all registered support groups were purposively selected; 2 from Ona-Ara, 3 from Saki-west and 1 each from Iseyin, Oluyole, Ibarapa Central and Ibarapa East resulting in 9 support groups in all. Lists of registered members in each of the support groups were obtained and 50% of members were systematically selected resulting in a sample size of 183 PLWHA which was used as respondents for

this study. Data were analyzed using descriptive statistics such as frequency counts, percentages while inferential statistics (Chi-square and Pearson Product Moment Correlation - PPMC) were used to analyse study hypotheses.

RESULTS AND DISCUSSION

Socioeconomic characteristics

Information in Table 1 shows that 35.0% of the respondents were between the ages 30-39 with mean age of 38.6±11.2years, 73.8% of the respondents were female, 42.1% of the respondents were Christians, while 53.6 % were Muslims. Result reveals that most of the respondents (62.3%) were married, while 15.3%, 12.0% and 10.4% were single, divorced and widowed, respectively. Result shows that respondents had 6.84 approximately 7 years as the mean of years of formal education which implies that they were fairly educated in the study area. Most prominent occupation involved in by the respondents were trading (30.1%), while 20.7% were involved in farming.

Table 1: **Distribution of respondents by socioeconomic characteristics (n = 183)**

Variables	Frequency	Percentage	Mean	S.D.
Age				
<27	25	13.7		
28 – 39	75	41.0	38.58	11.230
40 – 50	47	25.7		
>50	38	17.7		
Sex				
Male	48	26.2		
Female	135	73.8		
Religion				
Christianity	77	42.1		
Islam	98	53.6		
Traditional	8	4.4		
Marital status				
Single	28	15.3		
Married	114	62.3		
Divorced	22	12.0		
Widowed	19	10.4		
Years of formal education				
No formal education	56	30.6		
1 to 6 years	55	30.1	6.84	5.741
7 to 12 years	12	6.6		
>12 years	60	32.8		
Main occupation				
Civil Servant	22	12.0		
Hair dressing	19	10.4		
Tailoring	19	10.4		
Electrical works	8	4.4		
Traders	55	30.1		
Farming	38	20.7		
Others	22	12.0		

Source: Field survey (2016)

Sources of HIV/AIDS information

Result in Table 2 on sources of HIV and AIDS information reveals respondents source information from health workers (84.2%), radio (69.4%), posters (66.7%) television (66.1%), handbills (65.6%) and outreach programme (61.2%) while internet which supposed to be the major information providers especially in this age of technology constituted a non-significant source (14.8%) by respondents in the study area. This could be simply because of challenge of energy failure in the country or perhaps, none availability of internet infrastructure in the study area.

Table 2: Distribution of respondents based on sources of HIV/AIDS information among the respondents (n=183)

Variables	Yes		No	
	Frequency	Percentage	Frequency	Percentage
Religious bodies: Church, Mosque	88	48.1	95	51.9
Health workers	154	84.2	29	15.8
Radio	127	69.4	56	30.6
Newsletter	40	21.9	143	78.1
Rural campaigns	65	35.5	118	64.5
Internet	27	14.8	156	85.2
Television	121	66.1	62	33.9
Hand bills	120	65.6	63	34.4
Magazine	71	38.8	112	61.2
Friends/Colleagues/Relatives	69	37.7	114	62.3
Bill boards	80	43.7	103	56.3
Community meeting	65	35.5	118	64.5
Outreach programme	112	61.2	71	38.8
School	39	21.3	144	78.7
Educational forums: (Workshops, Seminars, Journal..)	32	17.5	151	82.5
Posters	122	66.7	61	33.3
Other infected person	109	59.6	74	40.4
Extension agents	84	45.9	99	54.1

Source: Field survey, 2016

Utilisation of HIV/AIDS information

In order of prevalence, the most utilized HIV and AIDS information was antiretroviral therapy(1.007) followed by HIV and AIDS adherence counseling (0.940) and HIV testing (0.878), perhaps as a result of the fact that the PLWHA need counseling on how to have access to drugs and capital and to enable their compliance to drug therapy. Result in Table 3 further shows that 63.4% of the respondents had low level of utilisation, while 36.6% had high level of utilisation. This may be due to the fact that PLWHA in the rural communities of Oyo State still need to be oriented on the need to utilise information on HIV/AIDS in order to make them stay healthy, live longer.

Table 3: Distribution of respondents based on their level of utilisation of HIV/AIDS information (n = 183)

To what extent do you utilize information on:	Always	Sometimes	Never	Weighted mean score	Rank
Treatment:					
Antiretroviral therapy	84.7	14.8	0.5	1.007	1st
Post exposure prophylaxis	8.7	42.1	49.2	0.325	10th
Prevention:					
HIV/AIDS adherence counselling	73.2	25.7	1.1	0.940	2nd
PMTCT	25.1	35.0	39.9	0.466	7th
HIV Testing	67.2	26.2	6.6	0.878	3rd
Nutrition:					
Nutrition counselling	45.9	51.4	2.7	0.783	4th
Social Support:					
Child Care	27.9	53.0	19.1	0.595	5th
Home based care	15.8	53.6	30.6	0.466	7th
Legal support	13.7	24.6	61.7	0.284	11th
Funding/Policies:					
Foreign aids and donors	20.8	57.4	21.9	0.541	6th
Grants and scholarship	5.5	16.4	78.1	0.150	14th
Government policies	12.0	23.0	65.0	0.257	13th
Human right and other infringements	7.7	34.4	57.9	0.272	12th
Non-governmental organizations	16.4	45.9	37.7	0.430	9th

Overall level of utilisation of information	Percentage
Low (4 -13)	63.4
High (13.5245 -28)	36.6
Total	100

Source: Field survey, 2016

Constraints faced by PLWHA in utilizing HIV/AIDS information

Results (Table 4) on constraints faced by PLWHA shows that constraints mostly encountered by the respondents were those that bothered on fear of side effect associated with ART (0.519), difficulty in understanding the language of the source of information (0.514), depression (0.508) and illiteracy (0.463). This result is in consonance with Adesoji and Olalekan (2012)who opine that illiteracy and difficulty in understanding language of sources was responsible for misconception of useful information.

Table 4: Distribution of respondents based on constraints faced by PLWHAs in utilising HIV/AIDS information (n=183)

Constraints faced in utilising the information	Not a constraint	Mild constraint	Severe constraint	Weighted mean score	Rank
Illiteracy	25.7	63.9	10.4	0.463	4th
Depression	20.8	65.6	13.7	0.508	3rd
Difficulty in understanding the language of the source	23.5	59.0	17.5	0.514	2nd
Fear of the ART side effect	25.1	54.6	20.2	0.519	1st
Cultural belief (local medication)	43.7	49.7	6.6	0.344	5th
Non-involvement of PLWHA in the provision of information	53.0	37.7	6.3	0.308	6th

Source: Field survey, 2016

Relationship and correlation analysis of PLWHA's personal characteristics and their utilisation of HIV and AIDS information

Result from the analysis shows a significant correlation between respondents' age (r =0.196) and level of utilization of HIV information. Respondents' marital status (χ^2 = 11.049) and occupation (χ^2 =24.791) also had significant relation with level of utilisation of HIV/AIDS information.

Relationship and correlation analysis of PLWHA's personal characteristics and utilisation of HIV/AIDS information

Variables	PPMC(r)	χ^2	Df	p-value	Decision
Age	0.196**	-	-	0.008	S
Years of formal education	-0.032	-	-	0.670	NS
Sex	-	0.301	1	0.583	NS
Religion	-	0.005	2	0.997	NS
Marital status	-	11.049	3	0.011	S
Occupation	-	24.791	13	0.025	S

** Correlation is significant at the 0.01 level (2-tailed). Df – degree of freedom, S- significant, NS – Not Significant, χ^{2-} Chi- square

Correlation between constraints faced by respondents and utilisation of HIV and AIDS information

The PPMC result reveals that there was a significant correlation between respondents' constraints faced in utilizing HIV/AIDS information and its utilisation. This indicates that the more the respondents are faced with constraints, the less their utilization of HIV/AIDS information.

Correlation between constraints and utilisation of HIV/AIDS information

Variable	R	P	Decision	Remark
Constraints	0.175	0.018	S	Reject H_o

Source: Data analysis, 2016

CONCLUSION AND RECOMMENDATIONS

The study concludes that Age, marital status, occupation and constraints are factors that affect utilisation of HIV/AIDS information in the study area. In line with the findings of the study, it is recommended that the state and local action committee on AIDS, NGOs should sustain on-going campaigns to address the importance of utilisation of HIV/AIDS information. Explicit information should always be provided for PLWHA in relevant books, posters, handbills and other HIV and AIDS materials in local dialects for proper understanding of the message.

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ROLES OF WOMEN IN RURAL DEVELOPMENT IN NIGERIA

Abdulkareem, S. B. and Omodona, S.
Federal College of Forestry Mechanization, Afaka, Kaduna

INTRODUCTION

Women play a vital role in agriculture and in the rural society, fundamentally in agricultural and rural development in sub-Saharan Africa. In Nigeria, women produce 60-80% of the agricultural food in the country (C.T.A, 2000), in the same view Remain, (2008) noted that, more than 60% of the agricultural production is carried out by women in the Nigerian traditional setting. The agricultural activity goes beyond crop to other agricultural aspects like fisheries, rabbitry, poultry, sheep and goat rearing. According to FAO, (2000) women are responsible for about 70% of actual work population in Nigeria. The role women play and their position in meeting the challenges of agricultural production and development are quite dominant and prominent; their relevance therefore cannot be overemphasized. Remain, (2008) again observed that, female farmers generally are voiceless especially with respect to influencing agricultural policies which are aimed at increasing food security and food production.

When women are economically and socially empowered, they become a potent force for change. In rural areas of the developing world, women play a key role in running households and make major contributions to agricultural production. But the inequalities that exist between women and men make it difficult for women to fulfill their potential (Oladoja, Akinbile and Adisa, 2004).

Rahmani (2001) argues that daily activities of girls and women in different fields are evidence of woman being required in rural production sector. He maintained that Women are the major potential for developing the rural economy which leads to further growth of rural production.Increasing awareness towards the role of this class in production and towards necessity of their broader participation in economic and social development, have forced the countries to consider and support their activities while making new rural, local and national policies (Rahmani, 2001).

Women in Rural Development

Rural women according to United Nations (2010) play a key role in supporting their households and communities in achieving food and nutrition security, generating income, and improving rural livelihoods and overall well-being. They contribute to agriculture and rural enterprises and fuel local and global economies. As such, they are active players in achieving the SDGs. Yet, every day, around the world, rural women and girls face persistent structural constraints that prevent them from fully enjoying their human rights and hamper their efforts to improve their lives as well as those of others around them. In this sense, they are also an important target group for the SDGs(United Nations, 2015).

InKogi State, women between age 18-57 years participate in agricultural activities as they grow different type of crops. Family structure, number of children and educational background has strong influence on women participation in agriculture in Kogi State. Also, farming among women in this area is taken as supportive mechanism as participation is dominated by both the widow and divorced (36% each) (Musa, 2017). Women between age brackets 36-60 years (45%) participate in agricultural production in Ekiti Local Government Area of Kwara State (Olawepo, 2012). The important role played by rural women in providing for their household cannot be over stressed as99.5% of women farmers in Ekiti area of Kwara Stateprovide food for their household. This means that almost every women farmer in the districts provides food for their household. Also, most of the crops grown in this area among the women farmers include Yam, Cassava, Maize, Guinea Corn, Beans, Rice and Sweet Potatoes. Others include ground nut, crops like tomatoes, pepper, okro, vegetables to mention a few (Olawepo, 2012).

The role of women in rural development, as in overall development, according to Balali (2005) can be classified into two broad categories, as follows:

- **The Labour Market and Community Affairs:** the rural women contribute to the productive agricultural labour force either as a paid helper or manager of the family farm enterprise. She may also participate in all activities, including the decision- making processes, within the various institutions of the social system, such as the economy, polices, legislation and church affairs.
- **The Home:** the rural women perform various tasks which are directly related to her role as wife and mother as well as educator of her young children.

Factors Affecting the Well-being of Rural Women

According to World Bank (2012) the absence of quantitative and qualitative data on women's role in agricultural and rural development is the most notable albeit hidden factor.This absence of data – these unknown factors, or negative costs he maintained is a significant omission in the data set used to formulate strategies for promoting income generation (World Bank,

2012). Among other factors are physical factor, Education and Literacy,

Criteria of Empowering Women:

Welfare Criteria: In this criterion,Kirjavaianan (2004) argued that men and women as human resources of development should enjoy of desirablewelfare conditions and equality.

Access Criteria: Lack of access or limited access for women to sources including fields jobs, capital and training cause that their functions at production is less than men (Kirjavainan, 2004).

Concientisation Criteria: Women should know that their problems aren't due to their individual inefficiency and shortage but it has emerged by social system in which discriminations has become formal and acceptable issue (Araghzadeh, 2002).

Participation Criteria: One of the most important items that this criteria has considered, is men and women's equal participation at decision making process of affairs of family at society (Kirjavainan, 2004). Men and women both should participate at process of assessmentneeds, designing, performing and evaluation of projects and development programs (United Nation, 2010).

Control Criteria: This criterion emphasise on this point that in addition to equal access of men and women to development sources , they must have adequate control on these sources that this issue is balance criterion, between men and women so that no one exceed other one (Didiza, 1999).

Obstacles limiting women's performance in development tasks

Invisibility according to Sarr (2004) is one of the numerous obstacles preventing women from realising their full potential. Many of these obstacles arise from the cultural and social constraints that perpetuate women's marginalised situation.

Better access to factors of production: This is one of the obstacles limiting women's performance in development tasks.

Gaining access to information is another obstacle: With telecommunication facilities accessible to women in rural areas, information circulates more easily and transaction costs fall, leading in turn to more market opportunities for women.

Females' access to education: Rural women low educational level is one of the obstacles limiting their performance in development tasks in developing countries.

Accessibility to credit facilities: One of the principal constraints facing low-income groups, in particular rural women, is the lack of adequate financing. Access to credit is one of the keys to an improved standard of living and higher productivity for small farmers and entrepreneurs in both rural and urban areas.

Gender inequality: Gender inequality which adversely affects rural women overall performance and output has persistently manifested in a number of ways: high level of poverty (World Bank, 2001), vulnerability to external and uncontrollable hazards (IDB, 2000), low strength or energy level (Kaul, 1996), low educational attainment (Filmer, 1996), poor anthropometric variables (Kaul, 1996) marginalization by agricultural extension (FAO, 2006), high productive and reproductive work load (Saito, Mekonen and Spurling,1994;), and restricted access to productive resources (Gray and Kevan, 1996).

CONCLUSION AND RECOMMENDATIONS

There was consensus that equal opportunity in education and training was important if rural women of developing countries were to participate effectively in the development process. To enhance rural women's role as agricultural producers, there should be more trainingopportunities in farm management, training in techniques and leadership for cooperatives and appropriate technical agricultural skills.

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IMPACT OF WEST AFRICA AGRICULTURAL PRODUCTIVITY PROGRAMMEON LEVEL OF LIVING AMONGPARTICIPATING FARMERSIN NORTH-WESTERN STATES, NIGERIA

[1]Abdullahi, A. Y., [2]Atala, T. K., [1]Ikani, E. I. and [3]Ahmed, B.
[1]National Agricultural Extension and Research Liaison Services, Ahmadu Bello University, Zaria, Nigeria
[2]Institute for Agricultural Research/ Department of Agricultural Extension and Rural Development, Ahmadu Bello University, Zaria, Nigeria
[3]Institute for Agricultural Research/ Department of Agricultural Economics, Ahmadu Bello University, Zaria, Nigeria

ABSTRACT
The study assessed the impact of West Africa Agricultural Productivity Programme among the participating farmers in North-Western States, Nigeria. Data for this study were obtained by the use of structured questionnaire. A total sample size of 221 participants and 221 non- participants were selected through multi-stage sampling which represent 45 percent of the sampling frame of 485 for each group. Descriptive statistics and propensity score matching were employed to analyse the data collected. The result of the study revealed that 56 percent and 50 percent were found within the productive age bracket 31-50 years for the two groups, while about 23 percent and 28 percent had secondary school education. The finding further, indicated that 174 (about 79 %) and 76 (about 34 %) of participants and non-participants had access to extension contact. The study also revealed that there was a difference of N 326,000 between WAAPP participants and non participants. The result further indicated that in all the four (4) algothrim matching methods, using nearness neighbor there was a difference of N100,000 between WAAPP participants and non-participants. This result clearly indicated that WAAPP had impact on the participating farmers in North-West zone of Nigeria. Also based on these findings, it is recommended that youth should be sensitized to engage into an intervention programme; to become self employed and participatory approach should be adopted on implementing intervention programme.
Keywords: WAAPP**,** impact, farmers

INTRODUCTION
In 2005, the World Bank designed the African Action Plan (AAP) as the centerpiece of its strategy to help Africa and its sub- regional groups such as the Economic Community of West African State (ECOWAS) to reach the Millennium Development Goals (MDGs) of reducing the number of hungry people by 50 percent in 2015. The AAP emphasizes three focal areas – one of which is strengthening the drivers of economic growth. ECOWAS, in response to the AAP, established the West African Agricultural Productivity Program (WAAPP) as an implementing instrument for achieving two principal objectives of the focal areas which are:

The objectives of the study were to:

i. describe the socio-economic characteristics of respondents in the study area;
ii. examine the impact of the programme on farmers income and level of living.

METHODOLOGY
The study was conducted in North-Western Zone of Nigeria. The zone has a population of 35.7 million people (NPC, 2006). The estimated projected population in 2018 was 50.34 million, based on an annual growth rate of 3.2 percent. Multi-stage sampling procedure was employed. In the first stage, three States were purposively selected (Kaduna, Katina and Kano). In the second stage six Local Government Areas were purposively selected based on participation in the programme and the last stage 221 participants and 221 non-participants were randomly selected from the sample frame of 485 for each group.Descriptive Statistics was used to achieve objective i, propensity score matching was employed to achieve objective ii.

RESULTS AND DISCUSSION
The results on Table 2 revealed that 56 percent and 50 percent O were found within the productive age bracket 31-50 years for participating and non-participating farmers respectively. The result supported the findings of Abdullahi (2015) who reported in his study "Impact of IFAD Community Based Agriculture and rural Development Projec"t, where most of the respondents were of middle age and within the agricultural productive age of 30-50 years. The finding of this study further revealed that 46 percent of the participants and 38 percent of the non-participants had Arabic education. The implication of this result is that most of the farmers are literate. This result agrees with Wahab*et al*. (2017) who found out that 54.2 percent of the respondents had Arabic education. On extension contact, it was showed that 174 (about 79 %) and 76 (about 34 %) of participants and non-participants had access to extension contact., the finding was in congruent with Yusuf *et al*. (2017) who argue that farmers who have access to extension services are likely to be aware of changing climate conditions and to have knowledge of various management practices that

they can use to adapt to changes in climate conditions.

Table 1: Socio-economic characteristics of respondents (n=221)

Variable	Participants			Non-participants		
	Frequency	Percentage	Mean	Frequency	Percentage	Mean
Age						
20 - 30	39	18	43	73	33	40
31 -40	60	27		59	27	
41 – 50	63	29		52	24	
51 – 60	46	21		24	11	
Above 60	13	5		13	5	
Education level						
Adult	5	2		9	4	
Arabic	102	46		83	38	
Primary	38	17		36	16	
Secondary	51	23		62	28	
Tertiary	25	12		31	14	
Access to extension contact						
Yes	174	79		76	34	
No	47	21		145	66	

Impact of WAAPP activities on income of participating farmers

Estimating treatment effects with matching algorithm: From the result before bootraps all the variables were not significantly causing changes in propensityscore estimate. However, after the propensity score was bootraps and bias was removed variation in propensity score was noticed. Household size, farm size, number of crop grown and farming experience were found to significantly cause variation in bootraps propensity score estimate. The Pseudo R-Square before the bootraps was 19 percent whereas after the bootrapsthe Adjusted R-Square which replaced the pseudo –R-square changed to 17 percent of variation, furthermore in bootraps the standard error was caused by action of the variables included in the model.

The average treatment effect can be correctly estimated without bias, the finding on Table 2 indicated that in all the 4 matching algorithm methods there was a difference of N326, 000.00 between WAAPP Participants and non participants. The participants were higher by the average income stated above than the non-participants. This implies that participation in WAAPP changes participants' income byN 326,000 above that of non-participants.Statisticallysignificant at 1 percent probability level. Therefore, the result supported the findings of Sambo (2015) who reported that participation in ICBA activities had effect on farmers' income in Kaduna State. In addition the findings corroborated with the results of the international livestock research institute (ILRI,2010) which indicated that agricultural development project that seek to increase the assert holding of the poor not only contribute to sustainable poverty reduction, but also help to promote socially desirable and empowering behavior.

Table 2: Average treatment of before and after bootstrap on income

Matching Algorithm	ATT	Std .Err. Before Bootstrap	Std. Err. After Bootstrap	Bias	t-value
Nearness neighbor	326000	95222.9	32241.315	8043.86	10.113
Radius	326000	0	67232.834	3904.81	5.255
Kernel	326000	0	72764.075	8516.36	4.848
Stratified	326000	94287.5	76654.852	6734.75	4.609

Impact of WAAPP activities on level of living of participating farmers

Estimating treatment effects with matching algorithm: The result on level of living indicated that the logit estimate of propensity score matching before and after boostrap all the variables were not significant to cause changes in the estimate. However, after the boostrap and bias was removed, variation in the propensity score was not noticed. This revealed that age, household size, farm size, income from on farm activities, amount of credit, extension contact and farming experience not significant in causing variation. The Pseudo-square before boostrap was 19 percent whereas

after boostrap the adjusted R-square that replaced pseudo R-square changed to 10% of variation. This indicated the variables are comparable in the model.

The finding on Table 3 revealed that in all the four (4) algothrim estimated, in nearness neighbor there was a difference of N100, 000 between WAAPP participants and non-participants, while under radius there was no difference, using kernel and stratified methods , 87336.49 and 87339.91 were found the difference between the two groups interviewed.

Table 3: Average treatment of before and after bootstrap on level of living

Matching Algorithm	ATT	Std. Err. Before Bootstrap	Std. Err. After Bootstrap	Bias	t-value
Nearess neighbor	100000	16504.42	89513.2	6678.47	1.117
Radius		15313.60			
Kernel	87336.49	0	14702.72	440.81	5. 940
Stratified	87339.91	15313.60	15334.3	1392.76	5. 696

CONCLUSION AND RECOMMENDATION

The study revealed that majority of the respondents were within the productive age (31- 50 years), in addition the result showed that the participating and non-participating were literate, although, the participants about 79 percent had access to extension contact, while only 34 percent of the non- participants had access to extension contact.

In conclusion the study found that the West Africa Agricultural Productivity Programme had impact on participating farmers on income as well as level of living. A difference of N 326,000.00 was realized between the two groups, by using the 4 matching algorithm methods.On the level the was a difference of N 100,000 between the two groups using nearness neighbor. Under kernel matching method, a difference of 87,336.49 was realized between the participating and non-participating farmers respectively, which were significant at 1% probability level.

Recommendations

1. It was found that major of the participants were between 41 – 50 years thus, it is recommended that facilitators should sensitize the youth to engage into intervention programme to become self employed.
2. It is recommended that the programme should be sustained and scale-up to other States by the federal government and development agencies, since it had impact on yield and level of living of the participants.
3. It is recommended that Adult education programmes should be organized by local government in order to increase the literacy levels of the respondents and this could help the farmers to understand the activities of WAAPP better.

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COVERAGE OF AGRICULTURAL RELATED CORRUPT PRACTICES IN THE NIGERIAN NEWSPAPERS

[1]Ani, N. A., [2]Olajide, B. R. and [2]Onyebuchi, S. I.
[1]African Regional Aquaculture Centre, Aluu, Port Harcourt, Rivers State
[2]Department of Agricultural Extension and Rural Development, University of Ibadan, Ibadan, Nigeria

ABSTRACT
Corruption remains one of the most significant global issues in 21st century, hence, its inclusion in the 2030 agenda for sustainable development. In Nigeria, corruption is a central problem facing the government and one of the bureaucratic offices that massive scales of corruption thrive is the agricultural sector. Recognizing the conferral and agenda setting status of the media, this research investigated the coverage of Agricultural Related Corrupt Practices (ARCPs) in Nigerian national newspapers. Using a multi-stage sampling procedure, four (4) national newspapers and four hundred and thirty two (432) editions from which 71 qualified as ARCPs news were selected for the study between January 2010 and December 2015. Results show inter-newspaper variation in the coverage of ARCPs stories. Vanguard Newspapers (34.4%) was found to have reported the highest volume of ARCPs stories amongst the dailies. No stories were found on both back pages and editorial pages of the newspapers studied, which represent the ideological inclinations of the newspapers on burning national issues. Majority (98.6%) of the news reports were found on the inside pages. The typology of ARCPs most reported were items grouped as "others" (33.8%) but silent on bigger issues of corruption like misappropriation, bribery, embezzlement and extortion. The major source of news reports was found to be government functionaries (36.6%), superseding anti-corruption agencies like Economic and Financial Crime Commission (EFCC). There was no significant difference (F= 1.294, P= 0.284) in the occurrence of stories on ARCPs across the dailies. To effectively address corruption and agricultural underdevelopment, a robust reportage of bigger ARCPs around bribery and corruption will no doubt translate to awareness, responsiveness and accountability in the administration of agricultural programmes and policies.
Keywords: Corruption news, Content analysis, Nigeria's Agriculture

INTRODUCTION
The manifest consequences of corrupt practices cannot be over-emphasized across sectors, public and private, in Nigeria. After the high cost of living and unemployment, Nigerians consider corruption to be the third most important problem facing their country, well ahead of the state of the country's infrastructure and health service (UNODC, 2017). Structurally, corruption violates social contract between citizens and their elected representatives, and elevates the interests of the few over many. Perceptions of rampant corruption also contribute to public disillusionment and undermine legitimacy of governments. Nepotism or cronyism which is a typology of corruption, generates deep grievances that contribute to conflicts, agitations, or even state failure, particularly if these cleavages follow pre-existing fault lines in society such as economic, religious, or ethnic delineations.

Corruption in agricultural systems constitutes problems for large and small landholders or farmers around the globe and particularly, developing economies. Rural dwellers and farmers, who constitute the bulk of the nation's population, are often unduly subjected to demands for payments (extortion) along transportation routes of the value chain when transporting products to the markets. Nigerian agricultural sector is widely perceived and adjudged as corruption-prone which has sufficiently served as conduits for siphoning public funds and encouraged different scales of corruption (Idachaba, 2014).

Problem statement
How a society would deal with its social problems depends largely on how they are discussed, selected and presented – in other words, framed to the public. It is noteworthy that research attention is growing on corruption, even if, slowly among social scientists across disciplines. However, studies in Nigeria with reference to corruption in the agricultural sector are scarce. Taking cognizance of status conferral of the media in addition to her agenda-setting prominence, this research investigated the coverage of Agricultural Related Corrupt Practices (ARCPs) in Nigerian national newspapers. This is to offer explanation to agricultural related corruption as a socio-economic problem as reported in the dailies. The specific objectives included to:

1. investigate the frequency of coverage of ARCPs in the Nigerian newspapers;
2. determine the placement or prominence given to ARCPs in Nigerian newspapers;
3. investigate the typologies of ARCPs reported in the Nigerian newspapers and;
4. determine the sources of ARCPs news in the Nigerian newspapers.

METHODOLOGY
Population of the study - The population of the study comprises of all news articles or stories on ARCPs reported in the newspapers. The period covered by the study was January 2010 to December 2015. The period coincided with the

period of implementation of the highly rated Agricultural Transformation Agenda (ATA) of the Nigeria's government where huge resources were invested for agricultural revolution, transformation and development.

Sampling technique - In a multi-stage sampling procedure, purposive sampling was employed to select four (4) national newspapers – Vanguard Newspaper, The Guardian Newspaper, The Punch Newspaper and The Nigerian Tribune, in the first stage. Principally, these dailies have columns dedicated to agriculture, natural resources and rural development news. Out of the 432 editions of newspapers that emerged from the sampling procedure, four hundred and seven (407) editions were found at the research library. Although 407 editions were studied, seventy one (71) stories qualified as ARCPs. All the qualified stories were used for statistical analysis.

RESULTS AND DISCUSSION

Determination of occurrence and frequency of ARCPs in the dailies

Results in Table 1 show spatial (yearly) variations in the frequency of coverage of ARCPs in the dailies. Specifically, the Nigerian Tribune (35.5%) recorded the highest coverage of ARCPs in 2010, The Guardian (36.8%) in 2012 and the Vanguard (42.9%) in 2014. This suggests a fluctuation in the coverage of ARCPs in the newspapers. Notwithstanding, on the aggregate, Vanguard (32.4%) reported the highest percentage of ARCPs stories, followed by The Punch (23.9%), while The Guardian (21.1%) was the least. In a related research on constructing corruption as a social problem in Nigeria (Chikwendu, 2016), Vanguard recorded the highest coverage when compared to other dailies considered. This suggests that Vanguard pays higher attention in terms of proportion to corruption and other social problems when compared to other national dailies. This connotes inadequate coverage of ARCPs across the selected newspapers and concomitantly, low awareness on ARCPs.

Table 1: Frequency and percentage distribution of the number of stories reported across selected Nigerian dailies

Dailies	2010		2012		2014		Total	
	%	F	%	F	%	F	%	F
Nigerian Tribune	35.5	11	15.8	3	9.5	2	22.5	16
The Punch	25.8	8	15.8	3	28.6	6	23.9	17
The Guardian	12.9	4	36.8	7	19	4	21.1	15
Vanguard	25.8	8	31.6	6	42.9	9	32.4*	23
Total	100	31	100	19	100	21	100	71

Source: Newspapers survey, 2017
*National daily with the highest volume of stories on ARCPs

Placement and prominence given to ARCPs in Nigerian dailies

Table 2 presents the prominence and placement given to ARCPs in Nigerian dailies. On the overall, largest proportion (98.6%) of the news articles were found on the inside pages, 1.4% was found on the front pages, while no story was found on both back pages and editorial pages of the dailies studied. This suggests that ARCPs were not given the befitting prominence and status as insignificant proportion (1.4%) of news articles were found on the front page. In print journalism, stories considered important usually appear on the front page with very important ones appearing as lead stories. Front page is used to present readers with all the important, attractive, eye-catching and major headlines. News stories trusted with the potential to interest the general public or boost sales are allocated to front pages of national dailies (Ofuoku and Agumagu, 2008).. Editorial pages represent the ideological positions or standpoints of the dailies (Chief-Editors) on current and burning national issues; no news story on ARCPs was found on the editorial page.

Table 2: Placement/prominence of ARCPs stories in the dailies

Prominence	Nigerian Tribune		The Punch		The Guardian		Vanguard		Total	
	%	F	%	F	%	F	%	F	%	F
Front page	6.2	1	-	-	-	-	-	-	1.4	1
Back page	-	-	-	-	-	-	-	-	-	-
Editorial page	-	-	-	-	-	-	-	-	-	-
Inside page	93.8	15	100	17	100	15	100	23	98.6	70
Total	100	16	100	17	100	15	100	23	100	71

Source: Newspapers survey, 2017

Typologies of ARCPs reported in Nigerian dailies

In a standardized typologies (Table 3) for the study, others (a category of ARCPs, taking up rent-seeking behaviours, pork-barreling and product adulteration and influence peddling) recorded the highest coverage in three newspapers in the following order: The Punch (52.94%); Nigerian Tribune (37.5%); The Guardian (33.33%), while the most reported form of corruption in the Vanguard was fraud (34.78%). On the aggregate, others (33.8%) remain the most reported. This is in tandem with the postulation of Idachaba (2014) that when government policies are corruption-prone, rent seeking behaviours and round tripping will be 'profitable' and inevitable. Although nepotism was second to the least form of ARCPs reported in the dailies; the consequences speak volumes. Globally, nepotism brings incompetent people into power, weakens performance on delivery of services and ultimately stifles development (OECD, 2014).

Table 3: Percentage and frequency distribution of the forms of ARCPs in the Nigerian dailies

Forms of corruption	Nigerian Tribune		The Punch		The Guardian		Vanguard		Total	
	%	F	%	F	%	F	%	F	%	F
Contract inflation	-	-	-	-	6.67	1	4.35	1	2.82	2
Embezzlement	12.5	2	17.65	3	6.67	1	13.04	3	12.68	9
Extortion	6.25	1	5.88	1	6.67	1	8.70	2	7.04	5
Bribery	-	-	-	-	-	-	-	-	0	0
Favouritism/Nepotism	6.25	1	-	-	-	-	4.35	1	2.82	2
Fraud	12.5	2	-	-	33.33	5	34.78	8	21.13	15
Looting	12.5	2	5.88	1	-	-	8.70	2	7.04	5
Misappropriation	12.5	2	17.65	3	13.33	2	8.70	2	12.68	9
Others	37.5	6	52.94	9	33.33	5	17.39	4	33.8*	24
Total	100	16	100	17	100	15	100	23	100	71

Source: Newspapers survey (2017)
* Typology of ARCPs most reported

Sources of ARCPs stories reported in the Nigerian newspapers

From Table 4, it became obvious that majority: 56.2%, 52.9% and 26.7% of news sources quoted in the Nigerian Tribune, The Punch and The Guardian, respectively, came from government officials whereas in the Vanguard, EFCC (21.%) discriminated as the major news source quoted. In the final analysis, political parties (0%), Nigerian Police Force (NPF) (1.4%), ICPC (2.8%), anonymous sources (2.8%) and EFCC (7%) were the least quoted sources of news stories in the selected dailies. This finding does not depict a direct association with the mandate of the Nigerian law enforcement and anti-corruption agencies - NPF, ICPC and EFCC, as regards investigation, arrest and prosecution of offenders. These agencies are primarily charged with corruption detection and prosecution. Interestingly, civil society organisations (21.1%) have fared relatively well in their activities by creating awareness or enlightenment to discourage corruption.

Table 4: Distribution of sources of news articles in Nigerian dailies

News sources	Nigerian Tribune		The Punch		The Guardian		Vanguard		Total	
	%	F	%	F	%	F	%	F	%	F
EFCC	-	-	-	-	-	-	21.7	5	7	5
ICPC	-	-	-	-	-	-	8.7	2	2.8	2
NPF	-	-	-	-	-	-	4.3	1	1.4	1
Political parties	-	-	-	-	-	-	-	-	0	0
Government	56.2	9	52.9	9	26.7	4	17.4	4	36.6*	26
CSOs	37.5	6	17.6	3	20	3	13	3	21.1	15
Reporters and whistle blowers	6.2	1	11.8	2	26.7	4	34.8	8	21.1	15
Anonymous	-	-	5.9	1	6.7	1	-	-	2.8	2
Others	-	-	11.8	2	20	3	-	-	7	5
Total	100	16	100	17	100	15	100	23	100	71

Source: Newspapers survey (2017)
* Most quoted source of ARCPs

CONCLUSIONS

News stories were not strategically placed in the dailies as none of the stories was reported on the editorial and front pages of the newspapers. Consequently, in all the newspapers, no story was reported on bribery as a form ARCPs. The salient typology of ARCPs promoted in the dailies was items grouped as others. Against the conjecture that ARCPs stories would come from law enforcement and anti-corruption agencies- EFCC, ICPC, NPF or even civil society organisations, the major source of news reports was found to be government functionaries. Frostily, statements or pronouncements from government officials are usually taken with a pinch of salt because of the officials' predilection or propensity for propaganda and blatant falsehood in their public relations. ARCPs news reports did not receive strategic placement in all the dailies. Perhaps, it was politics, economics, sports and entertainment that received advantageous placements in comparison to ARCPs.

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ASSESSMENT OF HOME GARDEN PRACTICES AMONG URBAN HOUSEHOLDS IN OYO STATE

[1]Raheem, W. K., [2]Ajuwon I. O., [2]Adebayo O. A. and [1]Ogunniran, S. O.
[1]Department of Agricultural Extension and Management, Oyo State College of Agriculture and Technology, Igboora
[2]Department of Agricultural Technology, Oyo State College of Agriculture and Technology, Igboora

ABSTRACT
Home garden is the cultivation of small portion of land which may be at the back of the home or within a walking distance from home. This study assessed home garden practices among urban households in Oyo state, Nigeria. Interview schedule and Questionnaire were used to elicit data from 110 respondents using multi stage and snow ball sampling techniques. Data obtained were analyzed using frequency counts, percentages, means, chi-square and Pearson Product Moment Correlation (PPMC). Findings revealed that respondents' mean age, and income realized per planting season were 44 years and N41, 985.00 respectively. Majority (70%) of the respondents were male, 64% were married. Most of the respondents (66.4%) practice home gardening at high level. Majority (82.7%) of the respondents confirmed that home gardening serves as a good source of fresh food. However, a major problem identified was the destruction of crops by animals, which was ranked highest amongst the constraints with 53.6%. In the study, PPMC result showed a significant relationship ($P< 0.05$) between the age ($r= -0.336$), income realized per planting season ($r= -0.297$) and level of home garden practises by urban household members. The study concluded that home gardening is one of the possible strategies in enhancing food security and it recommended that urban households should be educated through the media, on the importance of home garden in enhancing food security.
Keywords: Home Garden, Urban, Households.

INTRODUCTION

Home gardens are agro-ecosystems located close to the area that serves as a permanent or temporary residence. Within a very small area, one can find a combination of trees, shrubs, vegetables, root crops, grasses and herbs that provide food, spices, medicines and construction materials. Home garden is the cultivation of small portion of land which may be at the back of the home or within a walking distance from home (Odebode, 2006). Domestic animals are often integrated into the system too. The produce from these gardens not only secures food and income; it will often have an important cultural significance too. In cities and urban areas where there is shortage of land for farming and over-population, available little land which may be overgrown by weeds and turn to refuse dump could be an effective means of ensuring household food security and nutrition if properly harnessed. Household gardens tend to be located close to dwelling place for security, convenience, and special care. Household gardens are marked by low capital input and simple technology. Home gardening assists family to be food secured as Food and Agriculture Organization (2006) viewed food security in terms of availability of food within the reach of man and unrestricted access to it and a household is said to be food secured when its members or occupants do not live in hunger or fear of starvation. Gardening remains the most important method of food production for majority of people in the developing world, yet high population density has put a lot of pressure on land as more of it is required for settlement/building purposes. This has led to land fragmentation, reduction in the land that could be used for home garden and it has negatively affected food production, hence, resulted in food insecurity. In view of this, the study assessed home garden practices among urban households in Oyo State and specific objectives were to describe the socio-economic characteristics of respondents growing food crops or keeping livestocks in urban areas of Oyo state, determine the level of home garden practices in the study area, examine perceived benefits derived from home garden practices by urban household members in the study area and identify constraints encountered by urban household members in the practice of home garden in the study area.

METHODOLOGY

The study was carried out in Oyo State, Nigeria. The State is in Southwestern Nigeria with its capital in Ibadan. Population of the study comprised the urban household members practising home garden in Oyo State. Multi-stage and Snow ball sampling techniques were used in selecting households that are practising home garden in the study area. Oyo State Agricultural Development Programme zones were identified and selected. 50% of local governments were randomly selected in each of the agricultural zones to give 14. Snow ball technique was used to select 110 respondents from the selected local governments. Questionnaire and interview schedule were used to collect data. Frequency count and percentages, chi-square, Pearson Product Moment Correlation (PPMC) were used to analyse data.

RESULTS AND DISCUSSION

Table 1 presents socio-economic characteristics of respondents in the study area. The mean age of the respondents in the study area was 44 years which implies that the respondents were middle aged persons that are still in their active years and within the productive ages of carrying out tedious and rigorous work involved in home gardening. The mean age is in-line with the findings of Adesoji *et al.* (2006) that majority of farmers were middle aged in farming activities. Most of the respondents (70.9%) were male while 29.1% only, were female. In the study area, agriculture seems to have male involvement than female. Most of the respondents (65%) were married, 15% were widowed, 18% were divorced, while 2% of the respondents were single or yet to marry. This implies that most of the respondents were matured adults saddled with marital responsibilities as married person are considered responsible in the society. The mean income realized per planting season is N41, 985.00 which shows that the income they realized is not enough to cater for a household's needs but it can supplement the main source of family income. This is in tandem with the findings of Rahman *et al.* (2004) that farmers engage in job diversification in order to increase their income flow, survival and living standard.

Table1: Distribution of the respondents showing the socio economic characteristics

Variables	Frequency	Percentages %	Mean
Age			
Less than 30	04	3.64	
30 – 35	10	9.09	
36 – 40	13	11.82	
41 – 45	58	52.73	44
above 45	25	22.72	
Sex			
Male	78	70.91	
Female	32	29.09	
Marital status			
Single	2	1.82	
Widowed	17	15.45	
Married	71	64.55	
Divorced	20	18.18	
Income realized per planting season			
Less than 20,000	05	4.55	
20,000 – 40,000	34	58.18	
40,000 – 60,000	32	29.09	41,985.00
60,000 – 80,000	6	5.45	
80,000 – 100,000	1	0.91	

Source: Field survey 2017

Table 2 presents the level of home garden practice in the study area. Most of respondents (66.4%) practice it high level, 22.7% practice it at low level while 10.9% of them had abandoned it in practice. This implies that most of the respondents in the study area practice home garden year by year. This might be due to respondents' quest for additional source of income to supplement their monthly salary and the need for daily food crops. Bagson and Beyuo (2012) reported that home garden provides an alternative means of supplementing household food needs.

Table 2: Level of home garden practice among urban households

Level of practice	Frequency	Percentage
High	73	66.4
Low	25	22.7
Abandoned	12	10.9
Total	110	100.0

Source: Field survey, 2017

Table 3 presents the benefits derivable from home garden. Among the major benefits, home gardening serves as a good source of fresh food ($\bar{x}$= 4.70), reduces family expenses on food ($\bar{x}$= 4.45), serves as an alternative source of income ($\bar{x}$= 4.25) among others. This implies that a lot of

benefits could be derived from home gardening by households members. Bagson and Beyuo (2012) reported that home gardening provides an alternative means of supplementing household food needs and several benefits.

Table 3: Distribution of the respondents according to benefits of home gardening

Benefits	S.A F %	A F %	U F %	D F %	SD F %	Mean
It is a good source of fresh food	91 (82.7)	14 (12.7)	-	1 (0.9)	4 (3.7)	4.70
It reduces family expenses on food	61 (55.5)	39 (35.5)	9 (8.18)	1 (0.9)	-	4.45
Improves nutrition and health status of household members.	60 (54.5)	36 (32.7)	9 (8.9)	1 (0.9)	4 (3.6)	4.33
It is a way of interacting with nature	48 (43.6)	44 (40.0)	2 (1.8)	13(11.8)	3 (2.7)	4.10
An alternative source of income	58 (52.7)	38 (34.6)	5 (4.6)	2 (1.8)	7 (6.4)	4.25
It increases food production	61 (55.5)	42 (38.2)	3 (2.7)	4 (3.6)	-	4.45

Source: Field survey, 2017

Table 4 reveals the constraints encountered by urban household members in home gardening such as destruction of crops by animals ($\bar{x}$= 2.41), theft by neighbours ($\bar{x}$= 2.43), inadequacy of land ($\bar{x}$= 2.26) to mention a few. This agrees with Olajide-Taiwo *et al.,* (2010) that destruction of crops by animals is mostly experienced by many garden owners.

Table 4: Distribution of the respondents according to constraints encountered

Constraints	Major constraint	Minor constraint	Not a constraint	Mean
Theft by neighbors	55(50)	44 (40)	11 (10)	2.43
Destruction of crops by animals	59 (53.6)	37 (33.6)	14 (12.7)	2.41
Infection by pest	37 (33.6)	61(55.5)	12 (10.9)	2.23
Infection by disease	34 (30.9)	64 (58.2)	12 (10.9)	2.22
Inadequacy of land	42 (38.2)	55 (50)	13 (11.8)	2.26

Source: Field survey, 2017
Figures in parenthesis represent the percentages

Test of Hypothesis

In Table 5, PPMC reveals that there is a significant relationship between the age of the household head, income realized per planting season and level of home garden practises by urban household members in the study area.

Table 5: Relationship between socioeconomic characteristics of the respondents and level of home garden practices

Variables	r-value	p-value	Decision
Age	-0.336	0.001	Significant
Household size	-0.018	-0.850	Not significant
Amount	-0.297	0.002	Significant
Gardening experience	-0.077	0.426	Not significant

In Table 6, Chi-square result reveals that significant relationship existed between sex and level of home garden practises by urban household members in the study area.

Table 6: **Relationship between socioeconomic characteristics of the respondents and extent of home garden practices**

Variables	x^2	p-value	Decision
Sex	6.145	0.013	Significant

CONCLUSION AND RECOMMENDATIONS

The study concluded that home gardening is one of the possible interventions in enhancing food security and it should be considered in the context of a broader national food security strategy. Therefore, based on the findings of this study, the following recommendations were made: Urban households should be educated through the media, on the importance of home garden in enhancing food security. In addition, government should provide viable inputs, such as planting materials, fertilizers, agro-chemicals among others.

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SUSTAINABILITY OF THE YOUTH AGRICULTURE EMPOWERMENT PROGRAMMES IN OSUN AND OYO STATES

Tijani, S. A.
Department of Agricultural Extension and Rural Development, Faculty of Agriculture, University of Ibadan, Ibadan, Oyo State, Nigeria

ABSTRACT
The problem of youth unemployment in Nigeria necessitated both the Federal and state governments to introduce several empowerment programmes particularly in agriculture in order to enhance the economic capacity of youths. However, some of these programmes barely outlive the political regime that initiated them. Meanwhile, Osun youth empowerment programme has been acclaimed to be a model copied by other local and international organisations. Therefore, this study investigated sustainability of youth empowerment programmes in agriculture in Osun vis a vis Oyo States. Three (3) local government areas (LGA) with 25% of the beneficiaries were selected randomly from each of the two states to give a total of 260 respondents. Data were collected using both interview schedule and structured questionnaire and analysed using descriptive and inferential statistics at $\alpha_{0.05}$. The study revealed more male participation in the programme in both states (Osun=78.7%, Oyo=76.8%), high formal education (Osun = 63.8%, Oyo= 64.1%) with mean age of 28.2 (Osun) and 31.5 years (Oyo). Major benefits derived by respondents were skill acquisition (Osun =100% and Oyo = 81.5%), positive attitudinal change towards agriculture (Osun=96.1%, Oyo= 73.5%) and job opportunity (Osun=91.6%, Oyo=87.4%) Respondents' level of participation in the programme was low in both state. Most respondents in both states perceived the programme to be unsustainable with inadequate funding, lack of post empowerment support and monitoring being the major constraints to sustainability. There was a significant relationship between perceived constraints (r= 0.243, Osun and r = 0.855,Oyo), attitude(r=0.242) to the programme by respondents in Oyo and sustainability of the programme. Monitoring and evaluation process as well as, appropriate legislation to insulate the programme from political shocks should be included from onset.
Keywords: Youth empowerment, agriculture, sustainability, unemployment**.**

INTRODUCTION

The agricultural sector has been described as the engine for economic growth and improved livelihoods in Africa (Diao, Hazell, and Thurlow, 2007; World Bank 2006) because the majority of the population in sub-Saharan Africa depends directly or indirectly on it (Diao *et. al.,*2007). Agwu and Kadiri (2014) identified agricultural sector in Nigeria as the segment that is most critical to the achievement of the elusive goal of a diversified economy. It has equally been seen as a tool for job creation, income generation and maintenance of sustainable livelihood. However, most of the world's food is produced by ageing smallholder farmers in developing countries like Nigeria who are less likely to adopt the new technologies needed to sustainably increase agricultural productivity and ultimately feed the growing world population (FAO, 2014).Meanwhile, youths are the future of every society. In agriculture, youths perform the most tedious jobs in the farm. Rural youth contribute to family labour (White 2000); they also constitute a moving force in the development of their communities (Ekong, 2003) but they have the impression that agricultural production can rarely be a profitable venture. Thus, there arises the urgent need to teach them the importance and prospects in farming, thereby increasing the farming population hence, the renewed zeal by all tiers of government to re-engage youth in agriculture. Furthermore, as Nigeria grapples with the problem of unemployment among youths in the country (Abefe-Abefe-Balogun, 2015), the Federal Government and various states in the country have designed and executed several empowerment programmes particularly in agriculture to enhance the economic capacity of youths (Umeh and Odo, 2002). Such programmes include; National Poverty Eradication Programme (NAPEP), Youth Initiative for Sustainable Agriculture (YISA), Youth Integrated Training Farm (Kwara State, Osun Youth Empowerment Scheme (O-YES) and youth empowerment scheme of Oyo state (YES-O) to mention a few.

The empowerment programme embarked on by the Osun State government has been acclaimed to be a model copied by other local and international organisations such as World Bank Youth Employment and Social Support Operations (YESSO) programme (Osun Defender, 2014). O-YES is a palliative livelihood programme with the aim of ensuring food security, job creation and economic transformation using agriculture as a key driver. In the same vein, YES-O was inaugurated to reduce youth unemployment in the state by acquiring the necessary skills for a period of one year to enable them fit-in for job placements and entrepreneurship.

However, experience has shown that these programmes barely outlive the administration that initiated them. More so, that Osun and Oyo states are facing dire economic challenges in the form of dwindling economic fortune. This implies that

sustainability of the programme could be threatened as a result of the economic downturn. There is urgent need to determine if the programme has been insulated from other envisaged and unforeseen situations such as regime change, market dynamics, and instability in government policy which may occur upon the expiration of the incumbent administration. The study was guided by the following specific objectives;

1. ascertain the level of satisfaction of the respondents about the programme;
2. examine perceived sustainability of the programmes and
3. determine constraints to the sustainability of the empowerment programmes.

METHODOLOGY

The study was carried out in Osun and Oyo states. Both states are located in southwestern Nigeria with population of over 3million (Osun Diary 2010) and 5,591,589 respectively (NPC 2006).Osun state occupies a land mass of approximately 14,875km^2 while Oyo occupies approximately 28, 454km^2 (NBS, 2009). The major occupation in both states is farming and they are dominated by Yoruba ethnic tribe. Population of the study comprised of all beneficiaries of youth empowerment programme in agriculture in both states.

A multi-stage sampling procedure was used in the selection of respondents for this study. In the first stage, simple random sampling was used to select three LGAs from each of the three senatorial districts in Osun state. In the second stage, 25% of the total beneficiaries in the selected LGAs were randomly selected amounting to 130. In Oyo sate however, the list of beneficiaries (380 in all) was obtained from the state coordinator out of which 34% of these beneficiaries were randomly selected to give a total of 130 respondents as in Osun state. The total sample size for the study was 260 respondents. Data were collected from respondents using structured questionnaire and analysed using descriptive statistics, PPMC and t-test at α0.05.

Respondents' level of satisfaction was measured on three-point scale of satisfactory = 2, moderately satisfactory = 1 and not satisfactory = 0. Mean of the scores was computed and used to classify level of satisfaction into high and low satisfaction. Sustainability was taken as perceived sustainability with a set of 26 statements in four main domains (economic, political, ownership and technical) using 5-point likert- type scale of strongly agree = 5, agree = 4, undecided = 3, disagree = 3 and strongly disagree = 1. Sustainability index was computed and the empowerment programme was categorized as sustainable and unsustainable using mean as bench mark. Constraints to sustainability were measured as either a constraint = 1 or not a constraint = 0.

RESULT AND DISCUSSION

Personal characteristics of respondents

The result shows that most of the respondents in Osun (75.7%) and Oyo (95.3%) states were between the ages of 21and 40 years with mean age of 28.2 and 31.5 respectively. This shows that the programmes in each state captured youths, who are the intended beneficiaries. More males, 78.7% and 76.8% for Osun and Oyo respectively were involved in the programmes. This confirms the commonly held notion that agriculture is a male occupation, owing to its energy demanding nature. Most (68.5% and 76.2%) respondents in Osun and Oyo states respectively had at least 13 years of formal education. An overwhelming majority (92.1%) in Osun state participated in O'BOPS which is less capital intensive whereas, respondents in Oyo participated in different areas (maize, cassava, soybean and vegetable production, bee keeping, extension activity and processing) based on the available activity thus no specialization.

Extent of satisfaction with programmes

Table 1 shows that the aspect of the programme that the respondents were mostly satisfied with was time given to practical classes as it was ranked highest (mean=1.72), followed by time spent on empowerment training (mean=1.70) for Osun. It is evident that the beneficiaries in Osun relished instances of programmes activities that involved hands-on practical or physical demonstration of such activities that engage more of their senses and are capable of arousing their interest, which was not so with the beneficiaries in Oyo. Contrastingly, the beneficiaries in Oyo were most pleased with training method adopted for the programmes (ranked 1st with mean of 1.53) and they considered training obtained relevant to their enterprises (ranked 2nd, mean=1.5). Apparently, this infers specificity of the agricultural programmes to beneficiaries' needs in Oyo relative to Osun. Nevertheless, it is pertinent to note that a high level of satisfaction can lead to an increase in their productivity (Wagner and Harter, 2006).

Table 1: Level of satisfaction about the empowerment programme

Statements	Osun		Oyo	
	Mean	Rank	Mean	Rank
Time given to practical classes	1.72	1st	0.56	8th
Attitude of other beneficiaries during training	1.70	2nd	1.34	4th

Statements	Osun		Oyo	
	Mean	Rank	Mean	Rank
Time spent for empowerment training	1.70	2nd	1.12	6th
Coordination of the empowerment programme	1.61	3rd	1.06	7th
The mode of selecting beneficiaries	1.52	4th	1.42	3rd
Relevance of training to the enterprise	1.50	5th	1.51	2nd
The training method adopted for the programme	1.42	6th	1.53	1st
Personal assessment of Trainers' competence	1.40	7th	1.14	5th

Source: Field survey, 2016

Constraints to Sustainability of Programmes

As shown in Table 2, inadequate funding was ranked as the primal constraint affecting the sustainability of the programmes in Osun but second in Oyo state, while uncertainty over the political environment to support continuity of programmes was ranked 3rd and 4threspectively in Osun and Oyo. These findings are quite germane as Salako and Badmus (2014) stated that most government's empowerment programmes often fail to achieve the targeted goal due to inadequate funding. Relating to policy issue, IITA(2005) advanced that overtime policy instability, policy inconsistencies, narrow base of policy formulation, poor policy implementation and weak institutional framework for policy coordination have remained constraints to effective agricultural development. Meanwhile, in Osun and Oyo respectively, poor post-empowerment support was ranked 2nd and 3rdwhile inadequate monitoring and evaluation of the beneficiaries was ranked 4th and 1st. In line with these, Jide (2009) asserted that government does not always give programme participants support such as grant or loan to establish their own enterprises and also fail to provide an enabling environment after conclusion of programmes. Additionally, it is reported that government employment programmes do not always have adequate supervision (Akinremi and Sonaiya, 2009), which results in poor service delivery. It is interesting to point out that simultaneously in the two states, negative attitude of other beneficiaries during training, favouritism in the process of selecting beneficiaries and Inadequate access to Agricultural Knowledge and Information Systems were ranked 5th, 7th and 11th respectively.

Table 2: Constraints to the sustainability of the empowerment programmes

Statements	Osun		Oyo	
	Mean	Rank	Mean	Rank
Inadequate fund or capital support by the government.	0.81	1st	0.92	2nd
Poor post-empowerment support by the government	0.72	2nd	0.82	3rd
Uncertainty over the political environment to support continuity	0.69	3rd	0.81	4th
Inadequate monitoring and evaluation of the beneficiaries	0.59	4th	0.94	1st
Negative attitude of other beneficiaries during training	0.58	5th	0.68	5th
Non-payment for the produce purchased by government	0.58	5th	0.26	12th
Favouritism in the process of selecting beneficiaries	0.56	7th	0.52	7th
Present means/method of extension service delivery		7th	0.48	8th
Programme is fraught with excessive bureaucracy	0.55	9th	0.53	6th
Poor response of agricultural knowledge and information system to beneficiaries challenges	0.54	10th	0.45	9th
Inadequate access to agricultural knowledge and information system	0.52	11th	0.42	11th
Lack of market for produce as envisaged	0.48	12th	0.43	10th
Inability to benefit from Agricultural Knowledge and Information Systems	0.45	13th	0.42	11th

Source: Field survey, 2016

Perceived Sustainability of Programmes

The results revealed that the beneficiaries' perception towards the sustainability of youth empowerment programmes in agriculture. Relating to economic sustainability, access to factors of production had the highest mean (4.30) in Osun, while in Oyo it had the lowest mean (1.60).The statement that some beneficiaries are only after the grants promised by government was 3rd (mean=2.00) and 4th (mean=3.39) in Oyo and Osun respectively. Such set of beneficiaries can be likened to free-riders who, according to Albert (2000), are usually the unintended beneficiaries of a socially provided public good. They as a result channel any grant received into other non-agricultural ventures.

Results on the perceived political sustainability of the programmes showed that the statement on enactment of relevant policies to support the survival of the programmes had the highest mean scores (Osun=4.28, Oyo=4.20) in both states. This corroborates an earlier finding on

the uncertainty over the political environment to support programme continuity in the country, a trend that keeps recurring as a result of a systemic policy problem and continues to be a bane to effective agricultural development.

Concerning ownership sustainability, a similar trend was observed as the statement on beneficiaries benefitting more when there is a positive programme outcome had the highest mean scores (Osun=4.01, Oyo=4.30)in both states. This will give the impression to the beneficiaries that they are stakeholders of the programmes which would make them to assiduously work towards achieving the stated objectives of the programmes.

The perception of respondents on the technical sustainability of the programmes in agriculture reveals that statements on the programmes could have done more in equipping beneficiaries with the skills to undertake agricultural projects and need of task force to recommend areas of programmes requiring improvement had the highest (mean=4.06) and joint second highest (mean=4.01) mean scores in Osun but the statements respectively came out second highest (mean=4.10) and highest (mean=4.20) in Oyo.

Table 3a: Categorisation of perceived sustainability of O-YES programmes in agriculture

Sustainability	Percentage	Minimum	Maximum	Mean
Unsustainable	60.6	49.00	87.00	65.2
Sustainable	39.4			

Table 5b: Categorisation of perceived sustainability of YES-O programme in agriculture

Sustainability	Percentage	Minimum	Maximum	Mean
Unsustainable	89.3	44.00	76.00	58.4
Sustainable	10.7			

Field survey, 2016

Relationship between benefits, constraints and perceived sustainability of YES in agriculture in both states

Result revealed that there was significant relationship between constraints and perceived sustainability of the empowerment programmes in both states. It implies that the constraints (such as insufficient funding, unfavourable political environment, lack of ready market etc) faced by the respondents will threaten the sustainability of the programme. This is supported by the findings of Adekunle, Adefalu, Oladipo, Adisa and Fatoye (2009) that several constraints faced by the youths are responsible for their low level of involvement in agriculture. Furthermore, sustainability of the programme in Oyo is dependent on the benefits derived by the respondents.

Table 6: Relationship between benefits, constraints and perceived sustainability of YES in Agriculture in both states

Variables	r
Benefit (Osun)	0.101
Benefit (Oyo)	0.398*
Constraint (Osun)	0.243*
Constraint (Oyo)	0.855*

$P \leq 0.05$

CONCLUSION AND RECOMMENDATION

The empowerment programme was not without shortcomings as identified by the beneficiaries notwithstanding the majority of the beneficiaries were satisfied with the empowerment programme. The programme's aim of imparting skill, changing of attitude of the youth to agriculture as a vocation was significantly achieved. Though the programme was laudable and impactful, respondents found the Youth Empowerment Programmes in Agriculture to be unsustainable based on economic, political, technical and ownership criteria of International Fund for Agricultural Development (IFAD). Youth empowerment scheme in agriculture of Oyo state did not get it right from onset because beneficiaries were not given opportunity to decide on what they want to be empowered on. Thus, putting sustainability of the programme in a great doubt. Subsequent programme should be gender sensitive in order to balance male to female enrolment. There must be viable link between beneficiaries and extension agent in order to enhance productivity. Appropriate legislation to insulate the programme from political shocks should be included from onset.

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EFFECTS OF COMMUNAL CONFLICTS ON AGRICULTURAL PRODUCTION INDICES OF FARMERS INBENUE AND NASARAWA STATES, NORTH-CENTRAL, NIGERIA

[1]Ior, J. A. [2]Umar, I. S., [2]Olaleye, R. S. and [2]Ajayi, O. J.
[1]National Agricultural Extension and Research Liaison Services (NAERLS), Ahmadu Bello University, Zaria, Kaduna State, Nigeria
[2]Department of Agricultural Extension and Rural Development, Federal University of Technology, Minna, Nigeria

ABSTRACT
The prevalence of peace and stability is an absolute prerequisite for sustainable agricultural and overall economic prosperity. The study examined the effects of communal conflicts on agricultural production indices of farmers in Benue and Nasarawa States, Nigeria. The specific objectives were to; describe the socio-economic characteristics of the farmers; determine types and frequencyof occurrence ofcommunal conflicts, and; examiine the effect of communal conflicts on the activities of farmers in the study area. A multi stage purposive sampling technique was used to obtain a sample size of 391 farmers.Information was elicited using questionnaires, interview schedule and Focus Group Discussion and analysed using both descriptive and inferential statistics.The major findings showed that the dominant types of communal conflicts in the area were farmers-herders conflicts(75.70%), land disputes (51.15%), boundary disputes (29.66%) and ethnic conflicts (26.34%) andthe mean frequency of occurrence of communal conflicts in the study area in the last two years was 17.5 times.Most of the agricultural production indices of farmerslikecrop output(z=3.24, p= 0.001), cultivated land (z=3.92, p=0.000), fertilizer usage (z=1.75, p= 0.081), pesticide usage z=2.31, p=0.021), credit usage (z=8.18, p= 0.000) labour usage (z=2.10, p=0.037) and farm income (z=5.032, p= 0.000) were affected during occurrence of conflicts in the study area.The study recommended among others theenforcement of land control measures by the governmentthat would tackle the causes and occurrence of communal conflicts in communities in the country.
Keywords: Conflicts, Agricultural Production, Farmers

INTRODUCTION
The prevalence of peace and stability is an absolute prerequisite for sustainable agricultural and overall economic prosperity (FAO, 2006).Kimenyi *et al.* (2014) identified some common challenges experienced by all segments of the crop, livestock, fisheries and agricultural service value chains during periods of conflicts in Nigeria asreduction in the output of crops; reduced human mobility; reduced access to inputs and markets; increased theft of cash, products and equipment; increased prices for transportation, inputs and products and; reduced fishing activities.

Furthermore, Adebajo *et al.* (2015) affirmed that communal conflicts had negative impact on crop production in core conflict areas as youth of active labour force diverted attention to conflict rather than concentrating on farming, while the few timid older ones ran out of the community for their dear lives and abandoned their farms uncared for. The low crop production performance in core conflict area could be adduced to proportion of work-time lost to conflict and farmers' inadequate access to needed agricultural information that could have increased agricultural production output. Communal conflicts have become endemic in Nigeria particularly in States like Plateau, Nasarawa, Benue, Taraba, Adamawa, Kaduna, Zamfara, Ekiti, Ogun, Ondo and Cross-Rivers amongst others. Many lives have been lost as well as livestock and crops worth millions of Naira including disruption of essential services in the areas (Turkur, 2014; Zirra and Garba, 2006). It is against this background that the study examined the extent to whichcommunal conflicts affectthe agricultural production indices of farmers in Benue and Nasarawa States, North-Central, Nigeria. Specifically, this study:

i. describes the socio-economic characteristics of the respondents in the study area;
ii. determines the types and frequency of occurrenceof communal conflicts in the study area, and;
iii. examines the effects of communal conflicts on the activities of farmers in the study area.

METHODOLOGY
North Central Nigeria consists of the seven States situated geographically in the middle belt region of the country, spanning from the west, around the confluence of the River Niger and the River Benue. It is located between latitude 6° 30'to 11° 20' North of the equator and longitude 2° 30' to 10° 30' East of the Greenwich meridian. More than 77percent of the people are rural dwellers and are mostly farmers. The region itself is rich in natural land features, and boasts of some of Nigeria's most exciting scenery (Shuaib and Aliu, 1997).

Purposive sampling was adopted to select two States(Benue and Nasarawa) from the seven States in North-central Nigeria where communal conflicts occur frequently. The population of the

study comprised of farm families in Benue and Nasarawa States, Nigeria. Seven (7) LGAs that have recorded high incidence of communal conflicts over the years were purposively selected (4 out of 23 LGAs from Benue State and three out of 13 LGAs from Nasarawa State). Eleven (11) extension blocks were purposively selected from the LGAs (eight (8) extension blocks from Benue State and three (3) extension blocks from Nasarawa State). Twenty-four (24) extension cells that have experienced recurrent communal conflicts were randomly selected (15 cells from Benue State and 9 cells from Nasarawa State). From the list of farm families from each of the cells, 393 farmers (279 farmers from Benue State and 114 farmers from Nasarawa State) were selected through proportionate and random selection using the Taro Yamane formula for determination of sample size.

Primary data were collected with the use of a structured questionnaire, interview schedule and Focus Group Discussion which elicited information from the farmers and analysed using both descriptive statistics (frequencies, percentages and mean) and inferential statistics (Z-test and Factor analysis).

RESULTS AND DISCUSSION

Selected socio-economic characteristics of farmers in conflict-prone areas of the study

Analysis of data in Table 1 showed that most (68.54%) of the farmers in conflict-prone areas of the study were male and within the youthful mean age of about 40 years and majority (88.49%)) were married. Generally, most (68.27%) of the farmers were educated having attained one form of formal education or the other. The farmers were involved in farming (83.80%) as the major occupation whilethe mean farm size of farmers in areas prone to communal conflicts was 3.9 hectares.

Table 1.Socioeconomic characteristics of farmers in conflict areas of the study

Variable	Frequency	Percent	Mean
Age (Years)			
≤ 19	1	0.25	
20-29	42	10.74	
30-39	116	29.66	
40-49	161	41.17	40
50-59	62	15.85	
≥ 60	9	2.3	
Total	391	100	
Sex			
Male	268	68.54	
Female	123	31.45	
Total	391	100	
Marital status			
Single	43	10.99	
Married	346	88.49	
Others	2	0.51	
Total	391	100	
Educational status			
No Formal Education	124	31.71	
Primary	85	21.73	
Secondary	61	15.6	
Tertiary	73	18.67	
Degree	40	10.23	
Others	8	2.04	
Total	391	100	
Major occupation			
Farming	327	83.63	
Trading	26	6.64	
Artisan	5	1.27	
Civil Servant	32	8.18	
Others	1	0.25	
Total	391	100	
Farm size (ha)			
≤ 5	321	82.09	3.9
6-10	56	14.32	
≥ 10	14	3.58	

Total	391	100

Source: Field survey, 2017

Types of communal conflicts in the study area

According to Table 2, the most (75.70%) dominant type of communal conflict prevalent in the area was farmers-herders conflicts with other conflicts like land disputes (51.15%), boundary disputes (29.66%)and ethnic conflicts (26.34%) also of common occurrence. The result suggest that resource-based conflicts involving farmers and herders over struggle to control land resources was the commonest type of communal conflicts in the study area. This result agrees with the findings of Adisa (2011), Olayoku (2014), Mercy Corps (2015) and International Crisis Group (2017) that violent conflicts involving nomadic herders from northern Nigeria and sedentary agrarian communities of North-Central Nigeria have become common occurrences and has escalated in recent years spreading southward thereby, threatening the country's security and stability.

Table 2. Types of communal conflicts in the study area

Nature of conflicts	Frequency	Percent
Political	72	18.41
Religious	2	0.51
Ethnicity	103	26.34
Farmer-Pastoralist	296	75.7
Boundary dispute	116	29.66
Land Dispute	200	51.15
Fishing Disputes	42	10.74
Chieftaincy Tussle	23	5.88

Source: Field survey, 2017
*Multiple responses

Frequency of occurrence of communal conflicts in the study area

As shown in Table 3, the mean frequency of occurrence of communal conflicts in the study area in the last two years was 17.5 times. This result conforms to findings of Doorly (2016) and Haldun and Odukoya (2016) who observed that in recent years, more than five hundred incidents of communal conflicts were recorded with the first half of 2016 witnessing series of conflicts across several States in Nigeria including Benue, Enugu, Adamawa and Nasarawa States. This makes livelihood activities difficult at both the immediate locality as well as the larger societies that are dependent on the produce from these communities.

Table 3. Frequency of occurrence of communal conflicts in the study area

Occurrence	Frequency	Percent	Mean
01-19	234	59.84	17.52
20-39	132	33.75	
40-59	18	4.6	
60-79	5	1.27	
>80	2	0.51	
Total	**391**	**100**	

Source: Field survey, 2017

Effects of communal conflicts on agricultural production indices of farmers before and during occurrence of communal conflicts in the study area

The result presented in Table 4 on the mean difference between agricultural production indices of farmers before and during communal conflicts in the study areaindicated that there were significant differences in crop output (z=3.24, p= 0.001), cultivated land (z=3.92, p=0.000), fertilizer usage (z=1.75, p= 0.081), pesticide usage (z=2.31, p=0.021), credit usage (z=8.18, p= 0.000) labour usage (z=2.10, p=0.037) and farm income (z=5.032, p= 0.000). With higher mean values obtained in favour of agricultural production indices before conflicts, these findings further demonstrated that conflict occurrence in the study area had negative consequences on agricultural production activities of farmers.

This result is consistent with the findings of Oboh and Hyande (2006), Kimenyi *et al.* (2014), Adebajo *et al.* (2015) and Chikaire *et al.* (2016) that communal conflicts had a very serious effect on agricultural output, prices of produce, marketing and distribution of agricultural products, agricultural extension activities, agricultural credit

opportunities, transportation costs, labour supply and farm income of farmers. Thus, farmers were reluctant in adopting the recommended agronomic practices introduced to them by extension workers because of the fear of destruction of farms and displacement from their communities.

Table 4. Effect of communal conflicts on agricultural production indices of farmers before and during occurrence of communal conflicts in the study area

Variable	Mean	SD	Z	p-value	Decision
Crop output	13299.51	81145.33	3.24	0.001***	S
Cultivated land	3.572	18.02	3.92	0.000***	S
Livestock Size	747.23	14176.97	1.041	0.299	NS
Fertilizer usage	2100.98	23740.49	1.75	0.081*	S
Pesticide usage	14.41	123.25	2.31	0.021**	S
Improved seeds usage	-214.28	5060.1	-0.837	0.403	NS
Credit usage	93183.33	225246.79	8.18	0.000***	S
Labour usage	2132.1	20146.13	2.1	0.037**	S
Farm income	460771.24	1810535.4	5.032	0.000***	S

Note: *, ** and *** shows significance at 10%, 5% and 1% respectively

CONCLUSION AND RECOMMENDATION

The study revealed that the dominant types of communal conflicts prevalent in the study area were farmers-herders conflicts, land and boundary disputes.The underlying causes of the conflicts wereethnic, cultural, infrastructural, population pressure, social, institutional, resource control and economic factors.Most of the agricultural production indices of farmers were affected during 2 years of occurrence of communal conflicts in the study area. It was recommended that Government should adopt policies that would tackle the causes and occurrence of communal conflicts in communities in the country. These policies may involve enforcement of effective land administration measures to make land available for legitimate productive activities as well as provision of the necessary infrastructure needed for the peaceful coexistence of community members.

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CORRELATION OF FAMILY PLANNING ADOPTION TO THE WELLBEING OF RURAL WOMEN IN OYO STATE, NIGERIA

Agboola, A. O. and Oladeji, J. O.
Department of Agricultural Extension and Rural Development, University of Ibadan, Nigeria

ABSTRACT
Individual wellbeing is often linked with access to necessities of life, with less consideration for other immeasurable needs and the state of mind. However, poor control of family size led to increase in population size despite individual economic challenges in Oyo state, Nigeria. This study used multistage sampling procedure to select 152 female respondents of reproductive age in the rural area of Oyo State. Random sampling was used to select 70% of the participant of family planning program in the rural health centres. Descriptive statistics (frequency, percentages, mean) were used to describe some of the results, while Inferential statistic (Pearson Product Moment correlation; Chi-square, Analysis of variance) were used for data analysis. The results showed that the mean age of respondents was 30.6years; more than one third of the respondents had secondary education (42.8%), with mean household size of 5.39 people while (57.2%) had family size between 4-6 people. The mean monthly income was N36,136. Majority (88.2%) are aware of family planning, and 67.2% adopted family planning. Knowledge of use shows that about (70.0%) of the respondents have adequate knowledge of family planning, More than half of the respondents (52.0%) are below average standard of living on income, consumption, health, education, recreation and social responsibility and over (50.0%) of the respondents agreed that culture, cost requirement, fear of marriage failure and social support influenced their decision on adoption of family planning which helped some households. This study therefore recommends government policy that encourage child spacing and further reduction in the family size to limited number of children per household for better wellbeing which starts from planning for the family.
Keywords: Adoption, Wellbeing, family planning, rural women.

INTRODUCTION

The family is the building block of society. It is a nursery, a school, a hospital, a leisure place, a place of refuge and a place of rest; it encompasses the whole of society. It fashions beliefs. It's the preparation for the rest of our life and women run it (Abbot and Wallace, 1992). Certain functions are basic to all types of family, namely reproduction, socialization, economic and emotional support to family members which is invariably linked to family planning and well-being as a broad view of individual contentment with their lives. Family planning is an organized effort essentially to ensure that couples who want to limit their family size or to space their children have access to contraceptive information and services needed (Isiugo- Abanihe, 1996).

In Nigeria, fertility rate is approximately 5.5 children per woman and cultural value believes many children constitute great economic advantage. In a religious society like Nigeria, Several government campaigns have aimed at encouraging people to have smaller families, and past studies have created awareness and adoption of family planning progressively while this study identified the relationship between rural women's adoption of family planning to their wellbeing by investigating the level of household income, affordability of food security, health, education social and psychological wellbeing of respondents. Specifically, the study addressed some research questions by considering the following objectives:

1 identify socio economic characteristics of the rural women's household in the study area,
3. determine the level of adoption of family planning among rural women in the study area,
4. determine the level of wellbeing of rural women`s household in the study area,
5. ascertain the social support available to the rural women on adoption of family planning,

Hypotheses of the research

$H_0$1: There is no significant relationship between the rural womens socio economic characteristics and their wellbeing.

$H_0$2: There is no significant relationship between the adoption of family planning and wellbeing of the rural women

METHODOLOGY

Sampling procedure and sample size

This study was conducted in Oyo State, using multistage sampling technique for selection of respondents in Oyo North, Oyo South and Oyo Central senatorial districts; random sampling was used to select two rural local government areas from each of the named senatorial districts. Lastly, purposive sampling technique was used to select 75% female participants within the reproductive age of 15 to 44 years in each community's monthly registered participant of family planning programme in each Local Government area's public health centre. A total of 152 respondents

was used for the study through the use of well-structured questionnaire.

Table 1: Distribution of respondents base on their personal characteristics (n=152)

Variables	Frequency	Percentage	Mean	Std. dev
Age				
< 20	7	4.6		
20-26	39	25.7		
27-33	55	36.2	30.6	7.19
34-40	35	23.0		
>40	16	10.5		
Household size				
1-3	26	17.1		
4-6	87	57.2	5.39	2.03
7-9	37	24.3		
>9	2	1.3		
Estimated monthly income				
<10,000	7	4.6		
10,001-25,000	64	35.5	36,136.84	23,464
25,001-50,000	54	42.1		
50,001-100,000	24	16.8		
>100	3	2.0		

Source: Field survey, 2016

Table 1 showed that 36.2% of the respondents are between age 27-33years while 25.7% of them were between age 20-26years which is in line with the result of a study carried out by Okeowo and Olujide (2014) which reported high percentage of child bearing women to be within age bracket of 20 -30 years. It further showed that majority had a mean household size of 5.39 .This indicates that most families in the rural areas still have more than four children which is the average number estimated per woman in a lifetime as implied by (NPP, 1988) and currently reviewed in the National Policy on Population for Sustainable Development (2004) which operates on the principle that achieving a higher quality of life for people today should not jeopardise the ability of future generations to meet their own needs (NPC, 2004).

Table 1 Further showed the average monthly earning of the respondent study was N36,163. This result implied that majority of the respondents have supportive roles in their household with support from spouse and reliance on government schools and health centres to support their well-being as supported by the (NPC, 2004) set to achieve sustainable economic growth, protection and preservation of the environment, poverty eradication and provision of quality social services

Table 2A: Distribution of respondents perceived wellbeing dimensions on affordability

	AE F (%)	AAE F (%)	ANA F (%)	NA F (%)
Food security				
3 square meal daily	31 (20.8)	90 (60.4)	17 (11.4)	11 (7.2)
Raw Food Purchase	28 (18.8)	103 (69.1)	14 (9.4)	4 (2.7)
Balance diet/Nutritous food	28 (18.8)	76 (51.0)	28 (18.8)	17 (11.4)
Consumption from others	20 (13.4)	82 (55.0)	25 (16.8)	22 (14.8)
Educational Needs				
Children School fees	25 (16.8)	96 (64.4)	13 (8.7)	18 (10.1)
Children School books	27 (18.1)	93 (61.2)	17 (11.2)	15 (8.1)
Children Uniforms	28 (18.4)	94 (63.1)	15 (10.1)	15 (8.1)
School Extracurricular activities	22 (14.8)	55 (36.9)	23 (15.4)	52 (32.9)
Transportation to school	26 (17.4)	74 (49.7)	15 (10.1)	37 (22.8)
school expenditure	27 (18.1)	55 (36.9)	22 (14.8)	48 (30.2)
Health Needs				
Family Consultations	19 (12.8)	29 (19.5)	21 (14.1)	80 (53.7)
Prescribed Medication	37 (24.8)	97 (65.1)	3 (2.0)	15 (8.1)
Hospitalisation	25 (16.8)	72 (48.3)	19 (12.8)	36 (22.1)
Transport/ambulance	30 (20.0)	69 (46.0)	10 (6.7)	44 (27.3)

	AE F (%)	AAE F (%)	ANA F (%)	NA F (%)
Other health care expenditure	28 (18.7)	53 (35.3)	13 (8.7)	59 (37.3)
Bills on utilities				
Water, electricity	26 (17.3)	92 (61.3)	19 (12.7)	13 (8.7)
Change of Clothing	28 (18.7)	88 (58.7)	24 (16.0)	12 (6.7)
Household maintenance	29 (19.3)	78 (52.0)	33 (22.0)	12 (6.7)
Transportation	33 (22.0)	76 (50.7)	33 (22.0)	10 (5.3)
Communication device	49 (32.7)	84 (56.0)	7 (4.7)	12 (6.7)
Recreation /holiday	16 (10.7)	42 (28.0)	16 (10.7)	79 (50.7)
Imputed self-produced non-food	21 (14.0)	42 (28.0)	28 (18.7)	61 (39.3)
Insurance	22 (14.7)	21 (14.0)	12 (8.0)	97 (63.3)
Rent	31 (20.7	59 (39.3)	19 (12.7)	43 (27.3)
Expenditure on small appliances	32 (21.3)	55 (36.7)	33 (22.0)	30 (20.0)
Social/relational				
Ceremonial expenditure	27 (18.0)	70 (46.7)	33 (22.0)	22 (13.3)
Religious dues	32 (21.3)	96 (64.0)	13 (8.7)	11 (6.0)
Relative obligation	30 (20.0)	77 (51.3)	32 (21.3)	13 (7.3)

Source: Field survey, 2016

Table 2A showed the dependent variable wellbeing indices and short statements formed to capture respondents perception on affordability using a 4 point likert scale of affordable everytime (4), almost affordable everytime (3),almost never affordable (2) never affordable (1) for 28 perceptional statements that captured income, likely expenditure level on food security, educational needs, health needs, utility bills and social responsibilities affordability. Total table scores for each dimension of wellbeing was subcategorized to show the range of minimum and maximum scores. The mean value was used to categorize wellbeing dimensions below the mean as poor and above the mean as high wellbeing.

Categorisation of respondents' wellbeing based on perceptional statement in Table 2A

Wellbeing	Frequency	Percentage	Mean	SD	Maximum	Minimum
Poor (below mean)						
Range = Min-Mean (28 -74.2)	85	55.9	74.2	19.01	112	28
High (Above mean)						
Range = Mean- Max (74.3-112)	67	44.1				

Source: Field survey, 2016

The table 2B showed more than half (55.9%) of the respondents were poor and living below the mean while 44.1% were above the mean on the high side of wellbeing .This result was confirmed in line with (FOS, 1999) which stated that about 73% of the female farm holders in Nigeria are poor. It should be noted that the economic improvement of women will also lead to the improvement of almost all aspects of the family wellbeing, particularly the nutritional status of the family. According to Okebukola (2001), Nigerian women like all women all over the world, especially in most developing countries, continue to face several forms of discrimination which stands as hindrances to developing to their full potential

Correlation between respondent's socio economic characteristics to their wellbeing

Variable	R	p-value	Decision
Age	0.254	0.002	S
Years of working experience	0.088	0.282	NS
Monthly income	0.261	0.001	S
Household size	-0.49	0.549	NS

Source: Field survey, 2016

Variables	Chi-square value	Df	p-value	Decision
Adoption	12.565	2	0.002	S

x^2 = Chi-square coefficient, df = degree of freedom, p-value = probability level of significance, p≤, 0.05= significant, S = significant and NS = not significant

Table 4.5: Correlation between respondents' perception of social support of family planning and their wellbeing

Variable	R	p-value	Decision
Perception on family planning	0.024	0.770	S

Source: Field survey, 2016

CONCLUSIONS AND RECOMMENDATIONS

This study concludes that there is high level of awareness, and adoption of family planning, Fear of side effect, social support was affected by opinion of others especially their spouse support which contributed to adoption of family planning. Age and estimated monthly income of the respondents was significant to their well-being which can be attributed to their responsibility and experience. More than half of the respondent's wellbeing was below the mean score which categorised them as poor and correlated significantly to the respondent's adoption of family planning.

This study recommends continuous educative program that teach importance of controlled births on health and wealth of women to guide the younger female generation, Initiative that encourages self-employment and agricultural expansion among the rural women should be encouraged for agricultural growth and Government should make policies that further reduces the number of child birth per women.

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DETERMINANTS OF RURAL YOUTH'S DECISION TO PARTICIPATE IN AGRICULTURAL ACTIVITIES IN NASARAWA STATE, NIGERIA

Dio, P., Ajayi, O. J. and Ibrahim, M.
Department of Agricultural Extension and Rural Development, Federal University of Technology, Minna

ABSTRACT
The aim of the study analyzed the determinants of rural youth's decision to participate in agricultural activities in Nasarawa State, Nigeria. Multistage sampling technique was used to sample 277 youths. Primary data was collected through structured questionnaire and data was analyzed using descriptive statistics such as frequency count, percentage, mean and inferential statistics such as logit regression model and pairwise correlation. The result showsgreater percentage of the youths (68.23%) had no interest (unfavourable attitude) in agriculture. The major determinants of youth's decision to participate in agriculture were age (p>/z/=0.084), household size (p>/z/=0.087), farming experience (p>/z/=0.000), land ownership (p>/z/=0.011), access to credit (p>/z/=0.062) and awareness on agricultural opportunities (p>/z/=0.003). Perceptions correlates positively and significant to participation in agricultural activities (r=0.8729) and influenced youths interest in agricultural activities. It is recommended that there should be proper orientation and public enlightenment on the importance and the opportunities in agriculture for better youths' involvement. Age, household size, farming experience, land ownership, access to credit and awareness should be the major determinants in considering what will draw the attention of youths in agricultural activities.
Keywords: Determinants, Rural youth, Participation, Agriculture, Nasarawa State.

INTRODUCTION
Agriculture is one of the most viable sectors in the Nigerian economy particularly in terms of its employment potentials. It is the foundation for the development of stable human communities, both in rural and urban communities. It provides environmental benefits such as conservation, guaranteed sustainable management of renewable natural resources and preserved biodiversity (Preshstore, 2013). The agricultural sector is strategically positioned to have a high multiplier and linkage effect on any nation's quest for socioeconomic and industrial development. Unfortunately, Nigeria's agricultural sector is bedeviled with several challenges such as inadequate access to markets and credits, low level of technology especially mechanization, inadequate improved post-harvest infrastructure (storage, processing, transport), low uptake of research findings by stakeholders and limited availability of improved technological packages especially planting materials and certified seeds (Ministry of Agriculture, 2007). This has made agriculture unattractive and non-lucrative resulting in decline in the number of youth participation in agriculture (Muhammad-lawal, Omotoesho and Falola, 2009). Nigeria farming population is ageing. It is practically impossible for this aged generation dominating agricultural sector to deliver the expected productivity to meet food needs of the ever growing population (Aphunu and Atoma, 2010).

Against the background of the significance of youths to the agricultural development process and the significant roles of institutionalized framework to enhance youth's participation in agricultural activities, this study was conceived to achieve the following objectives:

1. ascertain the perceptions of youths towards agriculture in the study area,
2. examine the determinants of rural youths decision to participate in agricultural activities in the study area.

The hypothesis started in the null form is that: There is no significant relationship between youth's perceptions of agriculture and their level of participation in agricultural activities in the study area.

METHODOLOGY
The study was conducted in Nasarawa State, Nigeria. The area is centrally located in the middle-belt region of Nigeria. A multi stage sampling procedure was used to sampled 277 youths in the study. Primary data was collected through the use of structure questionnaire and interview schedule. Descriptive statistics involving the use of frequency, percentage mean score and logit regression analysis were used. Pairwise correlation was used to test the stated hypothesis.

RESULTS AND DISCUSSION
Level of rural youths participation in agricultural activities
Table 1 shows the level of rural youth's participation in agricultural activities. The result revealed that youths participation in agricultural activities is high (70.40%). This may be attributed due to absence of desirable job opportunities and for the fact that agriculture is the major source of income in rural communities. The findings agreed with Thomas and Eforuoku (2016) who also found high participation of youth in agricultural programme.

Table 1: Level of rural youth's participation in agricultural activities

Level of participation	Frequency	Percentage	Maximum	Minimum scorescore
High	195	70.40	60	12
Low	82	29.60		

Source: Field survey, 2018

Youth's perceptions towards agriculture

Table 2 shows the mean response on rural youth's perceptions towards agriculture. Youths' perceived that agriculture is for the school drop-outs and illiterates (Mean=3.38), agriculture is for the less privileged in the society (Mean=3.44), farming reduces someone status in the society (Mean=3.35), farming is stressful and energy sapping (Mean=4.06), agriculture is meant for the aged (Mean=3.60), and that farming generates low income (Mean=23.27). Overall, majority of the youths perceived agriculture negative.

Table 2: Distribution of respondents according to their perceptions on agriculture

Perception statements	SA	A	UD	D	SD	WS	WM
Agriculture for school drop out and illiterate	58 (20.9)	81 (29.2)	67 (24.2)	49 (17.7)	22 (7.9)	935	3.38
Agriculture should be practice by the less privileged	45 (16.2)	90 (32.5)	94 (33.9)	38 (13.7)	10 (3.6)	953	3.44
Agriculture promote enough incentives to rural youths	16 (5.8)	32 (11.6)	49 (17.7)	88 (31.8)	92 (33.2)	623	2.25
Farming reduces someone status in the society	48 (17.3)	79 (28.5)	85 (30.7)	51 (18.4)	14 (5.1)	927	3.35
Agriculture is a profitable enterprise	24 (8.7)	42 (15.2)	58 (20.9)	83 (30.0)	70 (25.3)	698	2.52
Farming promote poverty	20 (7.2)	38 (13.7)	86 (31.0)	81 (29.2)	52 (18.8)	724	2.61
Farming is stressful and energy sapping	104 (37.5)	95 (34.3)	69 (24.9)	9 (3.2)	0 (0.0)	1128	4.06
Agriculture improve standard of living	9 (3.2)	29 (10.5)	81 (29.2)	123 (44.4)	35 (12.6)	685	2.47
Agriculture is meant for the aged	71 (25.6)	93 (33.6)	64 (23.1)	29 (10.5)	20 (7.2)	997	3.60
Farming generate low income	37 (13.4)	76 (27.4)	101 (36.5)	51 (18.4)	12 (4.3)	906	3.27
I like agriculture as primary occupation	0 (0.0)	36 (13.0)	96 (34.7)	101 (36.5)	44 (15.9)	678	2.45
Farming is a bad business	12 (4.3)	33 (11.9)	79 (28.5)	94 (33.9)	59 (21.3)	676	2.44

Source: Field survey, 2018
*Values in Parenthesis are percentages
SA=Strongly agreed, A=Agreed, UD=Undecided, D=Disagree, SD= Strongly disagree.
WS= Weighted Sum; WM=Weighted Mean

Determinants of rural youths decision to participate in agricultural activities

From the results, age of respondent, household size, farming experience, access to credit facilities, land ownership and awareness on agricultural opportunities were found to be significant and hence influenced youth's participation in agricultural activities. Sex, marital status, education level, employment status, interest in agriculture, having role model, membership of youth base organization and decision to migrate to urban centres were all found not to be significant.

Age of respondent was significant at 10% with a negative coefficient and it implies that age is negatively associated with participation in agriculture by the youths. The negative association implies that an increase in the age of respondent by one year will decrease the probability of youths to participate in agriculture. Likewise household size variable was significant at 10%. The coefficient is negative and implies that it is negatively associated to the probability of youths participation in agriculture. This implies that an increase in the household size of respondents by one person will decrease the probability of participation in agriculture by the youth in the study area. This result conforms to the findings by Abdul-Hakim and Che-Mat (2011) that posited a negative relationship and was attributed to the unwillingness to participate in off-farm activities as the family

size increases.The coefficient of farming experience was positive and statistically significant at 1%. This implies that increase in the farming experience increases the probability of high level of youth performance in agriculture. This buttress the fact that as youths participate in agricultural productions over time they acquire enough experience that will enable them to cope with challenges in farming.

Access to credit variable was significant at 10%. The coefficient for youth's access to credit is negative and implies that access to credit is negatively associated with the probability of participation in agriculture by the rural youths. This implies that having access to credit facilities will decrease the probability of rural youths decision to participate in agriculture. This means those rural youths who have access to credit facilities have a lesser probability of participating in agricultural activities than their counterparts who do not. Land ownership is significant at 5% with positive coefficient. Increase in youths decision to engage in agricultural activities will occur for a unit increase in farm land owned by rural youth compared to those who do not owned farm lands. This implies increase ownership of farm land, increases the probability of youth engagement in agricultural activities in the rural areas of the state. Awareness on agricultural activities is significant at 1% with positive coefficient. This indicates that a unit increase in the level of youths awareness on agriculture will result to increase in the probability of rural youths participation in agriculture. This implies that as youths becomes more aware of the opportunities in agriculture, the greater will be their participation.

Table 3: Determinants of rural youths decision to participate in agriculture

Variables Coefficient	Standard Error	Z-values	P>/z/	
Age	-0.1565	0.0906	-1.73*	0.084
Sex	0.4784	0.6611	0.72^{NS}	0.469
Marital status	-1.4155	1.0447	-1.35^{NS}	0.175
Education	-0.0379	0.1262	-0.30^{NS}	0.764
Employment	-1.5204	0.9684	-1.57^{NS}	0.116
Household size	-0.2363	0.1382	-1.71*	0.087
Interest in Agriculture	0.3117	0.8213	0.38^{NS}	0.704
Farming Experience	1.1935	0.2019	5.91***	0.000
Access to credit	-2.7921	1.4979	-1.86*	0.062
Land ownership	2.2779	0.8923	2.55**	0.011
Having role model	0.5663	0.9329	0.61^{NS}	0.544
Cooperative membership	-1.1362	0.9892	-1.15^{NS}	0.251
Awareness on agriculture	2.7512	0.9279	2.96 ***	0.003
Decision to migrate	-0.2759	0.7174	-0.38^{NS}	0.700
Constant	2.7098	2.5684	1.06	0.291

Source: Field Survey, 2018

***= significant at 1% level of probability *=significant at 10% level of probability.

NS= Not significant

Correlation relationship between youths perceptions and their level of participation in agricultural activities

Table 4 shows the correlation analysis between youths perceptions of agriculture and their level of participation in agriculture. The result shows that youth's perception towards agriculture correlated positively and significantly with participation in agricultural production activities (**r** = 0.8729). We therefore reject the null hypothesis and indicate that there is a statistically significant relationship between youths perceptions of agriculture since it dominantly influenced their participation in agricultural activities in the study area. This finding agrees with those of Dalla Valle (2012) and Noorani (2015) who revealed that though there is recognition of the potential of agriculture internationally and nationally, there is a decline of youths interest and engagement in the sector.

Table 4: Correlation result of the relationship between youths' perceptions towards agriculture and their level of participation

Variable	Correlation coefficient	p-value	Remark
Perception toward agriculture	0.8729	0.0097	Significant

CONCLUSION

The study revealed that youths are involved in some agricultural activities in the study area but majority of the youths perceived agricultural activities negatively which influences their participation in agriculture. The implication of

the findings is that youths are unfavourably disposed to participation in agricultural productivity and hence the massive drift to other sectors of the economy. Age, household size, farming experience, access to credit facilities, land ownership and awareness on the opportunities embedded in agriculture were the main determinants of youths participation in agricultural production. Therefore, these variables should be targeted for improvement in order to further increase participation of youths in agriculture.

RECOMMENDATIONS

Based on the findings of this study, it is recommended that:

1. Youths should be given the necessary orientation on agricultural production which will enlighten them on the opportunities embedded in agriculture, which should be backed up with production resources and services to enable the youths to embark on agricultural activities in a sustainable manner.
2. Intervention strategies for youths in agricultural improvement should be guided by their age, household size, farming experience, access to credit facilities, land ownership and awareness on agricultural opportunities.

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SHARP PRACTICES ALONG MAIZE PRODUCTION CHAIN IN OYO STATE, NIGERIA

Oyelami, B. O., Odunuga, A. O., Kehinde, M. O. and Ladele, A. A.
Department of Agric. Extension and Rural Development, University of Ibadan, Nigeria

ABSTRACT
Maize serves as an essential source of carbohydrate and protein. It is also an important commodity for household consumption and industrial use. Over the years, research has come up with impressive recommendations on how to improve maize yield, but this notwithstanding; it is observed that revenue made from maize farming enterprise is relatively low, particularly in south-west Nigeria. While there are many factors responsible for this, it is apt to examine what sharp practices have contributed to it. Sharp practices decimate farmers' output and revenue at various nodes of the production chain using diverse points of leakages. This study therefore investigated varieties of sharp practices along the nodes of maize production chain among maize farmers in Oyo State. The study captured forms of sharp practices around maize farming operations like land preparation, planting, chemical and fertilizer applications, harvesting, processing, bagging and marketing. In-depth interview (IDI) with maize farmers across three agricultural zones in the state (Oyo, Ogbomoso and Saki) was used to elicit information for the study and data obtained was subjected to descriptive and qualitative analysis. The study revealed various points of leakages such as inaccurate land measurement which has a ripple effect on other production operations. Others were leakages from fake seeds, chemicals and fertilizers, dubious measuring standards used by buyers etc. The study recommended ways by which leakages could be plugged such as training farmers on easy-to-use techniques of farmland measurement and re-orientation for patronising credible input sources to enhance higher productivity and revenue for maize enterprise in the state.
Keywords: Sharp practices in farms, production chain, maize farmers

INTRODUCTION

Maize (*Zea mays*) is the world's most widely grown cereals (IITA, 2009). It is an important source of carbohydrate, protein, iron, vitamin B and minerals (Iken, Amusa and Obatolu 2002). It is a staple food crop for most sub-Sahara African countries including Nigeria (Zalkuwi, DiaDia, 2010). Maize does not only serve as the source of food for man and livestock but also as a source of income and foreign exchange. It started as a subsistence crop in Nigeria and has gradually risen to a commercial crop on which many agro-based industries depend as raw materials (Iken, and Amusa, 2014). According to FAO (2013), Maize (9,180,270 tonnes) has been rated as the second grown crop in Nigeria after cassava (52,403,455 tonnes) then followed by sorghum (6,897,060 tonnes) and rice (4,567,320 tonnes). While the United States is rated the largest producer of maize in the world (contributing 37-43% of the total world production), Nigeria is rated as the largest producer in Sub-Sahara Africa. The global output of maize in 2011 was recorded as 883,460,240 tonnes and Nigeria produced about 9,180,270 tonnes, which constituted about 1.04% of the world's production; thus Nigeria was ranked the 14th largest producer in the world (FAO, 2013).

In Nigeria, it is estimated that seventy percent of maize farmers are smallholders accounting for 90 percent of total farm output (Cadini and Angelucci, 2013). Notwithstanding, maize yield in Nigeria like many other Sub-sahara countries, is still very low compared to developed countries due to many constraints, which may be biotic, abiotic, agronomic or others like low soil fertility, pests and diseases, drought, unavailability of improved germplasm, weeds, less remunerative prices, uncertain access to markets etc. (Olaniyan, 2015). Girei and Galadima (2016) also identified constraints such as poor maize seed, weed infestation, less remunerative price at harvest time, migration of able-bodied youths, ageing of farming population, pest and diseases, lack of extension contact, crude implements, inadequate capital, poor storage facilities and poor government policies among maize farmers while Adenola and Akinwumi (1993) observed limited availability of improved seed, fertilizer and other inputs.

These constraints automatically translate to low profitability in maize farming enterprise especially for smallholders as Buba (2005) from a study on the economic analysis of maize production among smallholder farmers in Kaduna State discovered a gross profit margin of N13,943.60 per hectare while Girei and Galadima (2016) from their study on resource-use efficiency and profitability of maize production among smallholder farmers in Nasarawa State observed a gross profit margin of N 10,875 per hectare. However, much as the above listed constraints could reduce farmers' profitability in maize farming enterprise, another subtle factor quite potent at decimating farmers' profit is the incidence of sharp practices along the value chain of maize commodity right from land preparation to marketing. According to Ayoola (2015), sharp practices connote sneaky or cunning behaviour apparently within the rules or law but deceitful and exploitative. Other words that could describe sharp practices are unethical acts, fraud, dishonesty, misconduct, taking undue advantage, cutting corners, etc.

Sharp practice has common features with corruption, except that while corrupt acts are punishable under the law, sharp practices are sneaky and cunning such that they do not substantively fall under the grip of definite legal sanctions. Common forms of sharp practices that have been identified include favouritism, tipping, undue preference, extortion, lobbying, nepotism, influence peddling, trickery, collusion and façade among others (Ladele, Oyelami and Balogun, 2015; Ladele and Oyelami, 2015). Incidentally, some forms of sharp practices mentioned by these authors were found among crop farmers themselves which further corroborated the submission of Ladele (2016), that some farmers also have unscrupulous practices, which imply that the sharp practices in crops value chain did not exonerate any player in the AKIS. It is against this backdrop that this study attempted to identify cases of sharp practices along maize production chain in Oyo State and proffer possible remedial measures to these farming related challenges.

The general objective of this study was to examine the incidence of sharp practices along maize value chain in Oyo state and specific objectives were to:

i. identify the forms of sharp practices along maize production chain in the study area
ii. examine the consequences these sharp practices have on maize production chain and
1. determine possible remedial measures to these practices along maize production chain in the study area

METHODOLOGY

The study area Oyo state which was form in 1976 is an inland state in south-western Nigeria, with its capital at Ibadan. It is bounded in 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 partly by republic of Benin. Three out of the four ADP agricultural zones well noted for maize production in Oyo State were selected for the study. These are Saki, Oyo and Ogbomoso zones. Following recommendations from experienced ADP extension workers on the field, In-depth Interviews were conducted with not less than 6 progressive maize farmers from each of the selected zones to elicit relevant information for the study. This selection carefully considered a fair spread among farmers cultivating maize fields ranging from 1ha to 20ha.Data obtained from the study were analysed using descriptive and qualitative analysis and discussed along the various nodes of maize production chain.

RESULTS AND DISCUSSION

Personal characteristics of the respondents

Respondents interviewed for the study were mostly married males while one-third of them were married females. They were all Christian and Muslims who were in their active years. The academic qualifications possessed by the respondents spanned from primary to polytechnic education while some had no formal education.

Forms/varieties of sharp practice along maize chain production

Sharp practice encountered in land preparation: Most maize farmers in the study area had no valid way of measuring their fields before embarking on farming activities. They depend on tractor operators' visual measurement. A few that measured adopted some traditional means of 3000 heaps for an acre and wrong use of tape rule; some of them assumed 120m × 360m to measure one acre. Consequent upon this, most farmers were often cheated by tractor operators.Farmers who even prove to know their actual land size and challenge tractor operators' measurement were subsequently avoided by operators. **Consequences premised on faulty land measurement:** Most farmers engaged workers to work on their farm based on the measurement given to them by tractor operators. This gives a faulty basis upon which they hire subsequent labourers on their farms, such that labourers hired to plant, apply herbicide and fertilizer or weed bargain on a platform that short-changes farmers. Consequently, farmers pay more for less work done on their farmland.

Sharp practice on land preparation: Responses from farmers showed that tractor operators they engaged during land preparation were not always honest with their work. These operators deliberately plough poorly so that farmers would have no choice other than to embark on second ploughing. **Consequences:** Farmers incurred the cost and time of second ploughing.

Sharp practice during planting operation: respondents revealed that most labourers engaged deliberately omit several spots where they ought to drop maize seed in the bid to finish on time. At other times they drop excessive or too little seeds than is required per hole. They also widen planting spacing towards the middle of the farmland where quick discovery is less likely. **Consequences:** This usually compels farmers to incur additional cost of supplying which further decimate their revenue.

Sharp practice on thinning operation: some labourers in the hurry to finish work do not thin farmers' field properly. They deliberately omit maize stands that should be thinned. Some even thin just any maize stand and some times, the stronger ones which should have been retained. **Consequences:** Farmers incur extra cost and time to repeat the operation either by using other labourers or family labour.

Sharp practice during weeding: Hired labourers do shoddy weeding so as to leave the field early, after being paid. Some even collect money in advance and later abandon the job. **Consequences:** additional cost of money and time to repeat the operation aside the setback this will cause for maize crop development.

Sharp practice in fertilizer application: Wrong labels and fake products from fertilizer dealers, poor fertilizer application from labourers by not covering up the fertilizer with soil and applying fertilizer far from maize stands**. Consequences:** Waste of fertilizer, increased weed attack, increased cost of production and low yield

Sharp practice during spraying of chemicals: Labourers hired to spray chemicals steal some and excessively dilute the remaining. **Consequences:** Ineffective weed control, loss of chemical purchased and setback for maize crop development.

Sharp practice during harvesting: Some labourers steal farmers' produce especially when not monitored; for instance, some maize cobs are deliberately left on the farm for pick up later. **Consequences:** Farmers incur loss monetarily and in shortage produce.

Sharp practice in Shelling: Processors engaged to shell maize produce pilfer in the process. Sometimes they deliberately leave grains in the chaff which they will later winnow for their own personal gains. **Consequences:** Payment is made for work not well done with shortage in produce

Sharp practice among winnowers: These women often winnow poorly by leaving maize grains in the husk which they will later winnow for themselves. **Consequences:** Payment made for work not well done with further reduction in produce.

Sharp practiceon seeds and agro-chemicals: Occurrences of fake seeds, adulterated and expired agro-chemicals bought from open markets are rampant. **Consequences:** Little or no value for money spent by farmers and setbacks on their production agenda.

On measuring scales and bags: Some produce buyer who used plastic bowl measure deep it in hot water to either shrink or enlarge it so as to cheat farmers. Some produce buyers underpay farmers by underrating the quality of their produce or by using adjusted bags. **Consequences:** reduced value for farmers' produce and low revenue.

Sharp practices in pricing produce: Though maize produce is purchased at prevailing market price, some produce buyers try to underpay farmers who are unaware of current market price. **Consequences:** Low reward for farmers' efforts.

CONCLUSION AND RECOMMENDATIONS

The study concluded that sharp practices occurred along almost all nodes of maize production chain and these came with diverse consequences for farmers. Premised on the findings of the study, remedial measures are then presented as the following recommendations:

1. Farmers should be trained on easy-to-use techniques of land measurement by relevant agencies e.g. use of GPS in smart phones.
2. Extension workers' capacity should be enhanced to enable them assist in curbing sharp practices experienced by farmers.
3. Policies to enhance increase in tractors and mechanised implements should be put in place by the government.
4. Adequate sensitisation among smallholder farmers about various forms of sharp practices they need to watch against should be embarked upon.
5. Farming tools like dagger that control poor planting spacing and make recommended planting holes should be made available to farmers
6. Adequate planning by farmers must be done by farmers to guide against emergence of sharp practices in the course of their production cycle.

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COMMUNITY-BASED TARGETING OF POOR AND VULNERABLE HOUSEHOLDS IN NIGERIA: A REVIEW OF YOUTH EMPOWERMENT AND SOCIAL SUPPORT OPERATION (YESSO) METHODOLOGY

[1]Bidoli, T. D., [2]Sami, H. and [3]Yusuf, R.O.
[1]National Agricultural Extension and Research Liaison Services (NAERLS), A.B.U, Zaria
[2]Youth Empowerment and Social Support Operation (YESSO), Office of the Vice President, Federal Republic of Nigeria
[3]Department of Geography and Environmental Management, Faculty of Physical Sciences, A.B.U, Zaria

ABSTRACT
Over the years, the challenges of poverty and vulnerability have been of interest to policy makers in the welfare discourse.Target-based social safety net programs generally aim to protect poor and vulnerable people from crisis and to reduce chronic poverty through the direct transfer of food, resources, and cash. Different methodologies are currently being experimented around the world (including Nigeria) for targeting poor and vulnerable households and for building of social safety nets interventions. This paper reviewed various targeting approaches from a survey of related literature. The Review revealed that using community-based targeting (CBT) and the development of a single register (SR) that serves as database of poor and vulnerable households for selection into social safety net interventions ensures that errors of exclusion and inclusion are avoided. CBT was particularly effective at targeting the poor, vulnerable and displaced persons in Nigeria due the use of various strategies such as community sensitization, community mobilization, community engagement, and grievance redress mechanism. YESSO adopted the CBT approach to support four intervention components of strengthening the Social Safety Net System, Public Workfare, Skills for Job and Targeted Grant Transfer in Nigeria.YESSO system building approach, which operates at Federal and some States levels, is assisting the Government of Nigeria to respond effectively and efficiently to current and future challenges in human development among poor households. It was recommended that: YESSO should sustain and improve on the operation of its approach and encourage the participation of all States of Nigeria for better effect on national poverty rate. YESSO should also adopt other targeting methods like the hybrid method in order to improve on targeting accuracy.
Keywords: Community, Targeting, Households, Nigeria.

INTRODUCTION
Around the world, governments always aim at targeting essential social safety net programs to the poor. Poverty and vulnerability are also highly influenced by social and other factors, including geography, ethnicity, age and gender. Hagen-Zanker and Holmes, (2012) reported that the government of Nigeria and its development partners has sought to develop social protection instruments as a mechanism to tackle high rates of poverty and vulnerability in the country and to support progress in both the economic and the social spheres. Social protection has been conceptualized as a set of interventions which aim to address poverty, vulnerability and risk. Such interventions may be carried out by the state, non-governmental actors or the private sector, or through informal individual or community initiatives (Hagen-Zanker and Holmes, 2012). Target-based social safety net programs generally aim to protect poor, vulnerable and displaced people from crisis and to reduce chronic poverty through the direct transfer of food, resources, and cash. Though countries may be spending a huge amount of public funds for number of social safety net programs, the deserving extreme poor candidates are significantly being excluded and their poverty condition still remains high (Grosh et al. 2008).

Targeting requires determining which households to assess for social safety nets interventions. However, unless all households are assessed (a survey sweep), some method must be used to choose which households to assess. Geographic targeting, or poverty mapping, uses differences in location characteristics to either determine which areas to survey, or how many households in each area to survey (World Bank, 2012). Targeting also means determining which of these households are poor or vulnerable. Once data have been collected on a number of households, it must be determined which ones are poor or otherwise eligible for social assistance. Again, other than simply selecting everyone, there are a range of selection methods for identifying beneficiaries. Widely used in developed countries are verified means tests, where household or individual income is used directly to determine program eligibility, based on recognized documentation. More common in developing countries are proxy means tests, which use statistical techniques to estimate household income or consumption from a set of easily observable and difficult to manipulate household characteristics. Also, beneficiaries can be selected categorically; for example, all people in a certain age range, or with disabilities, or all households with female heads. Again, the community can select which

households become beneficiaries themselves, whether by the community elite or the wider community. Finally, households can self-select all those applying for benefits, again, with the opportunity cost assumed to be less for the poor (World Bank, 2012).

One challenge developing countries like Nigeria face is correctly identifying these households without reliable income data, as many of the poor work in the informal sector and lack verifiable income records. Using unreliable information to identify eligible households can result in funds being diverted to richer households and leave fewer resources for the program's intended beneficiaries (J-PAL, 2013).

The Youth Empowerment and Social Support Operation (YESSO) is a rural development and community engagement strategy that was developed for Nigeria in 2015 and has a generic objective of Community-Based Targeting and development of a Single Register of Poor and Vulnerable Households. The YESSO program includes targeted interventions including public workfare (PWF), skills for job (S4J), and conditional cash transfers (CCT). The program uses a combination of targeting methods including geographic targeting, Community-Based Targeting (CBT), and the application of a Proxy Means Test (PMT) for identifying and screening poor and vulnerable households for its interventions. The database of identified poor households, families or individual called Single Register of Poor and Vulnerable Households (SRPVH) or Single Register of Poor (SRP) or simply Single Register (SR), can be used for selecting beneficiaries for YESSO and other targeted social safety net programs in the future as part of a social protection system (World Bank, 2015).

The purpose of this paper was to review various poverty and vulnerability targeting approaches in terms of relevance for use in social protection interventions. It also presented and compared a selection of such approaches in use, in order to provide some guidance as to their potential and appropriateness for social protection applications of YESSO. The methodology is a review of literature related but not limited to poverty and vulnerability, approaches or methods for targeting of social protection programs, importance of community based targeting and YESSO methodology

Importance of Community Based Targeting

Community-based targeting is part of a mechanism that places community agents in charge of assessing eligibility and/or implementing delivery. Community-based definitions of poverty have been relevant to target poor people and to address poverty issues in various settings across the world. Akinola (2017) reported that among all targeting methods, community-based targeting is arguably the only one that doubles as both a method for selecting beneficiaries, and also as a mechanism for governing social protection programmes. Savadogo, et al. (2015) posit that local population that living and working in the same community is in a position to observe the economic status of fellow community members over a long period and can be considered to be a better judge to assess levels of wealth. As such acknowledging the ways a given community defines poverty may be critical in how members of the community choose coping strategies.

Conning and Kevane (2000) submits that community based targeting is likely to offer advantages over other targeting mechanism when communities can be clearly defined, say by region or social group. They further argued that involving community groups as stakeholders may lead to better screening, monitoring and accountability. Community groups may have better information for identification of needs, and households may in turn have less incentive or opportunity to provide false information on assets, income or shocks. According to Savadogo et al. (2015), the definition of poverty by community members to be used in the targeting of the poor, seems to be one of the most adequate ways in a setting where people live in a community, sharing daily realities. Therefore using a community-based definition of poverty in the targeting of the poorest might be a less costly alternative.

The YESSO Targeting Methodology

According to World Bank (2016), the YESSO targeting process starts with the identification of poor Local Government Areas (LGAs) and communities using State poverty maps. Community-based targeting is then used to identify a pool of poor and vulnerable households which are then screened using a PMT checklist/questionnaire which allows households to be ranked according to their relative welfare level, before registration in the database. Grievance redress mechanisms (GRM) are available so that community members can appeal the decisions of the community targeting meetings, as well as eligibility screening of the Proxy Mean Tests (PMT) where applicable. The household-level data collected through the PMT will form the basis for information in the single register (SR).

Two strategies are adopted for targeting. The first relates to a targeting system which includes use of geographic targeting, community-based targeting (CBT) and proxy means testing. While the second is selective targeting which targets potential beneficiaries impacted by the conflict in the North East from Registers of

Internally Displaced Persons in IDP camps as well as register of IDPs in host/resettled communities. The common registry of beneficiaries follows the targeting and selection of poor households from the community.

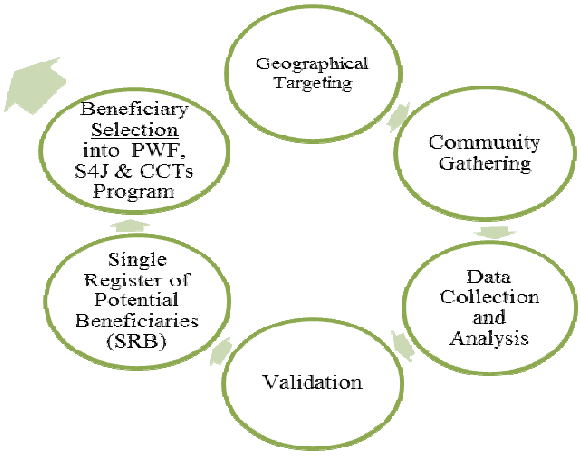

Figure 1: Steps in Community-Based Targeting and Single Register Formation (Adapted from YESSO Generic Manual, 2015)

The World Bank (2015) posit that the Community-Based Targeting (CBT) practice of YESSO includes community sensitization, community mobilization, community engagement, and grievance redress mechanism. Community Sensitization gives the community the opportunity to gain an understanding of the essence of the CBT exercise and their role and responsibility in the process. In Community Mobilization, community members (male, female, youth and adults) are mobilized for the Focus Group Discussions (FGD) on the agreed date, venue and time. The mobilization takes care of every segment of the community while avoiding elite capture. This is achieved by agreeing on groups of community members to mobilize and on date, time and location for the group discussion. Community Engagement involves the Focus Group Discussion (FGD) during which poorest and most vulnerable households in the community will be identified and selected by the community members themselves.

Targeting errors

For the fact that program officials do not have perfect information about who is poor, program eligibility is likely to be based on imperfect information due to the targeting rules used. Thus the program may, mistakenly identify poor people as non-poor, and thus deny them access to the program. This is referred to as an error of exclusion (under coverage or type I error). On the other hand, the program may mistakenly identify non-poor people as poor, and therefore admit them to the program. This is referred to as an error of inclusion (leakage or type II error)(Grosh et al. 2008).

Grievance Redress Mechanism (GRM)

The CBT process provides the members of the community an important and central role in the identification of the poorest and vulnerable households. However, given the diversity across LGAs and communities, there are possibilities for sections of communities to be unhappy and feel aggrieved with the community mobilization and engagement process. Thus the GRM is focused at reducing errors of inclusion and exclusion.

CONCLUSION AND RECOMMENDATIONS

Community-based targeting is used to identify a pool of poor and vulnerable households through community gatherings and meetings led by trained facilitators. The poor and vulnerable households are then screened using a PMT checklist/questionnaire which allows households to be ranked according to their relative welfare level, before registration in the database. Grievance redress mechanisms (GRM) are available so that community members can appeal the decisions of the community targeting meetings, as well as eligibility screening of the Proxy Mean Tests (PMT) where applicable. The household-level data collected through the PMT will form the basis for information in the single register (SR).

This reviewed paper therefore recommends that:

1. YESSO should also adopt other targeting methods like the hybrid method in order to improve on targeting accuracy.

2. YESSO should sustain and improve on the operation of its approach and encourage the participation of all States of Nigeria for better effect on national poverty rate.
3. YESSO should manage to keep type I and type II errors to a minimum while maintaining low targeting costs efficiency.

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FOOD INFLATION IN NIGERIA: TRIGGERS AND IMPLICATIONS FOR FOOD SECURITY

Egwuma, H. and Ojeleye O. A.
Department of Agricultural Economics, Ahmadu Bello University, Zaria

ABSTRACT
The prices of staple foods in Nigeria have increased significantly in recent years, threatening the food security and livelihoods of poor and vulnerable households. The price surge reflects an amalgam of various factors, including: low investment in agriculture, the preponderance of small-scale farmers, adverse climate variations and environmental factors, tighter link between food and energy markets, the persisting conflict between farmers and herdsmen, the depreciation of the Naira relative to the US dollar, rising income and population growth. In spite of numerous government efforts and drive towards economic growth, Nigeria has remained one of the countries with the largest number of poor people, with a poverty rate of 48.4% (or 90 million people) in 2016 based on the international poverty line of $1.90 per person per day. This situation is made worse in the light of the recent slow growth of the economy. Taking into consideration that a high share of the income of poor households is spent on food with little or no capacity to adjust to price increases, food price inflation constitutes a major concern. This paper looks at the general trend and major drivers of the recent food price inflation in relation to food security in Nigeria. To achieve food security, the paper recommends the adoption of a multidimensional and integrated approach.
Keywords: Food security, Poor households, Inflation, Nigeria

INTRODUCTION

The 2007-08 food crisis brought about higher food prices across the world, which generated widespread concern for the food security of poor and vulnerable households. The Nigerian context reflects this global trend in rising food prices which has expectedly received renewed interest and given rise to a growing national concern due to the adverse impact on household welfare. In particular, the impact of higher food prices extends to different groups in the society such as poor households struggling to deal with higher costs of food, governments of low income net importers of food contending with higher import bills, and agencies such as the World Food Programme (WFP) that use food aid to solve the problems of food emergencies (Wiggins and Levy, 2008). The most important consequence of high food price is food accessibility because rising food price implies that the amount of resources required to purchase suitable food for a nutritionally balanced diet is increased (Huppe et al., 2013).

In recent years, evidence has continued to indicate a rise in hunger across the world. The number of people suffering from hunger globally is estimated to have increased from 804 million in 2016 to around 821 million in 2017 (FAO, 2018). The number of people considered to be severely food-insecure in Nigeria has increased to 46.1 million in 2015-2017. In addition, the number of undernourished people has increased from 9.1 million in 2004-2006 to 21.5 million in 2015-2017 (FAO, 2018). Rising prices of food commodities have challenged food security in terms of accessibility and affordability, threatening the livelihood of poor households. High food prices perpetuate poverty which, in turn, triggers household food insecurity and hunger (Singh, 2009; Compton et al., 2010). As a result of high prices of food items, poor households are forced to cut their level of consumption or shift consumption from high value food to lower value substitute diets (Capehart and Richardson, 2008; Zhu, 2008). The existence of high food prices in Nigeria necessitates the need to examine the factors behind recent food inflation in Nigeria. This paper, therefore, provides important insights on the triggers of high food prices and its implication for food security.

Trend in food prices in Nigeria

In recent years, the rate of food price inflation in Nigeria has surpassed the inflation rate, with food price inflation still maintaining high double digits since 2016.Food represents the highest component of the consumer price index (CPI) in Nigeria, contributing about 518 units to the CPI weight (Figure 1). The rapid rise in food inflation in Nigeria was due to increases in the prices of bread and cereals, milk, cheese and egg, potatoes, yam and other tubers, fish, meat, oils and fats, vegetables, coffee, tea and cocoa (National Bureau of Statistics (NBS), 2018).

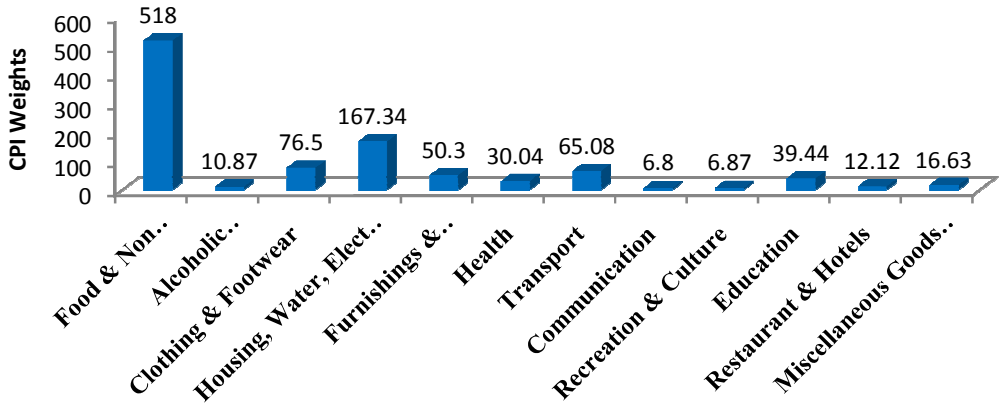

Figure 1: Consumer Price Index (CPI) by Main Group Weights (2009 = 100), Nigeria
Source: Central Bank of Nigeria Statistical Bulletin, 2018

Key triggers of food price inflation in Nigeria

Underinvestment in Agriculture: Despite the considerable contribution of agriculture to developing countries GDP in 2015 (7.1%), the sector was allocated only 1.9% of total public spending (FAO, 2018). In Nigeria, investments in agricultural research and Development (R and D) has continued to be fragile and limited, with investment in agricultural R and D as a percentage of agricultural GDP of only about 0.29% in 2011 (ASTI, 2018). Agricultural R and D contributes to agricultural growth and total factor productivity by improving the yields of crops and livestock through the development of new technologies and increased technological diffusion and adoption (Perez and Rosegrant, 2015). Therefore, insufficient investment in research and innovation in agriculture results in declining crop and livestock yield, creating a food shortage and a rise in food prices.

Prevalence of small-scale farmers: A major proportion of agricultural output in Nigeria comes from small-scale farmers with scattered and fragmented land holdings and low level of technology. These farmers lack access to credit, have limited productive capacities and unable to sufficiently invest in agriculture. Further, these resource-poor small-scale farmers are also marked by a strong dependence on the agricultural labour market, have limited forms of savings or storage facilities and adopt highly labour intensive cultural practices (Okuneye, 2004). The socio-economic and production characteristics of the farmers coupled with the poor infrastructural base lead to low agricultural production and high prices of food items.

Climate change and environmental concerns: Nigeria's climate has always been variable and susceptible to drought, flooding and rainfall variability all of which threaten agricultural production and drives up the prices of food items. Weather patterns, disease, and environmental hazards affect food supply in the short term and a decline in the productivity of crops are associated with a higher temperature which results in dehydration, impede pollination and slow down the process of photosynthesis in plants. The drop in agricultural production in the face of increasing demand pushes food prices upwards and poses a threat to food security and poverty alleviation.

Energy costs: In modern agriculture, oil products are used as input in feed formulation, to fuel farm machinery, transport other inputs to the farm, transport agricultural output to the ultimate consumers, and as input in the manufacture of fertilizer and agricultural chemicals. All of these contribute to raising the costs of production, and some of these costs are transferred to consumers in the form of higher prices. Biofuels are obtained from maize and other agricultural products and as demand for these fuels increases, the prices of crops are driven upwards making food less affordable especially to poor households.

Civil insecurity: The rise in food prices is also related to the persistent and widespread conflict between farmers and herdsmen. The increasing competition for agricultural inputs such as land, water, and vegetation by farmers and pastoralists in the face of depleting resources and undesirable climatic variations all act to trigger the conflict (Blench, 2004). This situation cause food shortages and induces conflict-related food insecurity. Persisting conflict results in population displacements and disruptions of market functionality and livelihood activities, limiting food access to vulnerable households.

Country characteristics: As a net importer of some important food commodities such as rice, sugar and wheat, Nigeria is exposed to unexpectedly high food prices in the international

markets which can be transmitted to the domestic market. In recent times, there has been a depreciation of the currency which has increased the cost of food imports as well as inputs for agricultural production, leaving the government with higher import and energy bills with a drain on foreign exchange. Movements in exchange rate affect agricultural markets and prices on both the demand and supply sides.

Income and population growth: Economic growth and, hence, income growth is a significant factor which has driven up the purchasing power of the middle class and caused a rising demand for food. The growing incomes of Nigerian consumers also translate into a shift in food demand away from traditional staples and towards consumption of higher value foods such as meat, vegetables, and fruits. Similarly, higher demand for food is triggered by a rise in the population, which is growing at 2.6%, making food production unable to catch up with population growth thereby forcing prices of food items upwards.

Food price inflation and food security in Nigeria

Food security has been defined as a ‘‘situation that exists when all people, at all times,have physical, social, and economic access to sufficient, safe, and nutritious food that meets their dietary needs and food preferences for an active and healthy life” (FAO, 2002). Four fundamental dimensions of food security are contained in this definition: availability, stability, access, and utilization.However, the dimension most affected by high food price is access, which entails access by individuals to adequate entitlements to enable them purchase the right food for a healthy diet.

Food price inflation has adverse consequences for poor households because they are net buyers of food and a disproportionate share of their income is used in buying food, typically on staple cereals such as maize, wheat, millet, rice, etc. Most households in Nigeria spend around 60% of their income on food. Consequently, a rise in the price of food commodities will have a much larger impact on the cost of the food they consume. This may result in consuming less food, buying lower quality substitutes, selling assets to purchase food or foregoing other important spending such as spending on health care and education. Households headed by females are usually among the most vulnerableandworse hit by soaring food prices. As consumers, female-headed households are inclined to spend more of their income on food than male-headed ones, and thus food price increases affect their total spending more. As producers, they are confronted with several gender-related constraints, such as narrow access to credit and land, which limit their ability to produce more food for the market and take advantage of higher prices (FAO, 2011).

Changes in the quality, quantity, and diversity of food are food-based coping strategies that households have relied on in times of price increases. This involves reducing the number of foods consumed from different food groups, shifting from higher-cost calories to lower cost ones, and eating fewer meals per day. In terms of non-food coping strategies, households tend to spend less on health and education, sell off assets, and seek other income-generating activities (Gustafson, 2013). Generally, reduction in the purchasing power of the poor leads to poverty traps and forces households to reduce the purchase of more nutritious foods, leading to an increase of anaemia and other health problems,especially in mothers and children. Across African, and indeed Nigeria, malnutrition has remained a major concern and poor rural areas experience the worst food insecurity.

CONCLUSION

Food prices in Nigeria have been rising in recent years. Food price inflation adversely affects poor and vulnerable households and leads to food insecurity and a reversal of the gains of growth. Given this backdrop, an understanding of how high prices affect food security is necessary to protect the most vulnerable households. Rising food prices tend to force poor households to decrease their dietary diversity, decrease spending on health and education, sell off assets, and seek other income-generating activities. For most of these households, improving the productivity and profitability of agriculture is the key to greater resilience since most of them are employed in the agricultural sector.To achieve food security, policy response must include the adoption of a multidimensional and integrated approach.

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RESIDENTS' ASSESSMENT OF FARMERS-PASTORALISTS CONFLICT IN ENUGU STATE, NIGERIA

Urama, K. O., Badiru, I. O. and Nwaogu, F. K.
Department of Agricultural Extension and Rural Development, University of Ibadan

ABSTRACT
This study focussed on residents' assessment of farmers-pastoralists conflict in Enugu State Nigeria. Multistage sampling procedure was used to select 120 farmers from three Local Government Areas in Enugu State. Data were collected using structured questionnaire, focused group discussion and in-depth interview while descriptive statistics was used to analyse the data. The mean age of the respondents was 46 years. A majority (79.2%) of the farmers was married and 86.7% of them were males. The average household size of the respondents was 7 persons. Major perceived causes of conflict were; destruction of crops by cattle ($\bar{x}$=1.97) and competition for land and water ($\bar{x}$=1.88).The methods mostly used in resolving conflicts were; dialogue between the two parties ($\bar{x}$=1.83) and seeking the intervention of traditional rulers ($\bar{x}$=1.73) while the major consequences of conflicts were; displacement of farmers ($\bar{x}$=1.95) and reduction in farm output ($\bar{x}$=1.94).Disputes between farmers and pastoralists can lead to food insufficiency and insecurity of life and properties. It was recommended that the state government and other non-governmental organisations should partner with the residents and pastoralist to formulate and enforce pragmatic land use policy that will mitigate land related conflicts in the study area.
Keywords: Farmers, Pastoralists, Conflict, Consequences.

INTRODUCTION
The agricultural sector is the backbone of many economies and it provides the basic ingredients to mankind, and raw material for industrialization. Agriculture has made a significant contribution to the economic prosperity of advanced countries and its role in the economic development of developing countries is of vital importance. Agricultural production in any country requires an enabling environment to reach its maximum potential. Also sustainable development in agriculture, among other things demands a peaceful co-existence of producer communities (Adelakun, Adurogbangba and Akinbile, 2015).However, farmer-herdsmen conflict has remained the most preponderant resource-use conflict in Nigeria (Ajuwon, 2004; Fasona and Omojola, 2005) and it has had adverse effects on agricultural production in many communities. It is worrisome that Nigerians continually experience rising conflicts over livelihood, especially the incidents and associated fatalities between pastoralists and farming communities. The escalating tension, blood-letting and wanton losses of resources in the affected communities create unfavourable environments for sustainable agricultural production. Hence, continued co-existence as a united country, food security, economic and political stability has been well threatened.

Although some studies have been carried out relating to farmer-pastoralist conflicts in some other states across Nigeria, there is divergence on their findings as regards to the causes and consequences of these farmer-pastoralist conflicts from their different findings. For instance, Ingawa, Ega and Erhabor (1999) reported that the key underlying cause of farmer-herdsmen conflict in Nigeria is due to inadequacy of grazing resources, as increasing crop cultivation and poor management of the existing grazing reserves have resulted in a significant reduction in available livestock feed resources particularly in the Northern States. Also, Ofuoku and Isife (2009) conducted a study on causes, effects and resolutions of farmers-nomadic cattle herders' conflict in Delta state, Nigeria and identified that the major cause of conflicts between farmers-nomadic cattle herders were disregard for the host traditional authority. Understanding the exact cause and consequences of conflict in any community will help in reaching agreement on how the divided community can be reconciled. This is the trust of this study.

The main objective of the study is to investigate the resident's assessment of farmer-pastoralist conflicts in Enugu state, Nigeria. The specific objectives are to;

1. describe the socio-economic characteristics of the respondents.
2. ascertain the causes of farmer-pastoralist conflicts.
3. ascertain the level of effectiveness of various methods used in resolving farmer-pastoralist conflicts and;
4. investigate the perceived consequences of farmer-pastoralist conflicts.

Limitation of the study: This study was initially designed to assess the perspectives of both the farmers and pastoralists on farmer-pastoralist conflicts in the study area but as at the time of data collection, it was difficult to get the perspectives of the pastoralists because the conflict situation was still very volatile and every effort by the researcher to reach the pastoralists proved abortive. Hence only the resident farmers were interviewed.

METHODOLOGY

The study was carried out inEnugu State. Enugu State is one of the states in south-eastern Nigeria. The population of the study comprises all the farmers in Enugu state especially those operating in areas that have experienced farmer-pastoralist conflicts. Multi-stage sampling procedure wasused to select respondents from the population of farmers in the study area. The first stage involved the purposive selection of three Local Government Areas (LGAs) on the basis of areas that recently experienced farmer-pastoralist conflicts. The LGAs selected were; Uzo-Uwani, Nkanu West and Enugu East. The second stage involved the purposive selection of two farming communities from each of the selected LGAs to get a total of six farming communities which includes; Ekwulu-nimbo and Ukpabi from Uzo-uwani LGA, Attakwu and Amodu from Nkanu west LGA, Ibagwanike and Umuchigbo from Enugu East LGA. Then twenty arable crop farmers were purposively selected on the basis of arable crop farmers who were affected by the conflict in the selected farming communities, thus giving a total of 120 respondents interviewed for this study. Data were collected from primary sources through an interview schedule/questionnaire, focused group discussion (FGD) and in-depth interview (IDI)

RESULTS AND DISCUSSION

Socioecomic characteristics of respondents

Table 1 revealed that the average age of the respondents was 46 years. This implies that the farmers are still in their productive and active years and may respond violently to conflict behavior of pastoralists each time they encounter each other in a conflict situation. The majority (86.7%) of the respondents were males.Oladelel (2011) noted that it is a wide belief that males are dominating agricultural sector as compared to female. Also majority (79.2%) of the farmers were married, 70.8% had formal education and could be described as literate. Their average household size was 7 persons, a relatively large family size which may be as a result of the need for more hands to work on the farm.Also, the majority (83.3%) of the respondents were Christians while the remaining 16.7% were traditional worshippers.The average farm size of respondents was 4 hectares. This implies that greater proportion of the respondents were small scale farmers. This finding is in congruent with the findings of Oladele (2011) that small scale farmers in Nigeria owned 1 – 5 hectares of farm land.

Table 1: Personal characteristics of respondents (n = 120)

Variables	Frequency	Percentage (%)	Mean
Age (Years)			
≤30	6	5.0	
31 – 40	26	21.7	
41–50	53	44.2	
51–60	25	20.8	
61–70	9	7.5	
>70	1	0.8	46
Sex			
Male	104	86.7	
Female	16	13.3	
Marital Status			
Single	15	12.5	
Married	95	79.2	
Divorced	1	0.8	
Widowed	9	7.5	
Educational level			
No formal education	35	29.2	
Primary education	46	38.3	
Secondary education	31	25.8	
Tertiary education	8	6.7	
Household size			
1 – 5	50	41.7	
6 – 10	49	40.8	
> 10	21	17.5	7
Farm size (in hectares)			
< 5	89	74.2	
5 – 10	30	25.0	
.>10	1	0.8	4

Source: Field survey 2017

Perceived causes of conflict between farmers and pastoralists

The result in Table 2 shows that the respondents identified 7major causes of conflicts between famers and pastoralists. The most severe causes were; destruction of crops by cattle ($\bar{x}$=1.97), competition for land, and water ($\bar{x}$=1.88) and sexual harassment of women ($\bar{x}$=1.88), while the least severe cause of conflict was; stealing of cattle by farmers/family members ($\bar{x}$=0.13). This finding is in agreement with Olabode and Ajibade (2010) that frequent causes of Fulani/farmers' conflict were the destruction of crops by cattle in the study area. This was supported by excerpts from FGD sessions among farmers in Ekwulu – Nimbo thus;

"…the pastoralists carry their animals into our farms and destroy our crops and when we complain they attack us and overpower us. This has made our people not to make use of very fertile land that our fore- fathers handed over to us and currently we only make use of the farmland around our houses which are not as fertile as the former farm lands…"

IDI excerpts with the community leader at Attakwu;

"…*Our women and daughters have been raped to death in several occasions on their way to farms and even streams and we are not happy about that…*"

Source: Field survey, 2017

Table 2: Perceived causes of conflict between farmers and pastoralists

Perceived causes of conflicts	Mean	Rank
Destruction of crops by cattle	1.97*	1st
Indiscriminate bush burning by pastoralists	1.86*	4th
Low awareness of stock routes by pastoralists	0.23	8th
Low awareness of stock routes by farmers	0.22	9th
Stealing of cattle by farmers/family members	0.13	10th
Sexual harassment of women	1.88*	2nd
Contamination of streams by cattle	1.78*	5th
Over grazing of fallow land	1.64*	6th
Harassments of pastoralists by the youths	0.98	7th
Competition for land and water	1.88*	2nd
Disregards for traditional authority	1.64*	6th
Grand mean	**1.29**	

Source: Field survey 2018. *Major cause of conflict ($\bar{x} \geq 1.29$).

Methods used in resolving farmer – pastoralist conflicts

Table 3 shows that 5 methods were identified as effective methods frequently used for conflict resolution. The respondents considered dialogue between parties involved ($\bar{x}$=1.83) as the most used methods in resolving conflict followed by seeking the intervention of the traditional leaders in fostering peace between the parties involved ($\bar{x}$=1.73). The least used methods was establishment of grazing routes ($\bar{x}$=0.09). Although, these methods have been frequently used in resolving conflict in the study area, the parties have not experience harmonious co-existence. Excerpt from the FGD sessions among farmers in Ekwulu – Nimbo, "…*we have adopted several conflict resolution methods but all amount to futility. How do you explain a situation when after dialogue between both parties, intervention by our traditional leaders and even local government chairman, these pastoralists will continue to destroy our crops, hijack our streams and even claim lives of our people and if they are challenged they will pounce on us? Currently, we live in fear and our mind is not at rest at all*"

Table 3: Methods used in resolving farmers – pastoralists conflicts

Methods of Conflict Resolutions	Mean	Rank
Dialogue between parties involved	1.83*	1st
Payment of compensation to victims	0.09	10th
Intervention by traditional leaders	1.73*	2nd
Establishment of grazing routes	0.09	10th
Sought court verdicts	0.78*	5th
Educating farmers and pastoralist by person or bodies responsible for conflict resolution	0.38	6th
Intervention by NGOs	0.28	8th

Methods of Conflict Resolutions	Mean	Rank
Local community crop farmers/pastoralists intervention	0.30	7th
Intervention by law enforcement agents	0.91*	4th
Prayed for peace	1.18*	3rd
Punishment of offender	0.13	9th
Grand mean	**0.70**	

Source: Field survey, 2017 *frequently used methods ($\bar{x}$ ≥0.70)

Perceived consequences of farmer-pastoralist conflicts

Table 4 indicates that the most common consequences of farmer-pastoralist conflict were; displacement of farmers ($\bar{x}$=1.95), reduction in output/yield ($\bar{x}$=1.94) and reduced access to land ($\bar{x}$=1.93).The conflict between these two groups has led to loss of properties worth millions of naira and the death of hundreds of people. Also, agricultural labour which is usually supplied by the rural youths is seriously affected as most of the youths migrate to more peaceful locations and thereby creating labour scarcity in the conflict prone zones.

Table 4: Perceived consequences of farmer-pastoralist conflicts

Perceived consequences of conflict	Mean	Rank
Displacement of farmers	1.95*	1st
Loss of lives	1.92*	4th
Reduction in output/yield	1.94*	2nd
Scarcity of food items	1.86*	5th
Scarcity of labour	1.19	10th
Increased stress	1.57*	7th
Loss of house and properties	1.67*	6th
Loss of produce in storage	1.30	8th
Reduced access to land	1.93*	3rd
Inability to repay loan	1.20	9th
Grand mean	**1.65**	

*Major consequences ($\bar{x}$ ≥1.65)
Source: Field survey, 2017

CONCLUSION AND RECOMMENDATION

Farmer-pastoralist conflicts contributed significantly to the prevailing rural poverty in the State in the areas of food insecurity and insecurity of lives and properties. Also, it has weakened the agricultural production capabilities of farmers while the general agricultural output has drastically reduced. Therefore the following recommendations were made based on the findings of this study:

The farmers should be educated on conflict management strategies, the implications of conflicts on their livelihood activities and the general development and better approaches of addressing conflict situations when it arises. The state government and other non-governmental organisations should partner with the residents and pastoralist to formulate and enforce pragmatic land use policies that will mitigate land use related conflicts in the study area.

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CONSTRAINTS ASSOCIATED WITH FORTIFIED VITAMIN A CASSAVA PRODUCTION BY SMALLHOLDER FARMERS IN OKE-OGUN AREA OF OYO STATE

Eniola, P. O., Adeleke, O. A. and Okanlawon, O. M.

ABSTRACT

This study investigates the constraints encountered by smallholder farmers in the production of fortified vitamin A cassava in Oke-Ogun Area of Oyo State. Purposive sampling procedure was used to select 130 respondents from 4 out of 6 LGAs where Vit. A cassava stem were distributed to farmers from International Institute of Tropical Agriculture (IITA). Interview schedule and structured questionnaire were used for data collection and data were analyzed using descriptive and inferential statistics like chi- square and Pearson Product Moment Correlation (PPMC). The study shows that 70% of respondents were male with mean age of 40.34±32.9 years. About 38% had secondary education and majority (74%) got information on Vitamin A fortified cassava through radio. Average farm size was 2 acres mostly acquired through inheritance (52%). Mean years of farming experience was 9.48±6.29 years with average monthly income of N22,299.50± N16,241.60.The most utilized source of labor was hired (64%) while most cultivated cassava type were UMUCASS 36/TMS-IBA011368) (64.6%) and UMUCASS 38/TMS-IBA011412 (59.7%) though new varieties (UMUCASS 44, 45 and 46) had been introduced through the State Agricultural Development Programme (ADP) in collaboration with IITA. Respondents' attitude to Vitamin A cassava production was favourable (52.6%). Constraints encountered by respondents in the production of Vitamin A cassava included pest and rodents infestation (0.84±0.63), land degradation (0.67±0.66), high labour cost (0.69±0.57) and low shelf life of Vit. A cassava (0.86±0.69). Respondents' education level (χ^2=20.69), years of farming experience (χ^2=3.99), farm size (χ^2=2.92) and access to labour (χ^2=2.89) had significant relationship on farmers' production of vitamin A cassava in the study area. Production of Vitamin A cassava is on the decline in the study area due to various challenges encountered by respondents. The study recommends training of farmers on nutritional benefits and value addition of vitamin A cassava for increased income.

Keywords: Vitamin A, Production, Yield, Starch, Constraints

INTRODUCTION

Nigeria is the world's leading cassava producer, with about 21 % share in the global market (FAO, 2013). A small fraction of cassava output in the country is produced for commercial use in the livestock feed, ethanol, textile, confectionery, and food industries, while the majority is produced by smallholder farmers for subsistence or small-scale processing (Ilona,Bouis, Palenberg, Moursi and Oparinde 2017). Cassava is a major staple food in Nigeria, consumed daily by more than 100 million people. However, while the common white cassava can provide most of the body's daily energy requirements, it lacks micronutrients, such as vitamin A, that are essential for a healthy and productive life. Vitamin A deficiency can impair the body's immunity to infectious diseases and cause eye damage that can lead to blindness and even death. Nearly one in three Nigerian children under five and one-quarter of all pregnant women in the country are vitamin A deficient.

The deficiency of Vitamin A in conventional cassava led to the bio-fortification of the crop by HarvestPlus and International Institute of Tropical Agriculture (IITA) to provide up to 40% of the vitamin A recommended daily allowance for children under five and pregnant women. Vitamin A fortified cassava represents an additional source of vitamin A in Nigerian diets and the first set of varieties developed in 2011 are UMUCASS 36, UMUCASS 37, and UMUCASS 38 commonly known as IITA-TMS-IBA011368, IITA-TMS-IBA1371 and IITA-TMS-IBA011412 respectively. The three varieties; UMUCASS 44, UMUCASS 45, and UMUCASS 46 were the second in the series of pro-vitamin A varieties released in the country, and are commonly known as NR07/0220, IITA-TMS-IBA070593, and IITA-TMS-IBA070539. The new varieties have a pro-vitamin A content that averages 10 parts per million (ppm) based on fresh roots as compared to the first series. The new yellow varieties have high yields and are resisted by many pests and diseases unlike ordinary cassava but farmers are still being faced with diverse challenges in the cultivation of Vitamin A cassava in Nigeria due to different factors.Kuye, (2015) discovered that farmers face many constraints during processing and marketing of cassava which includes low crop value, marketing and processing facilities. He also found out that cassava production is faced with on-farm postharvest handling and rudimentary storage structures such as woven baskets, traditional granaries and heaped on the floor in corners of living houses which favors easy development of storage pests and microbial contaminants such as *Aspegilusflavus* (aflatoxins) among others. It was also established by Umunakwe, Nwakwasi, Ani, Ejiogu-Okereke and Nnadi,(2015) thatcassava production is usually faced with myriad of problems ranging from pests and diseases (cassava mosaic disease, cassava bacterial blight, cassava anthracnose disease, cassava bud necrosis, root

rots, mealybugs, green mite etc), weather related problems, poor soil, land dilapidation, damage by livestock, danger imposed by excessive use of fertilizers, scarcity of cuttings, poor accessibility to markets, etc, and all this problems affects the yield.Despite all these research discoveries about challenges of cassava production, dearth of knowledge still exists on the constraints faced by farmers on the production of Vitamin A fortified cassava in Oyo State.

The general objective of this study is to investigate the constraints encountered by smallholder farmers in the production of Vitamin A cassava in rural areas of Oyo State, Nigeria while the specific objectives included to:

- describe respondents' socio-economic characteristics in the study area
- ascertain respondents' source of information on Vitamin A production
- determine respondents' attitude towards Vitamin A cassava production in the study area

METHODOLOGY

The research was carried out in selectedrural communities of Oyo State, Nigeria. Oyo State is bounded by Republic of Benin, Osun, Kwara and Ogun States and there are 33 local government areas in the state. According to 2006 National population census, the population of the State stood at 5,591,589.The weather conditions vary between the two distinct seasons in Nigeria; the rainy season (April - October) and the dry season (November - March). Oyo is located in the south west of Nigeria and it was among the 3 states carved out of the former Western State of Nigeria in 1976. The state has 33 local government areas. Oyo State covers a total of 28, 249 square kilometres of land mass and it consists of old hard rocks and dome shaped hills. Oyo State is one of the food baskets in the federation. Agriculture is the major source of income for greater number of people in the State providing food and shelter, employment, industrial raw materials and remains an important source of internally generated revenue in the state. The climate of Oyo State is tropical with distinct wet and dry season with temperature ranging between 22-38^{0}C which favors the growth of food crops (like yam, cassava, millet, maize, fruits, vegetables and plantains), cash crops (such as cocoa, Tobacco and Timber) as well livestock like ruminant, poultry, fish and forest animals. The state has two vegetation zones which are derived savannah and forest zones.

The population of the study consists of cassava growers in the selected local government areas of the State. Data for this study were collected using structured questionnaire and interview schedule.Multi stage sampling procedure was used for the study.

Stage 1 involves random selection of 30% of the 17 rural L.G.As to give Ibarapa-East, Lagelu and AtisboL.G.As.

Stage 2 involves purposive selection of three communities from each of the selected L.G.As where Vitamin A cassava stems had been distributed. From the population of Vitamin A farmers in the selected communities, 20% of farmers were randomly selected. Thus, 52 farmers from Ibarapa-East, 24 farmers from Lagelu and 32 from Atisbo L.G. As were randomly selected. A total of 108 respondents were considered for the study.Data for the study was analysed using descriptive and inferential statistics such as Pearson Product Moment Correlation (PPMC).

RESULTS AND DISCUSSION

Table 1 shows that majority (70.0%) of the farmers sampled were male. It is a general belief that men are more actively productive and efficient in farming practices due to labour intensive nature of cassava production, especially in a developing economy like ours and because farming requires carrying out strenuous work on the farm, other than their female counterparts. The mean age of the farmers was 40.34±32.9 years indicating that they were mostly youths and are still in their productive age which may translate to high efficiency of cassava production. The mean household size of 4.26±1.03 indicates that the farmers most likely had access to family support for their agricultural production.More of the farmers (37.5%) had secondary education while 34.9% of them had tertiary education and the remaining 28% had primary and adult education respectively. This result implies that majority of the respondents had one form of education or the other and are probably aware of the benefits of Vitamin A cassava consumption.

Average farming experience of respondents' is 11 years with average farm size of 1.94±0.51 acre and monthly income of N22,299.50± N16,241.60. This implies that most of the farmers operate on small scale basis. Most utilised source of labour for Vitamin A cassava production was hired (64%) while most cultivated cassava types were UMUCASS 36/TMS-IBA011368) (64.6%), UMUCASS 38/TMS-IBA011412 (59.7%) and UMUCASS 37/TMS-IBA01371 (49.2%) which were the first sets of improved cassava varieties disseminated to farmers. This suggests that farmers in the study area are not yet familiar with the new varieties of fortified Vitamin A cassava recently developed.

Table 1: Distribution of the respondents' socio-economic characteristics

Variables	Percentage	Mean	S.D
Sex			
Male	83.7		
Female	16.3		
Age (in years)		40.34	32.90
<30 years	2.3		
30-39 years	25.6		
40-49 years	44.2		
50-59 years	23.3		
≥ 60 years	4.7		
Household size		4.26	1.03
1-2 persons	2.3		
3-4 persons	60.5		
above 4 persons	37.2		
Education level			
Adult Education	8.3		
Primary Education	18.6		
Secondary Education	38.2		
Tertiary Education	34.9		
Source of labour			
Family	32.2		
Hired	64.0		
Communal	03.8		
Farming experience		9.48	6.29
< 5 years	16.7		
5-10 years	33.3		
11-16 years	27.8		
17-22 years	11.1		
> 22 years	11.1		
Monthly income		22299.50	16241.60
<20,000	16.7		
20,001-30,000	38.9		
30,001-40,000	38.9		
>40,000	5.6		
Farm size (acres)		1.94	0.51
<1	15.2		
1-2	68.3		
3-4	11.8		
>4	4.7		
Cultivated Vit. A cassava types*			
UMUCASS 36(TMS-IBA011368)	64.6		
UMUCASS 37(TMS-IBA01371)	49.2		
UMUCASS 38(TMS-IBA011412)	59.7		
UMUCASS 44(NR07/0220)	45.0		
UMUCASS 45(TMS-IBA070593)	44.7		
UMUCASS 46(TMS-IBA070539)	35.2		

* Means multiple responses
Source: Field survey, 2016

Source of information on Vitamin A cassava

Data on Table 2 revealed that majority (74.2%) of the farmers obtained information about improved cassava varieties through radio followed by farmer associations (60.2%). It further reveals that Research Institutes (45.7%), friends and families (40.0%), Extension agents (32.8%) and Television (30.5%) were other significant sources of information on Vitamin A cassava varieties utilised by respondents in the study area. This result confirms the rising importance of farmer groups in the dissemination of improved agricultural technologies. According to Akinnagbe and Ajayi (2010) farmers' groups play vital roles in agricultural development in developing countries. The result also highlighted the relevance of radio in technology transfer because of its potentials such as speed and ability to reach a large audience

irrespective of location at the same time and because of its relatively low cost and ubiquity in rural areas to disseminate agricultural information in local languages. According to World Bank (2012) radio and otherICTs like mobile phones have been used in reaching out to farmers.

Table 2: Respondents' source of information on Vitamin A cassava

Source of information on Vit. A cassava*	%	Mean
Radio	74.2	1.56
Farmer Association	60.2	1.42
Television	30.5	0.92
Families and friends	40.0	1.02
Extension agents	32.8	0.98
Research Institutes	45.7	1.15
Publications	14.8	0.23
Internet	5.6	0.13

* means multiple responses

Source: Field survey, 2016

Attitude of respondents' to Vitamin A cassava

Table 3 however summarises that 52.6% of the respondents had favourable attitude towards Vitamin A cassava production in the study area. This is due to the fact that many of the respondents had increased yield and income derived as benefits. This is supported by Ogunsumi (2011) in a similar study that favorable attitude of farmers towards any agricultural practice or innovation is an indication of improved yield and agricultural production.

Table 3: Categorization respondents' attitude towards Vit. A cassava production

Vit A cassava Attitude category					
Unfavourable	47.4	68.0	77.0	71.4	3.2
Favourable	52.6				

Source: Field survey, 2016

Constraints to Vitamin A cassava production

Data on Table 4 reveals that constraints encountered by respondents in the production of Vitamin A cassava included pest and rodents infestation (0.84±0.63), land degradation (0.67±0.68), high labour cost (0.69±0.57) and low shelf life of Vit. A cassava (0.86±0.69). Other constraints encountered by farmers included inadequate credit facility (1.65±1.39), inadequate information on availability and use (2.56±1.67), high technical involvement (1.23±1.02), poor government support (1.11±1.43), low extension coverage (0.94±1.36), inadequate storage facilities (1.17±1.22) and inadequate processing facilities (0.81±0.19). This result is in line with Umunakwe *et al*(2015) that inadequate credit facility and information, land tenure system, and poor government support are major constraints to production of improved cassava varieties in Nigeria.

Table 4: Constraints to Vitamin A cassava

Constraints	Mean	S.D	Rank
Pests and rodents infestation	0.84	0.63	8th
Land degradation	0.67	0.66	11th
High labor cost	0.69	0.57	10th
Inadequate credit facility	1.65	1.39	2nd
Low shelf life of Vit. A cassava	0.86	0.69	7th
Poor government support	1.11	1.43	5th
Low extension coverage	0.94	1.36	6th
Inadequate market information	2.56	1.67	1st
High technical involvement	1.23	1.02	3rd
Inadequate storage facility	1.17	1.22	4th
Inadequate processing facility	0.81	0.19	9th

Source: Field Survey, 2016

CONCLUSION AND RECOMMENDATIONS

The need to improve the nutritional content of cassava as an important staple crop consumed by most Nigerians is a welcome development by producers and consumers. Farmers mostly got informed about the improved varieties of cassava through radio with a favourable attitude towards its production in the study area. The new

varieties of Vitamin A cassava includes NR07/0220, IITA-TMS-IBA070593, and IITA-TMS-IBA070539. However, despite the positive awareness to production of Vit. A fortitied cassava and income for producers of the staple crop, there are some challenges farmers encounterin theproduction of improved cassava varieties which included pests and rodents infestation, land degradation, high labor cost and inadequate storage facilities.

Based on the findings of the study, it is therefore recommended that:

1. Rural farmers should be encouraged to belong to farmers' groups such as cooperatives so as to increase their access to extension services.
2. There should be regular training of farmers on nutritional benefits and value addition of vitamin A cassava through their farmer groups to further sustain their attitude and for increased income.
3. The efficiency of the extension service should be enhanced through provision of better and improved facilities to enable more efficient information dissemination to farmers.

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ATTITUDE OF RURAL HOUSEHOLDS TO COMMUNITY DEVELOPMENT PROJECTS IN OGUN STATE, NIGERIA

[1]Aromolaran, A. K., [1]Alarima, C. I., [1]Abiona, B. G., [2]Adekola, O. A. and [1]Amole, A. B.
[1]Federal University of Agriculture Abeokuta Nigeria
[2]Oyo State College of Agriculture and Technology, Igboora, Nigeria

ABSTRACT
This study examined attitude of rural households to Community Development Projects in Ogun state Nigeria. Multi-stage sampling technique was used to select 120 rural households. Data were collected with the aid of interview schedule and analyzed using frequency counts, percentages, mean and Correlation.Community Development Projects (CDPs) indicated by more than 60% of the households were borehole, transformer installation and security post. Most (64%) of them had an undesirable attitude to the CDPs, while problems encountered in CDPs include unwillingness of members to contribute financially (86.7%) and lack of cooperation (80.8%). Result of hypothesis testing revealed a significant relationship between attitude to CDPs and strategies used ($r= 0.85$, $p<0.05$).It was concluded that the strategies used in implementing the project are important in a desirable attitude towards CDPs.
Keywords: Community Development Projects, attitude, strategies, problems of CDPs

INTRODUCTION

Development targets to increase the level of living and quality of life of the people meeting their needs and solving the immediate problems in their locality. The interpretation of development could be complex based on the perspective of different people. According to Chambers (1997) development is a "good change'' but this is not as straightforward as it sounds. The word development could be explained in three ways, which include seeing development as a vision, as a historical process that takes place over long periods of time due to inevitable processes and as actions to change things for better (Thomas, 2000).

In order to provide development that will meet the felt need of the people especially at the grassroots and rural communities, the participation of the people in the communal projects is inevitable. United Nations (2014) defines Community Development as a process in which community members take collective action to create solutions to their collective problems.In order to obtain a positive outcome for CDPs, it is important to investigate attitude of the people as it affects the development. In this view, this study examined the attitude of rural households CDPs in Ogun state. The hypothesis tested established the relationship between strategies and attitude of the rural households to CDPs.

METHODOLOGY

The study was carried out in Ogun state, the southwestern region of Nigeria. It is a rainforest zone with a land mass area of 16,406,226 km2 which lies on latitudes 7^0 01′ and 7^0 18′, longitudes 2^0 45′ and 3^0 55′. The annual rainfall is between 1000mm and 2599mm. The population of Ogun state was estimated by the 2006 Census to be 3,728,098 (National Population Commission [NPC], 2006). A multistage sampling technique was used to select 120 respondents. An interview schedule was used to elicit information from rural households. The measurement of variables is as follows: (a) CDPs and problems encountered in implementing them were measured at nominal level using Yes =1 and No = 0 (b) Strategies used in implementing CDPs were measured using a scale consisting of All the time, Most of the time, Sometimes and Never which were assigned 4, 3, 2 and 1 respectively. (c)The attitudes were measured using a Five-point Likert scale: Strongly agree (SA), Agree (A), Undecided (U), Disagree (D) and strongly disagree (SD) which were assigned a score of 5 to 1 respectively. Data were analyzed using statistical tools such as frequency counts, percentages, mean and Pearson Product Moment Correlation (PPMC).

RESULTS AND DISCUSSION

Socioeconomic characteristic of the rural households

Table 1 revealed that 55.8 percent of them were male with an average age of 38years. More than half (52.5%) of them were married and had an average household size of 6 persons.The implication is that the respondents were young and married, they are likely to still reproduce more offspring who will need basic facilities and services for their survival. If these amenities are not provided, the dwellers might have to suffer for lack of these amenities.The successful integration of urban amenities into suburban areas will enable the perceived quality of life experienced by residents (Allen, 2015).Some (53.3%) of the rural households heads had secondary education, this could enhance their understanding of the process of development.

Table 1. Socio-economic characteristics of the rural households

Variables	Mean	Mode Frequency (Percentage)
Age (years)	38 years	
Sex		67(55.8%) Male
Marital status		63(52.5%) Married
Household size	6 persons	
Level of education		64 (53.3%) Secondary education
Income per annum	₦68,534.00	

Implemented Community Development Projects in the study area

Entries in Figure1 indicated the projects carried out via the communal efforts, it revealed that about 70 percent of the rural households pointed out that digging of borehole was one of the CDPs. The borehole was to supply water for the community since water is essential for their living both for domestic and livelihoods use. UN Habitat (2011) reported that over 76% (3 in 4) in peri-urban areas and nearly half are without regular access to potable water. The installation of transformer (67.6%) was another CDPs executed, this is to have access to electricity which could be used to power the pumping machine in the borehole as well as other activities within the communities. The security becomes important because of the lives and properties of individual and community.

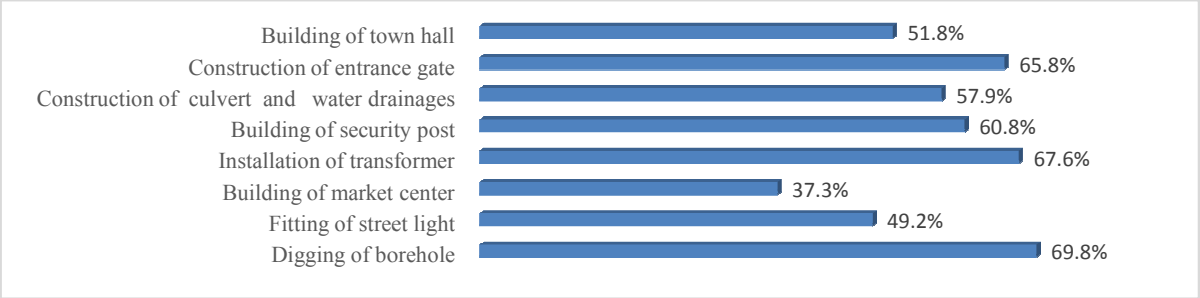

Figure 1. Community Development Projects carried out in the study area

Strategies for the Community Development Projects implementation in the study area

In order to attain the planned projects in the community, several approaches and strategies are used. Ghemawat (2002) asserted that management of a project is concerned with the implementation of a strategy, it is a plan of action geared towards the achievement of a particular goal. Among other strategies, those that were mostly used were the participatory evaluation of CDPs implementation processand clear goal setting with the mean score above 3.0.The clarity of goal set per project was used since it is clear and transparent and the people become less suspicious about the communal projects.

Table 2: Strategies used for the community development projects

Strategies used	A%	M%	S%	Never %	Mean
Participatory evaluation of CDPs implementation	35.8	38.3	20.8	5.0	3.05
Clear goal setting about CDPs	33.3	40.0	21.7	5.0	3.02
Delegation of the projects' workload	1.7	67.5	18.3	12.5	2.58
Encouragement of full attendance to decide on the project	32.5	6.7	38.3	22.5	2.49
Inclusion of influential people in the committee	17.5	22.5	26.7	33.3	2.24
Long duration for the payment of CDPs' dues	7.5	5.0	67.5	20.0	2.00
Supply of labour required for CDPs by members	19.2	1.7	37.5	41.7	1.98
Sourcing for material needed from members	4.2	1.7	43.3	50.8	1.59

A= All the times, M= Most of the times, S= Sometimes N= Never

Problems of community development projects implementation in the study area

Entries in Table 3 showed that most (86.7%) of the rural households indicated that people are reluctant to contribute money for CDPs. Funding is an important factor in the execution of projects. Communal projects require many people to contribute cash for the implementation when the people are unwilling to contribute financially, it slows down the implementation process.

Table 3: Problems encountered in implementing Community Development Projects

Problems	Frequency	Percentage
Unwillingness to contribute financially	104	86.7%
Lack of cooperation of members	97	80.8%
Distrust among members (Skepticism)	90	75.0%
Inadequate funding for the projects	81	67.5%
Leadership crises and misappropriation of fund	75	62.5%
Poor planning and delay of actions	74	61.7%
Clashes of interests and ideas	52	43.3%
Influential peoples' control over the projects	41	34.2%

Ugboh (2007) opined that insufficient funds have prevented many good ideas that were developed in communities. Lack of cooperation among members is another main (80.8%) problem encountered in implementing CDPs. Once the members of the community cannot reach consensus it affects the project implementation.

Rural households' attitude towards community development projects in the study area

Findings in Table 4 showed that the respondents agreed that the CDPs did not meet their expectations and duration for the project implementation was too long with a mean score above 3.5. The implication is that the hope of the people about the CDPs was not realized and due to the long time delay in the implementation.

Table 4: Attitudes of rural household heads towards community development projects

Attitudinal statement	SA%	A%	U%	D%	SD%	Mean
CDPs did not meet my expectations	35.8	35.8	17.5	7.5	3.3	3.93
Implementation duration of the project is too long	12.5	60.0	6.7	17.5	3.3	3 .61
CDPs are necessary for the community	1.7	62.5	20.0	6.7	9.2	3.41
Only a few people take advantage of the CDPs	4.2	65.0	14.2	1.7	15.0	3.34
CDPs give household heads more sense of responsibility in the community	36.7	15.8	12.5	6.7	28.3	3.26
The price of materials for the projects are inflated	16.7	24.2	30.8	19.2	9.2	3.20
CDPs makes life comfortable for the community	7.5	51.7	9.2	12.5	19.2	3.16
Many of the CDPs generate strife and clashes	-	49.2	20.0	25.0	5.8	3.13
CDPs are used as means of extorting money	7.5	24.2	25.0	36.7	6.7	2.89
It is satisfying that CDPs provide temporary job	22.5	6.7	13.3	47.5	10.0	2.84
Cooperation/bonds for CDPs lasted for short period	-	31.7	8.3	32.5	27.5	2.44
My money will rather be used for a personal project rather than CDPs	65.0	9.2	15.0	10.8	-	2.23
The projects make the people of the community to be more united	9.2	1.7	15.0	46.7	27.5	2.18
CDPs have not been very useful to households in	27.5	48.3	9.2	15.0	-	2.12
The Community could have been better without the CDPs	3.3	1.7	6.7	45.0	43.3	1.77
There is free access to all the CDPs	8.3	2.5	2.5	41.6	45.0	1.75

Figure 2 showed the categorization of the overall attitude of the rural households towards Community Development Projects (CDPs) in the study area. More than half (64.0%) of the rural households had an undesirable attitude towards CDPs, this implies that many of the rural households will have detrimental attitude and behaviour towards communal project unless various factors that influence the rural peoples' attitude negatively are addressed.

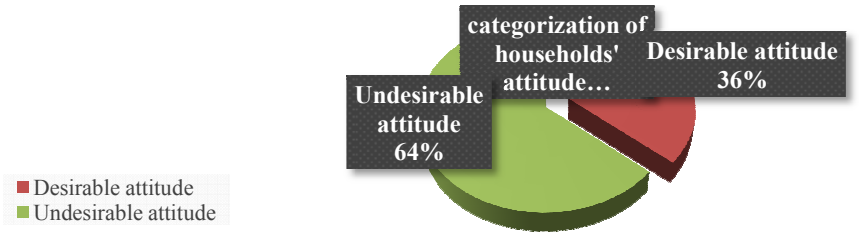

Figure 2: Categorization of rural households' attitude to Community Development Projects

Test of hypothesis

Entries in Table 5 showed that there is a significant relationship ($r = 0.85$ $p < 0.05$) between the strategies used and attitude of the rural households towards CDPs. This means that the better the strategies and approaches been used in the implementation of CDPs in the rural communities, the more improved is the attitude of the people to CDPs. The more acceptable strategies are used, the more the likelihood that the people will exhibit a desirable attitude towards the CDPs.

Table 5: Correlation result of the relationship between strategies and attitude to CDPs

Variables	r value	p-value	Decision
Strategies used * attitude to CDPs	0.85	0.015	S

CONCLUSION AND RECOMMENDATIONS

The studyconcluded that most of the rural households in the study area had an undesirable attitude towards Community Development Projects, their attitude is generated from the problems encountered and approaches by which the CDPs are been handled in the study area. It was also established that the strategies used in implementing the project are significantly related to the attitude of the rural households towards the projects. The attitude could determine the number of CDPs that will be successful, abandoned orfailed. Therefore, it is recommended that community leaders, program planners and foreign organization that have an interest in transforming rural area via CDPs should choose participatory and people inclusive approach.

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FACTORS INFLUENCING RESIDENTS' INVOLVEMENT IN COMMUNITY AND SOCIAL DEVELOPMENT PROJECTS (CSDPS) IN OSUN STATE, NIGERIA

Ola, L. A. and Adisa B. O.
Department of Agricultural Extension and Rural Development, Obafemi Awolowo University Ile-Ife, Osun State, Nigeria

ABSTRACT
The paper investigated factors associated with community residents' involvement in community and social development projects (CSDPs) in Osun State, Nigeria. It specifically described the socio-economic characteristics of respondents; determined the level of community residents' involvement in the execution of the Community and Social Development Projects (CSDPs), identify the constraints faced by residents' in the execution of the projects and isolated crucial factors influencing residents' involvement in the projects. A multistage sampling procedure was used to select 264 respondents from six administrative zones of Osun State and data were collected with the aid of structured interview schedule. Data were analysed using descriptive statistics such as frequency counts, percentages, means and standard deviations while factor analysis was used to isolate crucial factors associated with residents' involvement. Results showed that respondents had a mean age of 48.03±10.99years and majority (75.8% and 98.1%) were males and members of social organisations, respectively. Also, respondents were highly involved in funding of projects (mean=2.50) and attending meeting (mean=2.10), while above half of the respondents (51.3 %) were moderately involved in CSDPs. Also, lack of experience (Mean= 1.71) is the major constraint faced by residents in the execution of CSDP projects. Crucial factors found to be associated with residents' involvement in CSDP projects were community need with accounted for 20.1%, community characteristics (14.5%), constraint factor (11.8%), commitment factor (9.5%) and personal factors (9.0%).The study concluded that identified factors were crucial to community members' involvement. It is therefore recommended that the community need should be taken into consideration before embarking on any rural development projects, also, donor agency and community development workers should take into consideration.
Keywords: CSD Projects, Involvement, Factors influencing, Factor analysis, Rural Community, Osun state.

INTRODUCTION
Resident's involvement in community development is an age long practice in the Nigerian society. All known developed societies grew from being crude to the attainment of their present status. In Nigeria, the case of development is not different except for the interjection of the European culture that affected the gradual development of Africa (Walter Rodney, 1972). Attempts at solving the rural problems and achieving sustainable development had been the main objective of development planning in Nigeria since its independence in 1960 with the establishment of various programmes. Osun Agency for Community and Social Development Project (CSDP) is the body implementing the Community and Social Development Project (CSDP) in Osun State. It started its operation in October, 2009 and the programme finances micro Community Development Plans (CDPs) initiated by communities which must not be above ten (10) million naira. Since the commencement of CSDP, the agency has implemented several projects aiming at reducing poverty through the provision of infrastructural facilities. However, despite its involvement in infrastructural provision, poverty and inadequate infrastructure seem to be rampant in Osun State. Hence, the need to know the factors influencing residents' involvement in community and social development project (CSDP) in Osun State, Nigeria. The study described the socio-economic characteristics of the respondents; examined residents' involvement in the execution of the Community and Social Development Projects in the study area; identified the constraints faced by residents' in the execution of the projects; and identified factors influencing residents' involvement in the project.

METHODOLOGY
This study was conducted in Osun State, Nigeria and residents of the community were the population of the study. The study covered the six administrative zones of Osun State which are Ife, Ilesa, Osogbo, Iwo, Ede and Ikirun. A multistage sampling procedure was used to select respondents for the study and one Local Government Area was purposively selected from each administrative zone (Ife-east, Obokun, Osogbo, Iwo, Ede south and Odo¬-otin LG respectively) based on the highest number of project undertaken. Twenty five percent of 192 communities in the State where the projects are located as made available by the State office of CSDP was proportionally selected. A total of 48 communities were selected. Finally, six members of the selected communities were interviewed to give a total of 288 respondents but 264 copies of questionnaire administered were analyzable. Data were analysed using SPSS software while simple descriptive statistical techniques such frequency count, percentage, means and standard deviation were used to summarize the data collected. Factor

analysis was used to isolate crucial factors influencing resident's involvement in CSDP.

Measurement of variables

Level of involvement was measured by the five main overt and covert actions in projects development and implementation steps suggested by (Pearsons1966). These are involvement in problem identification (1), decision making (2), planning (3), implementation (4) and evaluation (5) implementation. These were done by asking the residents to indicate their involvement in each stage of the projects. Their responses were rated on a 4-point scale ranging from not frequent (0 point), occasionally (1 points), frequent (2points) and very frequent (3).The total scores of each respondent were calculated as involvement score. These scores were added to obtain a value of 6 which was divided by 4 to get a benchmark of 1.5. Any involvement with mean score ≥ 1.5 was regarded as high involvement by the respondents while any involvement with mean score < 1.5 was regarded as low involvement. An indepth analysis was conducted to determine the respondent's level of involvement using mean and standard deviation.Constraints encountered were measured by asking the residents to indicate the constraints they faced during the course of development. The options were 'very frequently', 'frequently', and 'occasionally' and 'not frequent' were scored 0, 1, 2 and 3 respectively. Any constraints with mean score ≥ 1.5 was regarded as major constraints while any constraints with mean score < 1.5 was regarded as minor constraints. Factor analysis was used to isolate crucial factors influencing resident's involvement in CSDP. Variables were grouped using principal component analysis with varimax rotation.

RESULTS AND DISCUSSIONS

Socioeconomic characteristics

Results in Table 1 show that (75.8%) of the respondents were male. This may be because women prefer their husbands to take part in community related activities which is as a result of African culture which assumes that female's should be restricted to certain things. Also, the mean age of the respondents was 48.03±10.99 years.This implies that respondents were relatively young as most of them were still found in their active ages. Results further show that slightly above half (53.4%) of the respondents were Christians. The findings reveal that Christianity and Islam were the two major religion practised by respondents in Osun State. The finding is in conformity with Adisa (2013) and Ayinde and Torimiro (2013) who established that Christainity and Islam were the two dominant religion in Osun State. Majority 91.3 percent of them were married. The findings indicate that majority of them were people with responsibilities. Also, results in Table 1 further show that majority (92.8%) could read and write. This implies that community members in the study are were literate. The high level of literacy among Nigerians was adjuged by Obondo (2008) that puts literacy rate at 81.6 percent. The most prominent issues considered before taking final decisons on the type of projects to be done were felt-needs of community members (76.9%), resources available (51.1%) and community pressing need (59.1%). The implication of this finding is that projects that are very important to the members of the community are considered. Only 47.0 percent of the respondents were indigenes of the community. The mean household size was 5.43±1.9. The total number of persons in a family could be a criterion for involvement in social projects while 83.7 percent of them had travelled only within the state while (80 and 10 percent) had travelled out the state and the country respectively. These are indication that community members in the study area had a high level of expose to events outside their communities.

Table 1: **Distribution of respondents by their selected personal and socio-economic characteristics (n=266)**

Variables	Frequency	Percentages	Mean±Std. Dev
Sex			
Male	200	75.8	
Female	64	24.2	
Age (Years)			
<30	11	4.2	
30-39	35	13.3	
40-49	102	38.6	48.03±10.99
50-59	73	27.7	
60 and above	43	16.3	
Religion			
Christainity	141	53.4	
Islam	123	46.6	
Marital status			
Single	15	5.7	

Variables	Frequency	Percentages	Mean±Std. Dev
Married	241	91.3	
Separated	1	0.4	
Widowed	7	2.7	
Indigene status			
Indigenes	124	47.0	
Non-indigenes	140	53.0	
Household size			
<6	130	49.2	
6 and above	142	50.7	5.4±1.9
Level of education			
Non- formal education	15	7.2	
Adult education	8	3.0	
Primary education	14	6.4	
Secondary education	90	37.9	
Tertiary education	115	45.5	
Community need			
Felt-need of the members	200	76.9	
Community pressing need	181	51.1	
Resources available	162	59.1	
Cosmopoliteness			
Tavelled within their local government areas	250	94.3	
Travelled only within the state	223	83.7	
Outside the state	213	80.0	
Outside the country	27	10.0	

Source: Field survey, 2017

Involvement in CSDP

Table 2 presents the rank mean order in residents involvement in problem identification in CSDP and the results show that information seeker (mean=1.61) ranked highest, followed by information giver (mean =1.65). The high involvement of community members as information seekers and givers could be due to the fact that they will be eager to ask their fellow colleagues who had earlier benefitted from CSDP projects in the state about the procedure to go through in getting such projects. In decision making, attendance of meeting took the lead (mean = 2.10), followed by taking part in debate and discussion (mean =1.21). In planning of action, arrangement for meeting ranked first (mean=1.17) and source for input and fund (mean=1.61). The low involvement of community members in sourcing for inputs and fund could be attributed to the fact that CSDP in connection with the state government pay 90 percent of the projects to be executed. In specific contribution by resident's, land donation took the lead (mean=1.91) followed by equipment and material donation (mean=1.80). At evaluation stage, respondents were involved at the middle stage (mean =1.75), followed by the end (mean =1.01) and at the beginning (mean =0.90). This implies that community members were often interested in evaluating CSDP projects. It could therefore be inferred that their consciousness to evaluate the project would go a long way in ensuring that such projects meet their needs and aspirations. Generally, slightly above half (51.3%) of the respondents had moderate level of involvement, while only 17.4 percent and 31.3 percent had high and low levels of involvement respectively in CSDP in the study area. This finding further buttressed the fact that community members were moderately involved in CSDP.

Table 2: **Distribution of respondents by their level of involvement (n=266)**

Stages	VF Freq (%)	F Freq (%)	O Freq (%)	NF Freq (%)	Mean
Problem identification					
Initiator	33 (12.5)	21 (8.0)	59 (22.3)	151 (57.2)	1.04
Information seeker	44 (16.7)	81 (30.7)	91 (34.5)	48 (18.2)	1.61
Information giver	41 (15.6)	59 (22.3)	105 (39.8)	59 (22.3)	1.65
Decision making					
Attending meeting	40 (15.2)	63 (23.9)	125(47.3)	36 (13.6)	2.10
Take part in debate and discussion	37 (14.0)	46 (17.4)	89 (33.7)	92 (34.8)	1.14
Plan of action					

Stages	VF Freq (%)	F Freq (%)	O Freq (%)	NF Freq (%)	Mean
Arrange for meetings	44 (16.7)	35 (13.3)	71 (26.9)	114 (43.2)	1.70
See to the execution of decision	20 (7.6)	58 (22.0)	56 (21.2)	130 (49.2)	1.16
Source for input and fund	38 (14.4)	73 (27.7)	61 (23.1)	92 (34.8)	1.61
Specific contribution					
Land donation	11 (4.2)	14 (5.3)	186 (70.5)	53 (20.1)	1.91
Equipment and material donation	17 (6.4)	28 (10.6)	97 (36.7)	122 (46.2)	1.80
Personal labour	15 (5.7)	32 (12.1)	90 (34.1)	127 (48.1)	1.18
Evaluation stages					
At the beginning	7 (2.7)	35 (13.3)	56 (21.2)	166 (62.9)	0.90
At the middle	12 (4.6)	30 (11.4)	51 (19.3)	171 (64.8)	1.75
At the end	15 (5.7)	31 (11.7)	53 (20.1)	165 (62.5)	1.01

Benchmark = 1.5, VF= Very Frequent F=Frequent O=Occasionally NF=Not Frequent
Source: Field survey, 2017

Constraints faced by residents' in the execution of CSDP projects

Results in Table 3 show that lack of experience (Mean= 1.71) is the major constraint faced by residents in the execution of CSDP projects in the study area while regular conflict among members (Mean =0.80), class segragation among members (Mean= 0.75), misappropriation of funds (Mean =0.55) and poor attendance at the meeting (Mean= 0.61) were the minor constraints encountered by the resident's in project execution. This implies that lack of experience in the execution of the projects is the only major constraints. Despite this constraint, they were able to execute the projects successfully due to cooperation, counterpart fund and proper supervision by the CSDP officials.

Table 3: Distribution of respondents by constraints faced in the execution of the project (n=266)

Constraints	VF Freq (%)	F Freq (%)	O Freq (%)	NF Freq (%)	Mean
Lack of experience	**141(53.0)**	**42(15.8)**	**39(14.7)**	**44(16.5)**	1.71
Regular conflict among members	50(18.8)	46(17.3)	53(19.9)	117(43.9)	0.80
Class segregation among members	21(7.9)	72(27.1)	61(22.9)	112(42.1)	0.75
Misappropriation of fund	32(12.0)	44(16.5)	57(21.4)	133(50.0)	0.63
poor attendance at meetings	51(19.2)	45(16.9)	59(22.2)	139(52.3)	0.61

Benchmark = 1.5, VF= Very Frequent F=Frequent O=Occasionally NF=Not Frequent
Source: Field survey, 2017

Factor influencing resident's involvement in CSDP projects

Several variables were inputed into the factor analysis and those with eigen values greater than 1 formed the factors that were extracted. The factors as displayed in Table 4 were: community need (L=2.415), Community characteristics (L=1.775), constraints factors (L=1.411), residents' Commitment (L=1.134), and personal factors (L=1.077). It was also revealed that the identified five factors explained about 65.2 percent of the total variance while the other 34.8 percent of the factors were unknown. This could be regarded as adequate since the bulk of the variance were explained by the factors. It was also observed that factor 1 had a variance of 20.1 (20.1%), factor 2 had a variance of 14.8 (14.8%), factor 3 had a variance of 11.8 (11.8%), factor 4 had a variance of 9.5 (9.5%), while factor 5 had a variance of 9.0 (9.0%). Interestingly, the first –three factors explained about 46.7% of the total 65.2%; an indication that the variables that loaded under each of the factors were strong determinants of the involvement of community members in CSDP in Osun state.

Table 4: **Results of principal component analysis showing the initial Eigen values of factors influencing community members' involvement in CSDP**

Factors name	Eigen value	% of variance	Commulative % of variance
Community need	2.415	20.10	20.13
Community resident's characteristics	1.775	14.80	34.92
constraints factors	1.411	11.80	46.68

Residents' Commitment	1.134	9.50	56.13
Personal factors	1.077	9.00	65.20
Unknown factor			34.80
			100.0

Source: Field survey, 2017

CONCLUSION AND RECOMMENDATION

The findings reveal that most of the respondents were in their mid age and majority of them were married with a moderate household size and most of them were literate. Most of them were information seekers and givers and opinion givers in CSDP projects. They were also involve in decision making by regularly attending meeting. Also, funding and donation of land were the only activities with high involvement among members of the community where CSDP projects were executed in Osun state. Five crucial factors were fund to contribute to residents' involvement in CSDP. It is therefore recommended that the community need should be taken into consideration before embarking on any rural development projects; donor agency and community development workers should take into consideration the characteristics of the community that could enhance resident involvement and all constraints associated with residents involvement should be strictly addressed in order to enhance sustainable community development projects in rural areas.

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REVIEW ON EFFECTS OF FOREST RESOURCES UTILIZATION ON LIVELIHOOD OF RURAL FARMING POPULACE IN NORTH CENTRAL, NIGERIA

[1]Mohammed, U., [2]Umar, I. S., [2]Olaleye, R. S., [2]Tyabo, I. S., [2]Tsado, J.H., and [2]Pelemo, J. J.
[1]Department of Planning, Research and Statistics, Niger State Ministry of Agriculture, Minna
[2]Department of Agricultural Extension and Rural Development, Federal University of Technology, Minna, Niger State, Nigeria

ABSTRACT
Forest products are essential sources of income generation for rural farming populace for improved livelihood, expansion of farms and diversifying commercial activities. This review aimed towardeffects of forest resources utilization on livelihood of rural farming populace in North Central, Nigeria. The review showed that more than 300 million people in the world especially the poor, depend largely on forest gathering for daily subsistence and survival. Also, between 1.095 billion and 1.745 billion people in the world depend on wide range of forests products for their livelihoods and about 200 million indigenous rural communities in developing countriesfully dependent on forests. The review revealed that Non wood forest products (NWFPs) and wood forest products (WFPs) provide substantial inputs into the livelihoods of very large numbers of people in developing countries. The review stressed that fuel wood and charcoal made up 56% of global wood production, and approximately 90% of this is produced in developing countries. The review further revealed that firewood is the most important source of energy for developing countries and the only source of energy for most of the world's rural areas. The review revealed that sustainable forest strategies protect the long-term value of the forest as well as the creation of protected forests that provide safe habitats for various plant and animal species. The problem to forest resources utilisation in Nigeria include: species extinction fauna and flora species, deforestation, soil degradation. soil erosion., coastal degradation., desertification., ozone depletion., global warming and land landslides. It is recommended that adequate and timely information should be made available by government through extension agents and other channels on sustainable forest strategies in the study area. Also, adequate tree seedlings should be provided to the farmers by State Forestry Department to enable farmers practices afforestation and replace fell tree.
Keywords: Forest resources, utilization, livelihood ruralfarming, populace

INTRODUCTION
Forests are plant communities consisting predominantly of trees and other woody vegetation occupying an extensive area of land. They are essential natural resources for rural farming families providing for them both subsistence and market oriented livelihood strategies (Oludotun, 2016). Globally, many wood forest products like fuel wood, construction materials and non-wood forest products such as wild foods, leave litters, leaves for wrapping, medicinal products and land snails provide rural farming families with several entrepreneurship livelihood opportunities. Forest products are known to be essential sources of income generation for rural farming families for means of livelihood, expansion of farms and diversifying commercial activities (Campbell *et al*., 2015).

Fonta*et al.* (2014) reported that more than 300 million people in the world especially the poor, depend largely on forest gathering for daily subsistence and survival. The potential benefits include: daily subsistence and survival from forest product gathering, income redistribution and poverty reduction., recreational facilities., firewood., timber and medicine. Agarwal (2011) stressed that rural people are highly dependent on forest products for subsistence foods and materials. Over 90% of rural residences rely on forest to meet their family requirements. It was estimated that between 1.095 billion and 1.745 billion people in the world depend on wide range of forests products for their livelihoods and about 200 million indigenous rural communities are almost fully dependent on forests (Chao, 2012).

Forest resources are the key components of the natural resources base of any community, region or country and they play a fundamental role in the socio-economic well-being of the people of those communities (Sheil, 2013). This is prevalent in sub-Sahara Africa, where majority of rural farming families depends on natural forest resources utilisation for their livelihood (Amulya, 2014).

Objectives of the study

1. Identify the types of forest reources utilised by farming populace
2. Examine effect of forest resources utilisation on livelihood of rural farming populace
3. Identify the sustanable forest practices in the study area
4. Examine the problems associated with forest resources utilization

METHODOLOGY
This review was carried out in North Central Nigeria. The focus point were mainly Kogi and Niger

Review on various forms of forest resources utilisation by rural farming populace. Non-Wood Forest Resources (NWFRs)

There is no complete list of NWFPs in Nigeria because most biotic species from which forest products are derived are not well documented. Moreover, the diversity of biotic resources and their utilisation among different ethnic groups made the assignment of plants" to different loci along NWFPs continuum in considerable disarray. The classification of NWFP remain somewhat problematic because some plants fit in more than one category such as food, medicine, forage, alcohol, industrial/edible oil, spices and for craft material like mat weaving. The NWFPs are classified into two broad groups: fauna and flora products for foods, medicine, toxins and dyes (Shackleton*et al*., 2013).

Forest food derived from flora products

Forest foods derived from flora products which are either eaten raw or processed for the major intake of proteins, vitamins, minerals, fats and carbohydrates among the majority of rural communities in the country are derived from flora products. The forests foods are in the form of vegetables, fruits, nuts, tubers, seeds, oils, mushrooms, spices and drinks (alcoholic and non-alcoholic). The forest food producing species have varied phonological characteristics, however, the production of fruits are seasonal in most species while some species fruit throughout the year but with seasonal peak of fruiting occurring between March and May. While some plants are in off-season, some are in on- season thereby giving security to the rural communities that depend on them for sustenance (Osemeobo, 2015).

Forest foods derived from fauna resources

Virtually all fauna species (apart from those forbidden by taboos, folklores and found not suitable for consumption) are used for food. The use of fauna resources for food varies among the various communities in accordance with the species occurring in their environment. The fauna products are in form of worms, insects, frogs, reptiles, molluscs, fish, mammals and birds. Wild animals used for food (bush meat) are found in all the eco-zones. Most of the animals are herbivours and are hunted more for food in the rural communities. In the forest ecosystems, the main wild animals hunted for food are rodents, birds, snails and reptiles. Men carry out the hunting of wildlife while the collection of snails, worms and insects is the activity majorly carried out by women and children (Shecklaton*et al.*, 2013).

Medicinal products

The forest plants are used to treat diseases of human systems, parasitic infections in children and miscellaneous diseases including medico-magical uses. The harvesting practices of medicinal plants are as follows: leaves-apical, young, mature and dried, flowers-immature, matured, and dried, fruits/seeds-immature, matured, and dried., stems-apical, young, matured bark and latex; seedlings-leaves and whole plant utilisation., and roots-lateral, tap roots, bulbs and tubers (Adjanohoun*et al*., 2008).A lot of fauna resources not accepted for food and those not socially accepted because of taboos are used for traditional medicine. Moreover, most of the animals hunted for food are also used for traditional medicine. The utilisation of fauna products is clearly based on small part utilisation such as: skin;, claws; feathers; feaces; scales and fur.Despite this however, some animals are specifically hunted for traditional medicine, particularly for protective, curative and magical powers (Osemeoba, 2015).

Forests fodder and forages for livestock

Fodder and forage are used to support livestock-cattle, sheep, goats, donkeys and camels both in wet and in dry season. In the savannah zones, most trees and shrubs shed their leaves, the annual grasses die-off and the perennial grasses dry up and the vegetation is burnt thereby leaving the animals with little or nothing to eat. However, the plant parts such as new flush of leaves, flowers and fruits often produced in the dry season are rich in proteins, vitamins and minerals. Fodder is harvested in the natural forest is utilise effectively for feeding livestock National Agricultural Extension Research and Liaison Services (Mander, 2008).

Review on effect of forest resources utilisation on livelihood of rural farming populace

According to World Commission on Forests and Sustainable Development (2008), fuel wood and charcoal make up 56% of global wood production, and approximately 90% of this is produced in developing countries. Firewood is the most important source of energy for developing countries and the only source of energy for most of the world's rural areas (IEA, 2002). In sub-Saharan Africa, wood supplies about 70% of total energy used and firewood collectors account for over 85% of the wood removed from the forest and woodlands (Contrera, 2010). Fuel wood is also the major source of energy among rural farming populace and the urban poor in Nigeria.

Review on sustainable forest practices

Mendoza and Prabhu (2016) stressed that one of the examples of sustainable forest practices that a forest manager might employ to avoid the complete removal of a forest is to use selective logging. Selective logging is the practice of removing certain trees while preserving the balance of the woodland. Selective logging is more time consuming and more expensive then clearing the trees, but it preserves the forest's assets. Another example of a sustainable forestry practice is

allowing young trees to mature. While a young tree may have value, its value will increase as it matures. Proper forest practices will take into account the potential value of trees and delay the harvest of immature trees. In this way, sustainable forest practices protect the long-term value of the forest. Other examples of sustainable forestry involve the planting of trees to extend forest lands, as well as the creation of protected forests that provide safe habitats for various plant and animal species.

Other example of sustainable forest practices available to rural farming populace for improve livelihood include massive afforestation, control of excessive felling of forest trees, felling of only mature forest tree, planting two forest trees seedlings to replace one mature tree, controlling or restriction of bush burning, control or restrict excessive hunting of wild life in the forest, limit excessive harvesting of non-timber forest resources, practicing taungyaand mixed farming. Prolong fallow system, prune trees for wood and charcoal production instead of felling the entire forest tree.

Problems associated with forest resources utilisation

Babaganaet *al.* (2012) stressed that Nigeria with its large population and poor economic foundation is engaged in a process of increased urbanisation. The traditional mode of resources consuming development and the current inefficient economy arc severely threatening the lasting utilisation of natural resources. The rate at which forests are destroyed in the name of furniture making, pulp and paper production and as a source of domestic energy is at alarming rate. They further emphasized that some trends' and problem of utilisation of forest resources Include: species extinction fauna and flora species, deforestation, soil degradation, soil erosion, coastal degradation., desertification., ozone depletion., global warming and land landslides. Irina (2010) also pointed to the fact that the deforestation of forest resources generally decrease significantly soil PH, some soil macro-nutrients 'and loss of biodiversity. Amulya (2014) reported that deforestation is a serious problem in Nigeria with forest loss occurring at rate of 3.3% per year since 1990, the country has loss over 36% of its forest cover. The most biodiversity ecosystem, the old growth forests are disappearing at an even faster rate from 1990, 79% of the primary forests were lost and since 2000, Nigeria has been losing an average of 11% of its primary forest each year, these figures give Nigeria the highest deforestation rate of natural forest in the world. Dahlberg (2015) revealed that even if forest resources are available, the competition in relation to their utilisation often creates conflicts.

CONCLUSION

Forest resources have played significant roles on the livelihood of rural farming populace in Nigeria, forest provides food, medicine, timber and many other products. It plays protective roles against soil erosion, drought, floods, intense radiation etcetera. Forest also performs other functions such as recreation and aesthetics centres as well as habitat of diverse wild life. However, the utilisation of forest resources for rural populace livelihood has been hampered by various problems such as deforestation, erosion and bush burning. However, these problems can be corrected by provision of timely information by government through extension agents and other channels on sustainable forest strategies in the study area. Also, adequate tree seedlings should be provided to the farmers by State Forestry Department to enable farmers' practices afforestation and replace fell tree. Finally, Other alternative means of livelihood such as off-farm activites should be encouraged in the study area to reduce dependence on forest trees for charcoal making, so as to preserve.

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ANALYSIS OF FARMER-HERDER CONFLICTS IN KATSINA STATE, NIGERIA

[1]Aliyu, A. S., [2]Muhammad, M. B. and [2]Umar, I.
[1]Department of Agricultural Extension and Rural Sociology, University of Abuja, Nigeria
[2]Samaru College of Agriculture, Division of Agricultural Colleges, Ahmadu Bello University Zaria, Nigeria

ABSTRACT
The study was conducted in Katsina State with the broad objective of analysing the causes of farmer-herder conflicts in the state. Specific objectives were to identify causes of conflicts and the resolution mechanisms, and, examine the institutions involved in the management each of the conflicts. Multistage sampling procedure was adopted to collect data from three (3) local government areas that were purposively selected from the 3 senatorial zones of the State. Then, 21 crop farmers and 21 cattle herders from each of the 3 local government areas were selected through snowball sampling to obtain a sample size of 126 respondents. Data were gathered with the aid of structured interview schedule and focus group discussion conducted with separate groups of herders and farmers. Results of the findings indicated that 75% of the cattle herders had no formal education. Crop damage by cattle, encroachment of cattle routes and inadequate grazing reserves were the major causes of the conflict. Traditional rulers and *Miyetti Allah* Cattle Breeders Association of Nigeria (MACBAN) were found to be very effective in handling farmer-herder conflicts in the study area. The study recommended survey, demarcation, beaconing and gazetting of the government owned grazing reserves and cattle routes, and amending the land use policy to reflect existing reality.
Keywords: Conflict, Farmer, Herder, Katsina State

INTRODUCTION
One major problem confronting world peace today is the manifestation of conflicts in different dimensions across the globe. From Europe to America, Africa to Asia, conflicts are common phenomena (Marshall, 2005). One of such conflict involves periods of violent herder conflagration over settled farmers and the conversion of pastoral lands to cultivation. This current levels of conflict that occur in some locations across Nigeria are significantly intolerable for farmers, herders and, also for the environment.

Nigeria has experienced and is still experiencing conflicts of grave proportions among several ethnic and religious communities. These conflicts significantly vary in dimension, process and the groups involved. It was observed by Momale (2003) that, while some conflicts arise between same resource user group such as between one farming community and another, others occur between different user groups such as between herders and farmers. Adisa, (2012) observed that the farmers-herdsmen conflict has remained the most preponderant resource-use conflict in Nigeria. Pastoralists usually graze over areas outside farm lands, and these have been accepted to be the norm from time immemorial. Their movements are opportunistic and follow pasture and water resources in a pattern that varies seasonally or year-to-year according to availability of resources (FAO, 2011).These conflicts have constituted serious threats to the means of survival and livelihoods of both the farmers and pastoralists and what both groups are tenaciously protecting. Tonah (2006) opined that factors that account for the increasing farmer-herder conflict include the south ward movement of pastoral herds in to the humid and sub-humid zones, promoted by the successful control of the menace posed by diseases, the widespread availability of veterinary medicine and the expansion of farming activities into areas that hitherto served as pastureland. The competition between these two agricultural land user-groups has often times turned into serious social friction in many parts of Nigeriaaccompanied with cattle banditry (Adisa, 2012).The broad task here is to analyse some of the factors responsible for the conflict in Katsina State. The specific objectives were to describe socio-economic characteristics of the conflict actors in the study area, identify causes of conflicts and, examine the conflict resolution mechanisms to managing this conflict between crop farmers and cattle herders in Katsina State, Nigeria.

METHODOLOGY
The study was carried out in Katsina state, North-western The state has 34 Local Government Areas with total land area of 24,971square kilometers with estimated population of 7,430,781 (unfpa.org, 2016). The state share common boundaries with Niger Republic, Zamfara, Kaduna Kano and Jigawa States. Sudan savannah is the main vegetation type in the state. Due to its arable land, crops are grown all year round including irrigated agriculture along river banks and dams developed by the State and Federal governments. Majority of the people are settled cultivators and traders. Crops grown include cotton, groundnut, cowpea, millet, sorghum, maize, rice, wheat and vegetables. Livestock include cattle, sheep, goats and poultry which provide food for human consumption with potentials of providing raw materials for industries. Katsina is predominantly a

Muslim community. Fulani and Hausa are the main ethnic groups in the state. However, there is considerable number of Fulanis cattle herders, whose males' rear livestock, while the females hawk locally prepared fermented milk in towns and villages (www.Katsinastate-igac.com/history).

The target populations for this study are the cattle herders and crop farmers. A multi-stage sampling was used to select the respondents of this study.The first stage involved the purposive selection of three Local Government Areas, one from each of the three senatorial zones. This selection was based on the frequency of occurrence of farmer-herder conflict in the state. These Local Government Areas are Faskari in the South, Mai'adua from the North with Kaita from the Central senatorial zone. The second stage involved random selection of 3 farming villages and 3Fulani homesteads from each of the 3 selected Local Government Areas, making a total of 9 villages and 9 Fulani homesteads. Thirdly, 7 farmers and 7cattle herders were selected using the snowball sampling method from each of the villages and homesteads respectively, thus given a total of 63 crop farmers and 63 cattle herdsmen. The snowball method is used by identifying one respondent that helps the researcher to identify the others. In all, 126 respondents were selected for enumeration by use of structured interview.

Information collected included the socio-economic characteristics of the herdsmen and the cattle farmers, causes of the conflicts, institutions involved in managing conflicts and mechanisms employed by these institutions in managing the conflict among others. Respondents for the study included crop farmers and cattle herders. The data collected was analyzed using descriptive and inferential. Respondents were requested to identify what they perceived to be the causes of their mutual conflict. The responses were graduated on a 5 point Likert Scale. Strongly disagree=1, disagree=2, undecided=3, agree=4, strongly disagree=5. The cut-off point was the mean of the cumulative points 1-5 which was calculated as 3. Mean score of less than 3 indicates that the variable, as per the respondents' view, was not among the causes of conflict in the study area, while weighted mean of 3 and above confirm a variable among the causes of farmer-herder conflict.The independent and dependent variable measured the interpersonal conflict between crop farmers and cattle herders which dispute, violent confrontation, destruction and killings and internal displacement. Any of the conflict mentioned score 1, otherwise 0.Respondents were also asked to indicate methods of conflict resolutions adopted in their locality using Yes or No

RESULTS AND DISCUSSIONS

Socio-economic characteristics of crop farmers and cattle herders

The study indicates that 95.2% of the sampled farmers are male and only 4.8% are female while all the cattle herders are males.As evident from the findings, both crop farming and cattle herdingseems to be a male dominated enterprise in the survey area. Also, majority of the respondentswere within the age range of 40-49 years for crop farmers and 30-39 years for the herdsmen. It could therefore be inferred that both farming and cattle herding are predominantly carried out by middle aged people within the range of 30-50 years who are energetic, more productive in the economic sector and more prone to conflict as observed by findings inKehinde (2011). The study further reveals that 50.8% of the farmers had formal education in contrast to about two-thirds (74.6%) of cattle herders who had none. Over 80% of both respondents were married, implying that, majority of the respondents from both groups have at least one dependent, making them economically liable, hence greater tendency to challenge all kind of occupational threats. The result also shows that, majority of both the farmers (82.5%) and herders (54%) have been living in the area for more than 16 years. About 54% of the farmers do not have farm size of more than 2 hectares implying an increase in the tendency of the farmers to encroach more land reserves and cattle tracts, thereby creating room for conflict.

Causes of the farmer-herder conflict

The variables that qualified to be among the causes of the conflict were classified further in to immediate' and 'remote' causes based on the weighted score obtained. Consequently, score of 3 to 3.9 was classified as remote cause, while 4 to 5 as immediate cause. Result from the analysis shows that crop damage by cattle, encroachment of cattle routesand inadequate grazing reserveswere perceived to be immediate causes while pollution of water points, cattle rustling and indiscriminate bush burning were regarded as the remote causes.

Table 1: Rating of Causes of farmer-herder conflict

Causes of conflict	Farmers	Herders	Total	Overall Perception
Crops damage by cattle	4.8	4.2	4.5	Immediate Cause
Encroachment of cattle routes	3.1	4.9	4.0	Immediate Cause
Inadequate grazing reserves	4.3	4.9	4.6	Immediate Cause
Lack of access to water points	2.7	3.3	3.0	Remote Cause
Killing of stray cattle	1.8	3.8	2.8	Not a cause

Causes of conflict	Farmers	Herders	Total	Overall Perception
Pollution of water points	2.7	3.2	3.0	Remote Cause
Indiscriminate Bush Burning	2.6	4.2	3.4	Remote Cause
Cattle Rustling	3.7	3.5	3.6	Remote Cause
Land Tenure	4.0	3.4	3.7	Remote Cause
Change in Climate Conditions	3.5	3.3	3.4	Remote Cause
Family Problem	2.8	3.6	3.2	Remote Cause
Financial Problem	3.5	2.7	3.1	Remote Cause
Perceived Hatred	2.8			

Institutions involved in managing and resolving farmer-herder conflict

Result from the study in Table 2revealed that about 63% of the respondents acknowledged involvement of Miyetti Allah Cattle Breeders Association of Nigeria (MACBAN) in conflict management and resolution in the area. This was followed by *ad hoc*Government committees (48.4%),herders (28.6%) and courts of law (26.2%).

Table 2: Distribution of Institutions involved in managing farmer-herder conflict

Institutions	Farmers		Herders		Pooled	
Traditional Rulers	63	100.0	63	100.0	126	100.0
Police	63	100.0	63	100.0	126	100.0
Courts	15	23.8	18	28.6	33	26.2
Government Committees	32	50.8	29	46.0	61	48.4
Crop Farmers association	13	20.6	5	7.9	18	14.3
Miyetti Allah Cattle Breeders Association	63	100.0	63	100.0	126	100.0

Performance of institutions involved in resolving farmers-herders' conflict

Weighted mean score below 3 was considered as inefficient, while weighted mean of 3 and above was regarded as being efficient. Findings from the research revealed that traditional rulers is a more efficient institution followed byMiyetti Allah (MACBAN) herders and government committees. It can be inferred from this that the nomadic leaders are capable of managing the conflict while farmers and courts of law was seen as an inefficient institution.

Table 3: Performance of Institutions involved in managing farmer-herder conflict

Institutions	Farmers	Herders	Total	Overall Perception
Police	2.2	1.7	2.0	Inefficient
Courts	3.0	2.2	2.6	Inefficient
Local Govt Committees	3.9	2.9	3.0	Efficient
Traditional Rulers	3.9	3.0	3.5	More Efficient
Crop Farmers Associations	2.9	2.5	2.7	Inefficient
Miyetti Allah Cattle Breeders Association (MACBAN)	2.9	3.5	3.2	More Efficient

Mechanisms employed by the institutions in managing farmer-herder conflict

Amicable resolution (73%) is the most popular method of managing conflict followed by verbal warning (68.3%). Payment of compensation (42.1%) was less popular in the surveyed area.

SUMMARY AND CONCLUSION

Major findings of the studies revealed that majority of the respondents (95.2%) are male and middle-aged. Majority (49.2%) of crop farmers and (71%) of cattle herders had no formal education at all. More than three quarter of both farmers (84.1%) and herders (82.5%) are married. Most of the herders (68.2%) keep a herd size of less than 60 cattle due to activities of cattle rustlers, 12% within the range of 60-99, while only 12.7% maintain more than 100. Result from analysis also indicates that crop damage by cattle, encroachment of cattle routes and inadequate grazing reserves were the immediate causes of the conflict. Also, all the respondents identified traditional rulers, Miyetti Allah Cattle Breeders Association of Nigeria (MACBAN) as major arbitrators of farmer-herder conflict in the study area. Traditional rulers were more efficient in handling conflict.

The study recommended that for proper conflict resolutions between the cattle herders and the farmers, there is a need to survey, demarcate, beaconing and gazetting of the government owned grazing reserves and cattle routes, to reduce pressure on the already overstretched grazing reserves. Also, traditional rulers should be given

constitutional roles, which should center on their reconciliatory and arbitration effort.

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REVIEW OF EFFECTIVENESS OF NON GOVERNMENTAL ORGANIZATION (NGOS) PROGRAMMES ON YOUTH EMPOWERMENT IN KWARA STATE, NIGERIA.

Suleiman, Y. A., Olaleye, R. S., Salihu, I. T.
Department of Agricultural Extension and Rural Development, Federal University of Technology Minna, Niger State

ABSTRACT
Youths in Nigeria have the potentials needs to participate effectively in the empowerment programmes. Major problems encountered by youths are restriction of power and influence. However elders are placed in higher positions of societies, such as decision making, executive and judiciary. In view of this, Youth empowerment programmes of the government alone cannot successfully provide employment or reduce poverty that this country looks forwards to, hence this necessitated the coming in of NGOs with their youth empowerment programmes. This paper tends to determine the level of involvement of youths in NGOs empowerment programmes which had immensely contributed in the acquisition of different skills by the youths reducing unemployment also had the advantage of curbing social ills such as armed robbery and political thuggery. Youth's involvement in the implementation of community development projects brings proactive process in which the youths influence the development and management of community development projects through monitoring and evaluation rather than merely receiving a share of project benefits. However, efforts should be made in revivingempowermentprogrammes through active involvement of youths in all aspect which would give them desired benefits.
Keywords: Youth, Empowerment and NGOs

INTRODUCTION

Youth empowerment has grown in prominence on national and global development agenda. The youth employment challenge has its own dimensions and confronts countries worldwide regardless of their stage of socio-economic development. Addressing the menace of youth unemployment is one of the challenges facing successive governments in Nigeria. This is certainly in recognition of the fact that youth empowerment is an important issues to economic growth and development. Youths represents group of people with limited portions of life to contribute immensely towards expanding the production possibility frontier of their country. This is so if their skills are harnessed and effectively put into productive uses. It is however worthwhile to note that limited portion of life is the irresponsible youth age (Naseer, 2010).

Youth empowerment programmes of the government alone cannot successfully provide employment or reduce poverty that this country looks forwards to, hence this necessitated the coming in of NGOs with their youth empowerment programmes efforts, Non-Governmental Organizations (NGOs) are important agents of change and development in the country especially at the grass root, where they have significantly increased their commitments in human, financial and material terms to the cause of the development, seeking actively to reach a greater number of people and to improve their quality of life (Mulgunji, 2014). In the views of Nwagha-Ngeri (2001), NGOs are better equipped for rural needs, by virtue of their simplicity, proximity to the grass roots and ability to identify felt needs of the people.Examples of NGOs are Adolescent Support Organization (ASO), Global Youth Pear Empowerment and Development Initiative (GYPEDI), Youth Empowerment Foundation (YEP), Hyst Global Organization (HGO), Save the Future Children-Adult Initiative (SAFIN), Health Alive Foundation (HAF), Better Youth Initiative (BYI), Trios Human Development Foundation (THDF).

Despite the effects of NGOs youth empowerment programmes in transforming different empowerment programmes, not much is done on youths willingness to participate in different programmes in Nigeria. It is critical to:

i. Determine the level of involvement of youths in NGOs empowerment programmes.
ii. Determine the factors influencing the level of participation of youths in NGOs youth empowerment programmes.
iii. Examine the effectiveness of NGOs Programmes on youths empowerment.

METHODOLOGY

This paper is based on the review of the effectiveness of NGOs programmes on youth empowerment in KwaraState.

Concept of youth empowerment programmes

Youth, according to the United Nation is a person between the ages of 15 – 24 years old. The world health organization (WHO) defines youth as persons between 10 and 24 years. The Kenya government defines youths as any persons between the ages of 15-35 years. However, Bello, *et al.*, (2010), refers to the youth as men and women who are young and have abundant energy and strength both mentally and physically. According to the Alanana (2003), empowerment is a strategy

designed to improve the economic and social life of a specific group of people. Theability of individual to gain control socially, politically, economically and psychologically through access to information, knowledge and decision making(Ekanem 2004).

Level of involvement of youth in ngos empowerment Programmes

Coster (2010) reveal that involvement of youths in empowerment programmes had immensely contributed in the acquisition of different skills by the youths which apart from reducing unemployment also had the advantage of curbing social ills and delinquent behaviour among youth's especially armed robbery and political thuggery.Chikezie (2012) revealed that the low percentage of the female youth involvement inempowerment programmes could be attributed to the fact that females are usually involved in several other activities in the house andeven outside home like in farming, food vending, tailoring, petty trading and hair dressing.

Factors influencing the level of involvement of youth in NGOs empowerment programmes

Youth involvement is a learning process in which specific knowledge is imparted to a youth in order to improve skills and change of attitude of the learner (Hussain, 2008). A properly skilled human resource is an asset to effective management and utilization of resources for increased productivity and development. The youth pick practical solutions from capacity building for effective participation in development. The "transfer of technology model" by experts has changed to "participatory approach model" that involves funding agencies working closely with youth therefore, youth involvement in the implementation of community development projects brings a proactive process in which the youths influence the development and management of community development projects through monitoring and evaluation rather than merely receiving a share of project benefits.

Effectiveness of youth empowerment programmes

It is important to note that, youths can become empowered to be a solution providers, decision makers and committed leaders who will lead community development efforts in future (Olakulehin*et al*., 2010). Through the active interaction of youths and other adults of the population, more representative's voices are provided that reflect the diverse need and wants of the community. Youth are the crucial segment of the society; as they are the vessels for future development. They alsoplay a social actors of change and can serve as a pressure group to challenge/ lobby government in defining their priorities. It has been clearly stressed that youths are the leaders of tomorrow, but the partners of today. Another area where they play avital role in the community development process is that of security. It is evident in many communities that no meaningful development can take place where the security of life and properties are not guaranteed. The youth play vital role in this regard; they being seen as the watch dog of the community. Youth comprise the core of vigilante group and other security outfits in their community and in safe guarding the life and properties of the member of their communities (Odebode, 2009).

Theory of youth empowerment

The theoretical aspect is the social change theory with specific reference to planned social change. Under the theory, the following perspectives become imperative namely: (i) youth empowerment, (ii)level of involvement, and (iii) effects of Non-Governmental Organizations (NGOs) programmes on youths. The theory focuse on various NGOs empowerment programmes, various skill provided with mutual support necessarily to effect change needed by youth in other to achieve their aims of getting employed, improving their standards of living and to improve their livelihood as a result of training they have received

Moreover, theory of change also includes participation and impact. Therefore Participation is the informed autonomous and meaningful involvement of youths in Decision making process and the actions affecting their livelihoods. Bob (2002) defined Participation as the act of providing meaningful structures that allow youths to direct their energies. It builds the social structure from the participation of youths. Participation is a process which provides youths an opportunity to influence public decisions and has long been a component of the democratic decision-making process.

Impact can be defined as a long term influence on the state of the environment surrounding an organization. The impact of empowerment can be seen in relation to what the programmes have actually done to the youths who are actively involved. According to Patton (2008), it is the actual programmes outcomes in relation to the desired outcomes (goals). In determining the impact of empowerment interventions therefore, the overall aim of youth'sempowerment is to improve the quality of life of the rural youths. The impact of the programmes may be either positive or negative. These depend on the forces that interact to produce the changes.

Benefits of youth empowerment programmes

a. End violence among youth
b. Improve decision making process
c. Increase self- efficacy
d. Improve knowledge on different empowerment programmes

e. Improve access to different skills acquisition
f. Building of confidence among youth

Constraints to youth empowerment programmes

i. Lack of funds
ii. Absence of strategic plan
iii. Political interference
iv. Corruption among the NGOs staffs
v. Negative attitude of youths towards theprogrammes
vi. Punctuality /commitment among youths or tutors
vii. Poor communication
viii. Traditional/ cultural inclination of the host community

CONCLUSSION

- It can be concluded that youths is highly participated in the NGOs empowerment programmes than the older cohort.
- Activities of NGOs empowerment programmes resulted in progress of youths because of their active involvement in the programmes.

RECOMMENDATION

- Youths should be involved in the formulation, implementation, monitoring and evaluation of policies and programmes of the empowerment programmes. The use of innovative information and communication technologies (ICTs) should be promoted among youths.
- Education and capacity-building programmesfor youths should be defined in a more participatory way and focused on the empowerment best practices, laws and knowledge sharing.
- Skills acquisition programmes should be included as a compulsory subject in Nigerian schools starting from primary education curriculum in order to promote interest among youths.

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COMMUNITY COMMUNICATION, PROCESS AND PARTICIPATION: A PIVOTAL ON CLIMATE CHANGE FOR ECOFRIENDLY CONDITION

Afolabi, E. A.
National Agricultural Extension and Research Liaison Services, Ahmadu Bello University, Zaria, Nigeria

ABSTRACT
Community communication, process and participation (CCPP) dynamism is indispensably important. In the last three decades there are many articles on impacts of climate change on major clusters, with little or no focus on the dissemination process; developed policies on agriculture by stakeholders on climate changeadverse ecofriendly phenomenon. Nigeria with her populations of about 200 million is also recognised as being vulnerable to these impacts too. Based on the above, thus, each of these groups of communities has specific communication needs on the management of climate change. The objective of this study was to identify determinant factors as indicators and the way forward in Nigeria and the world at large. This study was conducted and developed on reviewed of relevant literatures; data collected were qualitative and unbiased. However, in the discourse, we discovered its adverse effects on ecosystem, the rainfall patterns which in turn devastate farmlands, the constant changes in temperature and humidity which increases pest and disease and other natural phenomenon as well cause more damage and harm to life and property in Nigeria was not well disseminate. Conclusively, CCPP myth is developed on the bases of sensitivity and flexibility and provides the view points to help people visualise and reflect upon their own reality on undesirable and irreversible issues. We recommend that, more efforts must be taking to develop policies framework on awareness creation; intensify the disseminationprocess and bridge information gap; in specific; the digital divide; create rural radio for ecofriendly and for future investigations.
Keywords: Community Communication, Participation, Process, Consensus and Climate Change

INTRODUCTION

Globally, as a matter of fact, communication (create link); that is, link individuals within communities and governments in participatory and shared decision-making knowingly or unknowingly; in this century, has been largely influenced by the morphing of the media to what is today called a new media. Community communication is the act of sharing in the discourse to serve or promote accord through participation; accordingly, we trailed along its myths for the efficacy of the study. The scientific discovery of climate change began in the early 1800s, when ice ages and other natural changes were first suspected and the natural greenhouse effect first identified and other gases collect in the atmosphere affect the insulate Earth which create more curiosity than concern. Intergovernmental Panel on Climate Change (IPCC) was established under the United Nations to provide a scientific view of climate change and its political and economic impacts (IPCC, 1996; 2005). Since the 1990s till date, the modern period, scientific research on climate change has included multiple disciplines and has expanded.

In the last three decades there are many articles on impacts of climate change on major clusters in Nigeria with little or no focus on the **dissemination process**; **developed policies** on agriculture, for cost-effective adaptation by stakeholders on climate change in this context. Thus, as a matter of fact, each of these groups of communities has specific communication needs and the require capacities to utilise innovations for the management of climate change for self-reliance. Against these backdrops, this article thus, reviewed and highlighted the importance of community communication, some of its challenges and climate change as well as some related studies and its effects on major clusters in Nigeria and globally.

Objective of the Study

The objective of this study was to identify determinant factors as indicated above; as well proffer the way forward in the society.

METHODOLOGY

This study was conducted and developed on reviewed of relevant literatures; data collected wereused appropriately based on the objective of the study.

Community Communication: Human Viewpoint-as dialogue and debate

In this context Community Communication will be refer to as "Grassroots Communication" which is premised on the concepts of Freire and Boal, to which we subscribe to thus:

> *Communication creates Community; Communication liberates and Communication develops and supports nature and cultural identity in any context (community). Thus, Communication should be more participatory in process.*

Undoubtedly, community is essentially refer to as groups of people living neighbouring one another; far from each other but have the same cause, issue, or interests as a rural society; characterised by isolation from ideas, information flow and where the bulk of the farming population lives.Thus, its members may be geographically located differently within a given area but still communicate with one another. At each level (social, economic, political) information flow and communication play an important development role (Agunga, 1997).This view point is applicable to Nigeria; a nation with the populations'distribution of about 200 million, across thirty six (36) states, "Nigeria Bureau of Statistics" (NBS), (2017).

According to Frances, (1979) community communications are the media to which members of the community has access, to information, education, or entertainment, when they want access, through organic media. Organic medias here refer to participatory learning and action cum community theater; audiovisual media used in groups; photo voice; video voice; and other folk expressions and media where the people in the community could relate. Process; and participation (Group Media or Channel): can only happen when there is group participation; help people to visualise and reflect upon their own reality of climate change, reach a consensus and find common grounds for action in the course of the dialogue and debate. They are media in which the community participates, as planners, producers, performers. They are the means of expression and the community, rather than for the community. Thus, community communication could be described as the media for exchange of purposive views and news among people with common goal to achieve better livelihood.

In recent years, UNESCO has been associated with a number of studies, projects in the field of community communication, focusing upon issues of access and participation(Berrigan, 1981). It is important to separate the two, although understanding the context and content of community communications for development purpose is necessary. The elements of communication like process, feedback, among othersare stressed in community communication discourse.Other practices based on the community approach and the grassroots awareness-raising model. For instance, Brawley and Martinez-Brawley, (1999); Boafo, (2000)in their different studies, emphasizes grassroots access to the communication process for the purpose of promoting social justice and democracy. In a similar case of the fight against AIDS and the promotion of condom use, social marketing approaches, research techniques adapted to small groups, and the large-scale use of the mass media have all been used in (Yoder, et al., 1996).

Dynamism in Community Communication Process and Participatory

In any society, change is occurring all the time. New needs arise as others are satisfied (Frances, 1979). Communication as dialogue and debate can occur spontaneously in any time of social change as two-way communication with changes through the global media interface. In community communication, process and participation are essential tools to develop sensitivity and flexibility in the cause of participating through/in either dialogue or debate when people can share opinions, listen and be listened to, and it plays a major role in awareness creation. Media can facilitate such interaction, when they are available (Okunna, 1995). While, participatory methods, can educate, motivate, convince, and gently encourage people to change for the better. Non-formal education rooted in the culture of the people using various indigenous media like popular theater and other cultural programs can help, as was shown by Freire (1978); Boal, (theater as "rehearsal for revolution," 1979)

in creating a civil consciousness and subsequent desire for change in (Okunna, 1995).

Based on the above, we submit that, dynamism in communications is the act of sharing in the discourse is to serve or promote accord; through the avail process and participation of individuals or groups. Taking a cue from the two step flow theory, several groups have realized the importance of participatory group media as the ideal tool to create awareness and lead to change of attitudes towards climate change.Bessette, (2004), also agree that among the key aspects of their work is interactivity nature, that is, the use of "small media," awareness raising, and direct participation.

On the differences, in fact, a number of recent empirical studies indicate that the mass media in themselves do not help development as much as participatory media do (Hornik, 1988; Wilkins, 1999; Servaes, 1989; Jacobson and Servaes, 1999). Bruck and Roach, (1993) in their study observe that, the media's tendency to pick up on the sensational, dramatic, disastrous, dangerous, or the negative in general, leads many people to become generally skeptical of, if not hostile toward, the media.In summation, this puts the media in the position of being seen as one of the main obstacles to the creation of a culture of successful development stories.According to, Blunt and Warren, (1996); Warren, Slikkerveer, and Brokensha, (1999), point out that, one of the major discoveries for U.S. researchers in Third World countries is that the local people have their own knowledge base, and these can be powerful change agents.

Some of the challenges to Community Communication

The myth the rural media cannot be over emphasise; it is characterized specifically by some setbacks, though the situations in rural areas also varies: A dearth of information (absence of providers and of local communication content);Conflicting messages (difficult to know what relevant/correct information is); fragmented market for information with many individual clients or client groups;Relatively few clients scattered over a large area;Structural transformations leading to constantly changing channels and content and a lack of the necessary skills for communication; and Lack of well-developed ICT infrastructure and low levels of ICT skills.

CONCLUSION AND RECOMMENDATIONS

In conclusion, unarguably, in the course of this article we realisedthat, communications and available channels in rural communities are facing tremendous challenges that need changes through structural transformations: no developed policies and agricultural project strategies, thus, if agriculture remains the mainstay for rural people in Nigeria; information and skills for alternative livelihoods gain is importance, and not only as an exit strategy, but for the increase in productivity, sustainable development and self-reliance. In order to justify all efforts fighting, by utilising this strategy for limiting and adapting to the irreversible climate change in Nigeria and globally. We recommend that, more efforts must be taking to develop policies framework on awareness creation; intensify the dissemination process and bridge information gap, in specific; the digital divide between rural and urban areas. Create supportive and wider availability and accessibility of communication technologies and policies on infrastructures like; internet, and rural radio. More so, the need to build more trust for every process andthe requisite collaboration between the stakeholders be assured and sustained for mitigating the consequences of incessant climate change. Nevertheless, this irreversible climate change, if not tackled now, might do more damage to our planet Earth,livelihoodsand in turn our produce.It is the cheapest and swiftest method of reaching rural communities and expertise via dialogue and debate.

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PARTICIPATION OF RURAL DWELLERS IN COMMUNITY-BASED NATURAL RESOURCES MANAGEMENT PROGRAMME IN ONDO STATE, NIGERIA

[1]Adeloye, K. A., [2]Aladekomo, F.O. and [1]Adepoju, A. G.
[1]Department of Agriculture, Wesley University Ondo, Ondo State Nigeria
[2]Department of Agricultural Sciences, Adeyemi College of Education, Ondo

ABSTRACT
The study investigated participation of rural dwellers inCommunity-based Natural Resources Management Programme (CBNRMP) in Ondo State, Nigeria. Data were gathered through structured interview schedule from 120 rural dwellers participating in CBNRMP, Data collected were analyzed using descriptive and inferential statistical tools. Results of the study show that the mean age of rural dwellers participating in CBNRMP in the study area was 56.2± 16.8 years, many (56.7%) of them were married and they spent an average of 12.3± 9.5 years in formal school. Many of the respondents got information about CBNRMP through extension workers (66.7%) and television/radio (60.0%). This analysis indicated that majority (71.7%) of the respondents had favourable perception towards CBNRMP. There were positive and significant association between respondents' participation in CBNRMP and their age (r= 0.512; $\rho \leq 0.01$); years of formal education (r= 0.483; $\rho \leq 0.01$); perception towards CBNRMP (r= 0.542; $\rho \leq 0.01$). It was concluded that the level of rural dwellers' participation in CBNRMP was high in the study area. It was recommended that conducive atmosphere that enhances meaningful participation of beneficiaries should be encouraged.
Keywords: Participation, Community-based, Natural resources, Management

INTRODUCTION

Natural resources occur naturally within environments that exist relatively undisturbed by mankind, in a natural form. A natural resource may exist as a separate entity such as fresh water, and air, as well as a living organism such as a fish, or it may exist in an alternate form which must be processed to obtain the resource such as metal ores, oil, and most forms of energy. Some natural resources such as sunlight and air can be found everywhere, and are known as ubiquitous resources. However, most resources only occur in small sporadic areas, and are referred to as localized resources. There are very few resources that are considered inexhaustible (will not run out in foreseeable future) these are solar radiation, geothermal energy, and air (though access to clean air may not be). The vast majority of resources are exhaustible, which means they have a finite quantity, and can be depleted if managed improperly (Schilling and Chiang, 2011).

Natural resource management is a discipline in the management of natural resources such as land, water, soil, plants and animals, with a particular focus on how management affects the quality of life for both present and future generations. Management of natural resources involves identifying who has the right to use the resources and who does not for defining the boundaries of the resource. The resources are managed by the users according to the rules governing of when and how the resource is used depending on local condition (United Nations Development Programme, 2005).A successful management of natural resources should engage the community because of the nature of the shared resources the individuals who are affected by the rules can participate in setting or changing them.

Community-Based Natural Resources Management Programme (CBNRMP) in Ondo State: Explorative review

Community-Based Natural Resource Management Programme (CBNRMP) was promoted by International Fund for Agricultural Development (IFAD) and Federal Government, but funded by the IFAD, Federal Government, Niger Delta Development Commission (NDDC), participating States and Local Government Areas for a period of eight (8) years. The programme started in the year 2005 in River State but took off in Ondo State in the year 2006. Projects are carried out base on the need of the people in the communities using bottom-top approach; the communities identify their pressing needs that the programme intends to proffer solution. There are Community Base Animator Teams (CBAT) which consist of six (6) people 3 male (one youth) and 3 female (one youth) IFAD, (2002).

Selections of Local Government Areas (LGAs) to benefits in Ondo State were based on the poorest ones and the communities that will participate are the extreme poor communities in terms of basic social and economic facilities. Nine (9) out of eighteen (18) LGAs in Ondo State are involved, and covers 27 communities.

CBNRMP that makes participating rural dwellers assume central role in project identification and implementation was put in place between the year 2005 and 2013 in selected LGAs of Ondo State. Adisa (2013) recorded increase in level of improvement in socio economic status of CNBRMP's beneficiaries. There is need to examine participation of beneficiaries that warrant this increase in level of socio economic improvement in the study area.

The main objective of this study was to investigate the participation of rural dwellers in Community-Based Natural Resources Management Programme (CBNRMP) to enhance their socio-economic status in Ondo State, while the specific objectives are to

i. describe the socio-economic characteristic of CBNRMP's participating rural dwellers in the study area;
ii. investigate rural dwellers' perception towards CBNRMP;
iii. examine the level of participation of rural dwellers in CBNRMP; and

Research Hypotheses

i. There is no significant relationship between rural dwellers' participation in CBNRMP and their socio-economic characteristics;
ii. There is no significant relationship between rural dwellers' participation in CBNRMP and their perception towards the programme.

METHODOLOGY

The study was conducted in Ondo State, one of the NDDC members in Nigeria. Multi stage sampling technique was used to select respondents for the study. At first stage, four (4) out of nine (9) participating LGAs were randomly. The selected LGAs were Idanre, Ondo- East, Okitipupa and Ile-Oluji/Okeigbo. Fifty per cent of rural communities participating in the programme were proportionally selected from each of the selected LGAs making twelve communities. Finally, one hundred and twenty rural dwellers were proportionately selected and were interviewed for the study.Duly validated and pretested structural interview schedule were used to elicit information from the respondents. Data were summarized with percentages, means and standard deviation, while Chi-square and Pearson Product Moment Correlation (PPCM) were employed to make inferences from the hypothesis.

Measurement of variables

Dependent variable: The dependent variable for this study was conceptualized as participation of rural dwellers in CBNRMP in Ondo State. It was measured by listing and scoring the natures of participation of rural women at each stages of community based development activities (Problem identification, Decision-making, Planning, Implementation and Evaluation stage) against a 4-rating scale of Very often (4), Often (3), Occasionally (2), Never (1).

Results and discussion

Results in Table 1 revealed that majority (60.2%) of the respondents were at their old age, while 7.5 percent were youth; the mean age of the respondents was 56.2 with standard deviation of 16.8. This implies that the respondents comprise few numbers of active people, which might be because of high rate of rural-urban migration of able bodies in search of white-collar jobs. The table also showed that the mean of years spent in formal schools was 12.3 with standard deviation of 9.5; this revealed that majority could read and write which would affect their participation in CBNRMP positively. Many (66.7%) of the respondents had information about the programme from extension workers. The table also revealed that many (56.7%) of the respondents was married;this implies that high percentage of married was involved in the programme. This finding was in consonance with earlier reports of Adisa and Jibowo (2006) that that reported that high percentage of married in the rural communities of Osun State are involved in the community based development projects.

Table 1: Distribution of respondents according to their socio-economic characteristics, n=120

Variables	Frequency	Percentage	Mean	Standard deviation
Age (years)				
< 30	9	7.5		
30-50	36	30.0	56.2	16.8
> 50	75	62.5		
Years of formal education				
>12	53	44.2		
7-12	33	27.5	12.3	9.5
1-6	21	17.5		
No formal education	13	10.8		
Source of information about CBNRMP				
Extension workers	80	66.7		
Television and radio	72	60.0		
Neighbors	55	45.8		
Marital status				
Married	68	56.7		
Widowed/widower	24	20.0		
Single	28	23.4		

Source: Field survey, 2016
*Multiple choices

Perception of respondents towards CBNRMP

The result in Table 3 revealed that perception means score was 72.7 with standard deviation of 1.8. This analysis shows that many (71.7%) of the respondents had favourable perception towards CBNRMP. It could, without doubt therefore, be inferred that the favourable perception of the respondents toward CBNRMP should lead to full participation in its activities; this will automatically result into development of the study area in no small measure. This result is in line with that of Adisa *et. al.,* (2003) which reported similar favourable perception to community-based development among rural dwellers in Osun State.

Table 3: Distribution of the respondents by perception about the programme, n=120

Statements	SA F (%)	Agree F (%)	DA F (%)	SD F (%)
Information dissemination about the project is inadequate.	0 (0.0)	4 (3.3)	49 (0.8)	67 (55.8)
The project implementation is good the way it has always been carried out.	30 (25)	86 (71.7)	4 (3.3)	0 (0.0)
The project agency has carried the people in the community along properly.	54 (45)	61 (50.8)	5 (4.2)	0 (0.0)
The project needs improvement in some areas.	26 (21.7)	57 (47.5)	34 (28.3)	0 (0.0)
There is proper utilisation and monitoring of the project by the rural people.	58 (48.3)	58 (48.3)	4 (3.3)	3 (2.5)
The project focus on the identify need of the people.	41(34.2)	71 (59.2)	8 (6.7)	0 (0.0)
The project was only enforced on the people.	0 (0.0)	5 (4.2)	44 (36.7)	0 (0.0)
The project has impact positively on the well being of the community.	69 (57.5)	50 (41.7)	1 (0.8)	0 (0.0)
The staff agencies are not easily accessible and capable of ensuring project success.	6 (5)	15 (12.5)	70 (58.3)	71 (59.2)
The project is a waste of resource by the government	0 (0.0)	95 (79.2)	25 (20.8)	29 (24.2)

SA = Strongly Agreed, A = Agreed, DA = Disagreed, SD = Strongly Disagreed
Mean = 72.7 Standard deviation = 1.8
Source: Field survey 2016

Participation of respondents in CBNRMP

Result in Table 3 revealed that the participation of rural dwellers in CBNRMP ranges from problem identification to evaluation/monitoring. Many (54.4%) of the respondents participated often as initiators while few (38.1%) participated in evaluation/monitoring at the beginning of the programme. This finding was in agreement with that ofOkunade *et al* (2005) who reported that the rural dwellers participated at every stage of community based development activities at different levels from problem identification, decision-making, planning for action, implementation and evaluation/monitoring stage.The finding also corroborate that of Deji (2007) who reported that the participation of rural dwellers is inevitably significant to the success and sustainability of rural development projects and that the level of their participation determines the extent to which the project succeeds.

Table 3: Distribution of respondents according to participation in CBNRMP
n= 120

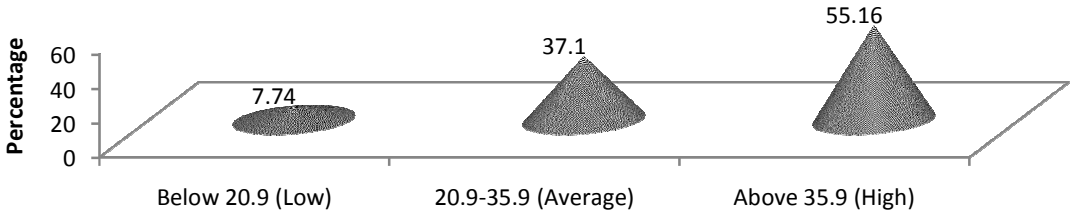
Participation	**VO**	**OF**	**OC**	**N**
Problem identification	**F(%)**	**F(%)**	**F(%)**	**F(%)**
Initiator	49(40.8)	65(54.4)	17(14.4)	7(5.6)
Opinion giver	22(17.6)	59(47.2)	25(20.0)	44(35.2)
Information seeker	47(37.6)	63(50.4)	29(23.2)	11(8.8)
Information giver	68(54.4)	39(31.2)	29(23.2)	14(11.2)
Decision-making				
Attending meeting	69(55.2)	69(55.2)	12(9.6)	0 (0.0)
Committee member	84(67.2)	66(52.8)	0 (0.0)	0 (0.0)
Debate and discussion	34(27.2)	97(77.6)	11(8.8)	8(6.4)

Participation Problem identification	VO F(%)	OF F(%)	OC F(%)	N F(%)
Conducting opinion poll	32(25.6)	64(51.2)	47(37.6)	7(5.6)
Planning of action				
Arranging meetings	60(48.0)	77(61.6)	13(10.4)	0 (0.0)
Source of input	84(67.2)	53(42.4)	13(10.4)	0 (0.0)
Work organization framework	55(44.0)	95(76.0)	0 (0.0)	0 (0.0)
Implementation				
Fund	97(77.6)	53(42.4)	0 (0.0)	0 (0.0)
Equipment/materials	77(61.6)	73(58.4)	0 (0.0)	0 (0.0)
Personal labour	48(38.4)	80(64.0)	15(12.0)	7(5.6)
Hired labour	37(29.6)	68(54.4)	38(30.4)	7(5.6)
Evaluation/monitoring				
Beginning	0 (0.0)	31(24.8)	64(51.2)	55(44.0)
Middle	0 (0.0)	18(14.4)	47(37.6)	85(68.0)
End	72(57.6)	7(5.6)	71(56.8)	0 (0.0)

Source**:** Field survey, 2011
VO = Very Often, OF = Often, OC = Occasionally, N = Never
*Multiple responses
Source: Field survey, 2016

Categories of respondents' participation in CBNRMP

Results in Figure 1 revealed that majority (92.26%) of the respondents' indicated that their participation in CBNRMP was above average. This may lead to increasing programme's effectiveness, efficiency and flow of benefits to the beneficiaries.



Mean= 28.4
Standard deviation= 7.5
Figure 1: Cone chart showing distribution of respondents by categories of participation in CBNRMP
Source: Field survey, 2016

Hypotheses testing

Result in Table 5 revealed that at 0.01 level of significance, respondents' age (r= 0.512), years of formal education (r= 0.483) and perception towards CBNRMP (r=0.542) had significant relationship with participation in CBNRMP. Thus, increase in respondents' age and years of formal education, together with favourable perception towards CBNRMP would increase participation in CBNRMP.

Table5: Correlation analysis showing relationship between socio-economic characteristics, perception of the respondents and participation in CBNRMP
n= 120

Variables	Correlation coefficient (r)	Coefficient of determination (r^2)	Decision
Age	0.521	0.271**	Significant
Years of formal education	0.483	0.233**	Significant
Perception towards CBNRMP	0.542	0.294**	Significant

Source: Field survey, 2016 **Significant at the 0.01 level

CONCLUSION AND RECOMMENDATIONS

Based on the findings of this study, it was concluded that the level of rural dwellers' participation in CBNRMP was high in the study area. It was recommended that conducive atmosphere that enhances meaningful participation of beneficiaries should be encouraged, since high participation in CBNRMP was linked to its effectiveness and efficiency.

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CLIMATE CHANGE MITIGATION AND TECHNOLOGY ADOPTION AMONG RICE FARMERS IN ALKALERI LOCAL GOVERNMENT AREA OF BAUCHI STATE, NIGERIA

Emefesi, B. O. and Muazu, H.
Department of Agricultural Extension and management Technology, Bauchi state College of Agriculture, Bauchi

ABSTRACT

The study was conducted in Alkaleri Local Government Area of Bauchi State in order to investigate the climate change mitigation and technology adoption among rice farmers. Twenty eight (28) villages were selected from three (3) districts of Bauchi state. A total of one hundred and twelve (112) questionnaires were proportionately administered in three (3) districts namely: Pali, Gwana and Duguri. Data was analyzed using descriptive statistical tools such as frequencies and percentages. The result reveals that majority of the respondents (88.4%) were females with the average age of 44.6 years, (53.6%) majority of the respondents were married with household size of between 1-5 (51.8%) respectively. Most of the farmers (92.9%) were found to be literate, thirty seven point five (37.5%) earned income from farming ranging between 11,000-20,000 naira per annum. The result indicates that 40.2% of the respondents identified delayed rainfall as the major indicator of climate change in their locality, while 24.1% of the respondents indicated high temperature as a major indicator of climate change. The result also indicated that majority (39.3%) of the respondents adopted early planting in coping with climate change, with 31.3% who identified use of improved variety. Also, forty five point five (45.5%) of the respondents indicated that unpredictable rainfall serves as the major challenges in adoption of new techniques in coping with climate change. The study concluded that, climate change in the study area is accompanied by greater variability in rainfall and temperature. The study recommended that specific programmes should be designed by government to be delivered by extension agents towards educating farmers on technologies such as; mulching, minimum tillage, mixed cropping, crop rotation, use of cover crop, afforestation, use of organic manure etc. to adopt in rice production towards coping with climate change. Also, government should make early provision, availability and affordability of improved seeds to farmers.

Keywords: Climate change, Mitigation, Adoption, Rice, Farmers

INTRODUCTION

Agriculture is a prima part of the global economy; it uses considerable fossil fuel for farm inputs and equipment (Lybbert and Sumner, 2010). The ever increasing demand for rice to meet national requirement of the crop in Nigeria call for careful examination of its production to understand the factors hindering sustainable rice production in the country and by extension in the world. The effects of climate change on rice production cannot be overemphasized. Rice production has been threatened by climate change, with effects of higher temperatures, frequent droughts and flooding (Research Program on Rice Production, n.d). Climate has noticeable and direct effects on agricultural production (Lybbert and Sumner, 2010). Studies on climate change have predicted that Africa's agrarian economies are possible to disproportionally tolerate the burden of increased temperature and erratic rainfall (IPCC, 2007; Kurukulasuriya *et al.,* 2006; Bezabih, Ruhinduka and Sarr, 2016). Climate change is one of the greatest long-term challenges facing the world (Vaghefi *et al.,* 2011). It poses serious problem to the world rice production. Adams *et al.,* 1998 and Vagheti *et al.,* 2011 posited that agriculture is the most affected sector owing to the fact that climate is a main determinant of agricultural productivity.

Worries on how to mitigate and adapt to climate change are revitalizing the drift for investments in agricultural research and are emerging as added innovation priorities (Lybbertand Sumner 2010). Adoption of improved farming practices make farmers to better use resources efficiently. However, in order to adapt to the changes in climate, farmers have been adjusting their farming practices. Lybbert and Sumner (2010), construed that development and effective diffusion of new agricultural practices and technologies will largely shape how and how well farmers mitigate and adapt to climate change. Therefore, strategies or techniques are important in mitigating the adverse effects of climate change. Rice (*Oryza sativa)* is the seed of monocot plant; it belongs to the grass family *gramineae* (Kuldeep, 2006). Its production serves a major source of income for millions of farming households around the world and some of the African and Asian countries largely depend on rice as a major source of foreign exchange earnings (Rice Trade, 2011).

Rice is a major cereal crop grown by thousands of farmers in Alkaleri Local Government Area, but threatened by climate change.It is against this premise, that this study investigates the climate change mitigation and technology adoption among rice farmers geared towards finding lasting solution.

The specific objectives of the study were to:

1. Describe the socio-economic characteristics of rice farmers in Alkaleri Local government area of Bauchi state,

2. Identify some major manifestation of climate change in the study area,
3. examine the technologies adopt by rice farmers in coping with climate change in rice production; and
4. Identify constraints to technology adoption among rice farmers in coping with climate change in the study area.

METHODOLOGY

Alkaleri is a local government area of Bauchi state, Nigeria. The vegetation zone of the area is northern guinea savannah where rainfall usually starts in April/May and end in September-October. It has an area of 5,918km^2, with an estimated population of 329,242 at the 2006 census (National Population Commission, 2006). The headquarterof Alkeri Local Government Area is in Alkaleri which lies at 9°53`N 10°30`E.

In this study, variables such as sex and age were measured using nominal scale, educational level of respondents was measured using ordinal scale, whereas household size, occupation of respondents and monthly income of the farmers was measured using interval scale

RESULT AND DISCUSSION

The result of analysis shows that 88.4% of the respondents were females. This result disagree with the findings of Yusuf *et al* (2013) which found that majority (94.3%) of the crop farmers in Kwara state were male. It implies that rice production in Alkaleri Local Government Area was primarily female dominated. The result indicates that 87.5% of the respondents are between the age ranges of 20 – 60 years. The mean age of the respondents was 44.6 years. This result does not agree with the findings of Yusuf *et al* (2013), which found that majority of the arable crop farmers in Kwara state (36.4%) were within the age range of 61 – 80 years.Marital status of the respondents indicates that 53.6% of the respondents were married. This result is within the finding of Agumagu, Ifeanyi and Iromuanya, (2013) which found that majority (78.4%) of the women arable crop farmers in Orlu agricultural zone of Imo state, Nigeria were married. By implication, this indicates that they will have more interest in production of rice for their food it also implies that farmers in the study area have more responsibilities of their family members; therefore, the need to produce food.89.4% of the respondents have family size of between 1 to 10 persons. By implication farmers with large family size have more access to family labour, skills and strong social capital to adopt to changing situation. This result agrees with the findings of Olajide (2013) and Sule, Ogunwale and Atala (2002) which posited that household size has a significant role to play in provision of family labour in the agricultural sector.

Educational level of the respondents reveals that majority (79.5%) of the respondents are literate and have attended primary school while some secondary school. By implication the educational level of the respondents in the study area was low and will have negative effect on technology adoption. This finding corroborates with the finding of Adeogun *et al.,* (2015), which found that there is low level of education on the members of National Cotton Association of Nigeria in Ogun State, Nigeria. The result shows that 65.2% of the respondents had monthly income of 11,000 to 30,000Naira. This result disagrees with the findings of Agumagu, Ifeanyi and Iromuanya, (2013) which found that majority (46%) of the arable crop farmers in Orlu agricultural zone of Imo state are women in, Nigeria had monthly income of between 6,000 – 10, 000 naira.

Also, result reveals that 49.1% of the respondents identified farming as their major occupation. This result agrees with the findings of Haruna (2012) which found that majority of the respondents (52.4%) had farming as their major occupation. Taking into consideration the income level of the respondents the result of this study implies that farmer's farms are meant to produce food for consumption and not for sale/commercial purposes,

Farmers' perceived indicators of climate change

Majority of the respondents (40.2%) indicated delayed rainfall as the main indicator of climate change, 8.0% of the respondents perceived high rainfall/humidity as indicator of climate change while 11.6% of the respondents believed that lack of sunshine is the indicator of climate change. 16.1% of the respondents indicated that increased flood as the indicator of climate change while 24.1% of the respondents in the study area perceived high temperature as the indicator of climate change.

Challenges faced in adopting new techniques in coping with climate change among rice producers

The result indicates that majority (45.5%) of the respondents indicated unpredictable rainfall during cropping season is a major constraint in adopting new techniques to cope with climate change. While 34.8% of the respondents indicated that inadequate visit of extension agents was their major challenge in adoption of new techniques in coping with climate change in the study area. To them regular visits of extension workers will help educate them on the various technologies they are expected to adopt in coping with challenges of climate change.

Adoption techniques in coping with climate change in rice production

Furthermore, the result shows that majority (39.3%) of the respondents adopted early planting in coping with climate change, with 31.3% identified use of improved variety.17%of them adopted planting of trees as a strategy in coping with the climate change while 13% of the respondents adopt the use of drought-tolerant variety of crops as a means in coping with the climate change in the study area. The use of drought-tolerant crops as a local strategies used for coping with climate change in the study area agrees with the finding of Dodo (2015), which found that 1.4% of maize farmers in the North-West agro-ecological zone of Nigeria adopts the use of drought-tolerant crops in coping with the climate change.

CONCLUSION AND RECOMMENDATIONS

In conclusion, climate change in the study area is accompanied by greater variability in rainfall and temperature. In coping with climate change majority (39.3%) of the respondents adopted early planting in coping with climate change, with 31.3% who identified use of improved variety.

Based on the result of this study the following recommendations were made:

- Farmers' planning agencies and other decision makers need to able to compare alternative crops management strategies that will allow them to cope better with climate variability.
- Specific programmes should be designed by government to be delivered by extension agents towards educating farmers on technologies such as; mulching, minimum tillage, mixed cropping, crop rotation, use of cover crop, aforestation, use of organic manure etc. to adopt in rice production towards coping with climate change.
- Government should make early provision, availability and affordability of improved seeds to farmers.
- Extension agents should pay more attention to rural areas where the bulk agricultural production is carried out.So there is the need for government to recruit more extension agent to the rural farmers in order to educate them on improved technology to adopt by famers in mitigating climate change.

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DETERMINANTS OF FARM CERTIFICATION COMPLIANCE FOR SUSTAINABLE COCOA PRODUCTION IN ONDO STATE, NIGERIA

[1]Akinwale, J. A., [1]Ojerinde, K. D. and [2]Owoade, E. O.
[1] Department of Agricultural Extension and Communication Technology, Federal University of Technology, P.M.B. 704, Akure, Ondo State, Nigeria
[2]Department of Agricultural Economics and Extension, Federal University Gashua, P.M.B, 1005, Gashua, Yobe State, Nigeria

ABSTRACT
Increasing cocoa production is a national goal to meet the needs of the ever growing and quality-inclined market. The study therefore investigates how farm certification is positioning cocoa farmers to take advantage of the huge export market. Using multi-stage sampling procedure, 90 respondents were selected from the participating cooperatives societies in Ondo State. Data was collected using interview schedule and analysed using descriptive and inferential statistics. The results showed that majority (97.8%) of the farmers were male and with mean age of 48 years. The farmers indicated good access to most (7 out 10) components of the support services. The farmers had good knowledge of cocoa production and substantially complied with farm certification measures. The result of the regression analysis indicated farm size (β=-0.295), farming experience (β=0.321) and output (β=0.383) as determinants of farm certification compliance among cocoa farmers in the study area. For sustainable compliance with farm certification, experienced cocoa farmers with manageable farm size should be enlisted into the subsequent scheme.
Keywords: Farm Certification, Compliance, Sustainable cocoa production, Export market

INTRODUCTION
The Nigerian agricultural sector has been recording low performances since the oil boom in the early 1970s. At the country's independence in 1960, agriculture contributed 63% to the Gross Domestic Product (GDP). This share plummeted to 8% in 1988 after the oil boom (Aigbokhan, 2001 as cited in Muhammed, 2016). A critical look at the Nigerian agriculture depicts a complete neglect of the export crops which have been a major source of foreign exchange for the country. For instance, cocoa that was the pride of the country in 1960s and 1970s experienced a decline in production following the discovery of oil in commercial quantity. Subsequently, the country quickly lost its position as the largest producer and exporter of cocoa in the world to countries such as Cote D'Ivoire, Ghana and Indonesia (Courage, 2016).

In Nigeria, cocoa is a source of income to numerous smallholder farmers whose share of cocoa production was 80% while operating on less than 5 hectares (Adelodun, 2017). Thus, any flux in its production will invariably undermine their livelihood. A critical look at cocoa supply chain shows the need for immediate intervention to salvage the system from total collapse. Issues such as pest and diseases, poor management knowledge and skills, inadequate access to support services are posing great challenges toward sustainable cocoa production in Nigeria (Federal Government of Nigeria, 2008).

Meanwhile, the rising incomes in emerging markets like India and China and increasing demands for chocolates and other cocoa by-products is a wake-up call to farmers in Nigeria to boost production. In buttressing the need for anticipated increase in demand for cocoa, Agri Africa (2016), predicted a 35% rise in demand for cocoa by 2020. Thus, there is a need to build the capacity of farmers for enhanced productivity. Such effort will enhance farmers' income and satisfy consumers demand for safe sustainable cocoa supply.

In order to achieve the aforementioned, private actors must be willing to fill the inadequacies of public institutions in farmers' trainings, market linkages and input supply. A case of such is Agro Traders (Cocoa Processor) partnership with Universal Trade Zone (UTZ) along cocoa value chain in Ondo state, Nigeria. The partnership is geared towards cocoa certification attempting to create a supply line of certified sustainable cocoa production for international market through provision of inputs and training to farmers. Therefore, this study intends to give an insight into how the partnership has fared toward enhancing sustainable cocoa production in Ondo State, Nigeria. The study was therefore guided by the following objectives, to:

i. describe the socio-economic characteristics of cocoa farmers in the study area,
ii. ascertain farmers access to agricultural inputs through the processor,
iii. determine the farmers' knowledge of farm certification measures,
iv. assess the level of compliance of cocoa farmers with farm certification measures, and
v. ascertain farmers' cocoa production outputs.

METHODOLOGY

The study was carried out in Ondo State, Nigeria. Ondo State is ranked as the largest cocoa producing state out of fourteen (14) in the country and accounted for 24% of the Nigeria's total production in 2011 (PricewaterhouseCoopers, 2017). Multi-stage sampling procedure was used in the selection of respondents. The first stage involved random sampling of two (2) multipurpose unions (Odo-ode and Akure) out of the four (4) multipurpose unions (Owo, Odo-ode, Ondo, and Akure) that participated in the certification programme in Ondo State. Then in the second stage, 10 from 64 villages in Odo-ode multipurpose union and 2 from 8 villages in Akure multipurpose union were randomly selected. The last stage involved proportionate sampling of 60 respondents from Odo-ode multipurpose union and 30 respondents from Akure multipurpose union. Thus, a total number of 90 respondents were used for the study. Data was analysed using descriptive (such as percentages and frequency distribution) and inferential statistics (Regression Analysis).

RESULTS AND DISCUSSION

Socio-Economic characteristics of farmers

Results in Table 1 show that 97.8% of the respondents were male while 2.2% were female. This could be as a result of difficulty in female gaining access to land for cash crop production due to cultural beliefs. This corroborates the finding of Ayodele *et al.,* (2016) who reported high access to land by male cocoa farmers than their female counterparts in Ekiti State, Nigeria. Also, the result shows the mean age of the farmers as 48 years. The farmers were younger and this suggests that the farmers would have the capacity to proceed at utilising their strength to achieve improve yield in cocoa production. Table 1 further shows that 36.7% of the farmers had primary education and 38.9% possessed secondary education. The high literacy level is an indication that the farmers would be amenable to innovation in cocoa production. Result in table 1 further indicates mean farm size of 3.3 ha showing that cocoa production is dominated by smallholder farmers. This further buttresses the finding of Nwachukwu *et al.,* (2010) that average cocoa farmers in Nigeria hold farm size of 2.5 ha.

Table 1: Distribution of farmers according to socio-economic characteristics (n=90)

Variables	Frequency	Percent	Mean	SD
Sex				
Male	88	97.8		
Female	2	2.2		
Age (years)				
21 – 30	1	1.1	48	7.7
31 – 40	19	21.1		
41 – 50	43	47.8		
51 – 60	23	25.6		
61 – 70	4	4.4		
Level of education				
Adult education	17	18.9		
Primary education	33	36.7		
Secondary education	35	38.8		
Tertiary education	5	5.6		
Farm size (hectares)				
1 - 2.0	6	6.7	3.3	0.9
2.1 - 3.0	14	15.6		
3.1 - 4.0	29	32.2		
4.1 - 5.0	38	42.2		
>5.0	3	3.3		

Source: Field survey, 2017

Access to agricultural support services

Results in Table 2 reveal that most (7 out of 10) support services were confirmed to be well accessible to cocoa farmers; provision of agrochemicals ($\overline{X}$=1.98), provision of extension services ($\overline{X}$=1.97), training on record keeping ($\overline{X}$=1.86), provision of guaranteed market ($\overline{X}$=1.83), provision of market information ($\overline{X}$=1.83), training on post-harvest handlings ($\overline{X}$=1.82) and provision of improved cocoa varieties ($\overline{X}$=1.78).

Table 2: Distribution of farmers according to access to agricultural support services

S/N	Support services	Always Accessible		Sometimes Accessible		Not Accessible		Mean ($\bar{X}$)	SD
		f	%	f	%	f	%		
1.	Provision of agrochemicals	88	97.8	2	2.2			1.98*	0.14
2.	Provision of extension services	87	96.7	3	3.3			1.97*	0.18
3.	Training on record keeping	77	85.6	13	14.4			1.86*	0.35
4.	Guaranteed market	75	83.3	15	16.7			1.83*	0.37
5.	Market information	75	83.3	15	16.7			1.83*	0.37
6.	Training on post-harvest handlings	77	85.6	10	11.1	3	3.3	1.82*	0.46
7.	Provision of improved variety	70	77.8	20	22.2			1.78*	0.42
8.	Transportation services	64	71.1	1	1.1	25	27.8	1.43	0.90
9.	Credit facilities	61	67.8	2	2.2	27	30.0	1.38	0.91
10.	Fertilisers supply	18	20.0	7	7.8	65	72.2	0.48	0.81
	Grand mean							**1.64***	

Source: Field survey, 2017*1.64 and above represents good accessibility

Cocoa farmers' knowledge of farm certification measures

Results in Table 3 reveal that the cocoa farmers have good knowledge in all the components of farm certification measures except disposing surplus chemicals (6-12). This infers that the involvement of the private sectors has imparted good knowledge of agronomic practices to the farmers. This is an improvement on the finding of Mondelez International (2015) that cocoa farmers' had limited knowledge of agricultural practices in cocoa production.

Table 3: Farmers knowledge on farm certification measures in cocoa production

S/N	Practice	F	%	Score	Category
1	Planting hybrid cocoa variety	89	98.9	13-19	Good knowledge
2	Recommended spacing	67	74.4	13-19	Good knowledge
3	Planting shade tree	84	93.3	13-19	Good knowledge
4	Proper shade management	74	82.2	13-19	Good knowledge
5	Water and chemical mixing ratio	60	66.7	13-19	Good knowledge
6	Method of storing agrochemicals	90	100	13-19	Good knowledge
7	Disposing surplus chemicals	40	44.4	6-12	Average knowledge
8	Handling diseased pods and branches	70	77.8	13-19	Good knowledge
9	Method of fermentation	87	96.7	13-19	Good knowledge
10	Method of harvesting	50	55.6	13-19	Good knowledge
11	Handling protective wears after use	90	100	13-19	Good knowledge
12	Self-protection when using agrochemicals	87	96.7	13-19	Good knowledge
13	Types of banned agrochemicals	89	98.9	13-19	Good knowledge
14	Health and safety after spraying	89	98.9	13-19	Good knowledge
15	Illegal labour types	87	96.7	13-19	Good knowledge
16	Treating labour agreement	90	100	13-19	Good knowledge
17	Spraying distance to water	73	81.1	13-19	Good knowledge
18	Disposing empty/expired chemical containers	90	100	13-19	Good knowledge
19	Removing cocoa beans from pods	77	85.6	13-19	Good knowledge

Source: Field survey, 2017

Compliance of cocoa farmers with farm certification measures

The results in Table 4 reveal that there was substantial compliance with farm certification measures except pruning dead or diseased branches ($\bar{X}$=1.91), maintaining regular record keeping ($\bar{X}$=1.79), Drying cocoa beans on raised platform ($\bar{X}$=1.90), opening pods using wooden club ($\bar{X}$=1.87) and fertiliser ($\bar{X}$=1.43).

Table 4: Distribution of farmers' compliance with farm certification measures (N=90)

S/N	Practices	Full Compliance		Moderate Compliance		No Compliance		Mean ($\bar{X}$)	SD
		F	%	F	%	F	%		
1.	Planting hybrid only	90	100.0					2.00*	0.00

S/N	Practices	Full Compliance		Moderate Compliance		No Compliance		Mean ($\overline{X}$)	SD
		F	%	F	%	F	%		
2.	Recommended spacing	90	100.0					2.00*	0.00
3.	Pruning diseased branches	82	91.9	8	8.9			1.91	0.29
4.	Specified number of shade trees per hectare	86	95.6	4	4.4			1.96*	0.20
5.	Fertilisers application	63	70.0	3	3.3	24	26.7	1.43	0.88
6.	Pest management	88	97.8	2	2.2			1.98*	0.14
7.	Regular record keeping	71	78.9	19	21.1			1.79	0.41
8.	Personal and environmental protection	88	97.8	2	2.2			1.98*	0.14
9.	Recommended tools	88	97.8	2	2.2			1.98*	0.14
10.	Removal of infested pods	90	100.0					2.00*	0.00
11.	Keeping right spacing during spraying of chemicals	90	100.0					2.00*	0.00
12.	Proper disposal of empty and obsolete chemicals	90	100.0					2.00*	0.00
13.	Keeping chemicals in safe containers	90	100.0					2.00*	0.00
14.	Harvesting pods when turn yellow	86	95.6	4	4.4			1.96*	0.20
15.	Fermentation in heaps under banana or plantain leaves	90	100.0					2.00*	0.00
16.	Drying cocoa beans on raised platform	81	90.0	9	10.0			1.90	0.30
17.	Storing beans in jute bags	89	98.9	1	1.1			1.98*	0.10
18.	Opening pods with wooden club	81	90.0	6	6.7	3	3.3	1.87	0.43
	Grand mean							**1.93***	

*1.93 and above represents good compliance
Source: Field survey, 2017

Cocoa farmers' outputs

Results in table 5 show the average cocoa output of 2,112.67kg for the farmers. Majority (37.8%) of the farmers had 2001 and 3000 kg of cocoa beans. It can then be deduced that the engagement of the private actors is already having appreciable effect on the cocoa outputs of the farmers. Thus with further scale up, farm certification could be a veritable tool to enhance cocoa production and make it competitive in the international market.

Table 5: Cocoa production record in the study area

Output (kg)	f	%	Mean	SD
0 – 1,000	13	14.5	2,112.67	838.50
1,001 – 2,000	31	34.4		
2,001 – 3,000	34	37.8		
3,001 – 4,000	10	11.1		
4,001 – 5,000	2	2.2		
Total	**90**	**100.0**		

Source: Field survey, 2017

Determinants of compliance with farm certification

Results in table 7 indicates that three independent variables, namely: farm size (X_3), farming experience (X_4) and cocoa output (X_5) were found significant in explaining compliance level with farm certification. Farmers' knowledge of farm certification (X_1) and level of education (X_2) were found not significant. The estimates of the model coefficients reveals that keeping other factors constant, a unit increase in farm experience and cocoa output will increase compliance level with farm certification by 0.321 and 0.383 respectively. Meanwhile a negative coefficient observed in farm size indicates that keeping other factors constant, a unit increase in farm size will reduce compliance level with farm certification by 0.295. This implies that it is a challenge for the farmers to maintain strict compliance with farm certification as farm size increases. This agrees with the findings of Gambelli *et al.,* (2014) that non-compliance of organic farmers in Italy and

Germany increases as the farm size grows. Meanwhile, the R^2 of 0.469 indicates that 46.9% of the variance in compliance level with farm certification is explained by the independent predictor variables in the model.

Table 7: Result of linear regression model for cocoa farmers

Variables	Unstandaridized coefficient		Standardized coefficient	t-value	p-value
n = 90	B	Std. Error	β		
Constant	1.721	0.127		13.600	0.000
Knowledge	0.010	0.008	0.134	1.285	0.202
Education	-0.001	0.002	-0.062	-0.710	0.480
Farm size	-0.028	0.009	-0.295	-3.244	0.002*
Farming experience	0.002	0.001	0.321	2.910	0.005*
Output	394600.0	0.000	0.383	3.695	0.000*

$R = 0.685$ $R^2 = 0.469$ Adjusted $R^2 = 0.37$
*Significant at $p \leq 0.05$

CONCLUSION AND RECOMMENDATIONS

The study has shown that there was good knowledge of cocoa certification measures and substantial compliance with them. Also the farm certification initiative involving private actors demonstrated capacity to make support services available to cocoa farmers. Determinants of farm certification from the study are: farm size, farming experience and cocoa output. Governments at all levels are therefore encouraged to collaborate with the private actors in financing the cost of certification for uptake and wider reach across the cocoa producing states in the country. For sustainable compliance with farm certification, experienced cocoa farmers with manageable farm size should be enlisted into the subsequent scheme.

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PREVALENCE AND SOCIAL CONSEQUENCES OF DRUG ABUSE AMONG RURAL YOUTH IN KUMBOTSO LOCAL GOVERNMENT AREA, KANO STATE, NIGERIA

[1]Kabara, A. M., [2]Umar, B. F., [3]Olaleye, R. S., and [4]Dansabo, M. T.
[1]Department of Agricultural Economics and Extension, Kano University of Science and Technology, Wudil, Kano state
[2]Department of Agricultural Extension and Rural Development, Usmanu Danfodio University, Sokoto
[3]Department of Agricultural Economics and Extension Technology, Federal University of Technology Minna, Niger State, Nigeria
[4]Department of Sociology, Usmanu Danfodio University Sokoto

ABSTRACT
This study examined the prevalence and social consequences of drug abuse among rural youth in Kumbotso LGA of Kano State, Nigeria. A three (3) stage sampling procedure was used to arrive at a sample size of 347 respondents in the study. Data collected was analyzed using both descriptive and inferential statistics. The findings of the study reveals that the level of prevalence of drug abuse among youths in the study area was on the increase (93.4%) while, others indicated that the level of prevalence was not increasing (6.6%). However, in terms of perceived effects of drug abuse, about half (49.6%) of the respondents believed drug abuse increases the physical strength or work capacity of the abusers, while 29.1% of the respondents perceived effects of drug abuse to reduce productivity. The study recommended that awareness on the negative effects of drug abuse should be intensified by governmental and non-governmental organisations as well as parents and guardians in the communities.
Keywords: Prevalence; Social Consequences; Drug abuse; Rural; Youth

INTRODUCTION
Drug abuse has become a global phenomenon affecting almost every country with varying extent and characteristics across countries. The problem of drug abuse places a significant threat to the social, health and economic fabrics of families, societies and entire nation (Giade, 2012; Oshodi, Aina and Onajole, 2010). Almost every country in the world is affected from one or more drugs that are being abused by its citizens.

Drug abuse, according to Oshikoya and Alli (2006), is a non-medical, self-administration of a substance to produce psychoactive effects, intoxication or alter body image, despite the knowledge of its potential adverse effects. Drug abuse implies that a drug has a proper medical use and is being employed for an incorrect purpose. Illicit drug use, which includes the abuse of illegal drugs and/or the misuse of prescription medications or household substances, is something many youth engage in occasionally and a few do it regularly.

The alarm has also been raised that the problem of drug use may be increased among rural youth because of reduced access to education and treatment services due to demographic characteristics of rural families as well as the geographic context of rural areas (DeVoe *et al.*, 2009). Against this backdrop, this study attempts to generate information on prevalence and social consequences of drug abuse among youth in Kumbotso LGA, Kano State, which could direct the design of an evidenced-based prevention programmes to address the problem of drug abuse among rural youth. However, this study seeks to analyse the prevalence and social consequences of drug abuse among rural youth in Kumbotso Local Government Area of Kano.

The specific objectives of the study were to:

- describe the socio-economic characteristics of rural youth in the study area.
- assess the level of prevalence of drug abuse among the rural youth in the study area.
- examine the respondent's perceived social consequences of drug abuse on the rural youth and their activities.

METHODOLOGY
The study was conducted in Kumbotso Local Government Area (LGA) of Kano state, Nigeria. It has a population of 294,391(NPC, 2006) and the population has been projected to be 347,200 by 2016 (NPC, 2006). The target population for this study comprised all youth in Kumbotso Local Government Area who indulged in drug abuse. A three (3) stage sampling procedure was used. In the first stage, purposive sampling was used to select ten (10) villages out of the thirty-six (36) villages in Kumbotso LGA based on the presence of high number of joints for drug abuse, quality of seizures made and number of dealers arrested in the area as revealed by NDLEA during an official communication in Kano State command with the researcher. In the second stage, proportionate sampling technique was then used in sampling respondents for the study. Based on the estimated percentage of drug abusers provided by NDLEA, the total population of drug abusers in the ten (10) selected villages was about 35,526.

Finally, snowballing or referral sampling technique was then used in selecting the individual respondents in each village. 1% of the youth in each of the selected villages was sampled to obtain a sample size of approximately 385 youth that engaged in drug abuse.

The data collected were subjected to descriptive statistical analysis in form of means, frequencies and percentages to achieve objectives 1, 2 and 3.

The dependent variable for the study is the prevalence level of drug abuse among the rural youth. The dependent variable was measured using a simple dichotomous response of "Yes" and "No" and a 4-point Likert-type scale containing constructs that will address the variable.

The independent variables of the study include the socio-economic characteristics of the respondents such as age, sex, educational status, family size, nature occupation, marital status, and were measured as:

X_{1} = Age of the respondents was measured in years.

X_{2} = Sex of the respondents was measured as 1 if male and 0 if female.

X_{3} = Marital status was measured as whether the respondents are married, single, divorced or widow.

X_{4} = Educational status of the respondents was measured based on the number of years in primary education, secondary education, and tertiary education.

X_{5} = Family size was measured as number of people in a household.

X_{6} = Nature occupation of the respondents was measured as crafts, and trade for which one is regularly paid.

RESULTS AND DISCUSSION

Socioeconomic characteristics of respondents

Results from this study revealed that 74.1% of the respondents were male and 25.9 % were female. majority (48.0%) of the respondents were between the ages of 25-28years, 28.3% were 21-24years old while 14.2% and 17.5% were between the age brackets of 29-32 years and 16-21.40 years respectively. With respect to the marital status of the respondents, majority (70%) were single while others were widows (2.9%), divorcees (2.3%) and married (24%). The analysis in the study also shows that 43.2% of the respondents were not gainfully employed, 31.7% worked on a part-time basis while 25.1% reported working on a full time basis. Furthermore, the findings in this study revealed that majority (62.9%) of the respondents had a household size of 1-10 individuals, 32.9% had 11-20 persons and 4.2% had 21-34 persons.

Table 2: Socio-economic characteristics of the respondent (n=347)

Variable	Frequency	Percentage
Sex		
Male	257	74.1
Female	90	25.9
Age (years)		
16-20	61	17.5
21-24	70	20.3
25-28	167	48.0
29-32	49	14.2
Marital Status		
Single	243	70.0
Married	86	24.0
Widowed	10	2.9
Divorced	8	2.3
Person(s) respondent lived with		
Both Parents	140	40.1
Single Parent	95	27.4
Guardian	21	6.3
Alone	91	26.2
Parental occupation		
Farming	80	23.1
Trading	143	41.2
Civil servant	105	30.3
Artisan	11	3.2
Tailoring	8	2.3
Total	**347**	**100.0**

Source: Field survey (2017)

Prevalence level of drug abuse among rural youth

Results of the study have further indicated that, 93.4% of the respondents were of the view that the level of prevalence drug abuse among youths in the study area was on the increase while 6.6% indicated that the level of prevalence was not increasing. This shows that there is increase in the abuse of drugs as more Nigerian youth are gradually becoming drug dependent (Staff, 2012).

Perceived effects of drug abuse on farming activities and other socioeconomic activities

The findings show the effects of drug abuse on farming activities as perceived by the respondents. Close to half (49.6%) of the respondents believed drug abuse increases the physical strength or work capacity of the abusers while 25.1% perceived drug abuse decreases the abusers' physical strength. Other perceived effects of drug abuse include reduced productivity (29.1%) and increased absence from farm or workplace (24.2%). The relationship between drug and substance abuse and the workplace is significantly influenced by national, social, cultural, ethnic, religious and gender issues. Cultural or group practices may also facilitate this abuse. Drinking or drug abuse cultures exist in some workplaces and some of them have a basis in the place of origin of an employee or worker.

The findings indicated that, the negative effect of drugs when abused by the respondents. Majority of them reported being tired when they abuse drugs (47%). Also, 40% of the respondent reported bad temper as the negative effect of drugs on them.

CONCLUSION AND RECOMMENDATION

Based on the findings of this study, it could be concluded that most of the respondents had a negative perception about drugs abuse on the individuals, families and the communities. The findings also concluded that there was a high prevalence of drugs abuse among the rural youth in Kumbotso LGA, and that males were more prone or exposed to drug s abuse than the females .Majority of the respondents decried the negative effects of drugs abuse on the individuals.

The study recommended that preventive measures aimed at developing structures and approaches geared towards reducing problems among youth generally. Awareness on the negative effects of drug abuse should be intensified by governmental and non-governmental organisations as well as parents and guardians in the communities.

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WASTE SCAVENGING AS A MEANS OF LIVELIHOOD COPING STRATEGY AMONG YOUTH IN SOUTH-WESTERN NIGERIA: SOURCES OF WEALTH OR DEATH?

[1]Ogunjimi, S. I., [2]Ajala, A. O. and [1]Alabi, O. O.
[1]Department of Agricultural Economics and Extension, Federal University Oye-Ekiti, Ekiti State, Nigeria
[2]Department of Agricultural Economics and Extension, Landmark University, Omu-Aran, Kwara State, Nigeria

ABSTRACT
Migration of rural dwellers to urban cities has led to population explosion which in turn resulted into increases in waste generation and also creates a large pool of unemployed and underemployed in the society. In response to the unemployment growth led some youths in rural and urban areas to engage in waste scavenging as a mean of survival strategies. This study examines economic benefits and the health implications associated with the occupation, using scavengers in Ekiti and Osun States, Nigeria as a case study. The research is based on data collected through multistage sampling procedures from 120 waste scavengers drawn equally from the four solid waste dumpsites in the study areas using interview schedule and participants observation. These interview elicited information about scavenger's activities, experiences, opinions and feelings concerning their operations, economic benefits and health challenges. The data used for the study were generated from primary source, while SPSS software was used in the data analyses The Data obtained was analyzed using descriptive and inferential statistics The mean age of the research participants was 27years and majority did not attended school or stop primary school level. Waste scavenging was dominated by male(77%). The research also revealed that most of the scavengers were youths from the community and migrants from surrounding villages. The reasons for involved in waste scavenging recyclable products such as plastics, metals and glass bottles include joblessness and economic consideration. The study further reveals that majority of scavengers are exposed daily to a numerous life threatening health problems which might result to death as they sort through the waste for recyclable products. The paper concluded that given the economic implication of the enterprise, policy measures that would enhance the health status of the scavengers need to be adopted by Government and Non-Governmental Organisation and intervention programmes that will reduce unemployment need to be provided.
Keywords: Health, Scavenger, waste, wealth

INTRODUCTION
Migration of rural dwellers to urban cities has led to population explosion which in turn resulted into increases in waste generation and also creates a large pool of unemployed and underemployed in the society. In the past few decades, the process of urbanization has accelerated mainly in cities coping with informal hyper, most of which are located in sub-Saharan Africa(UN-Habitat, 2012). These cities are characterized by an economy heavily dependent on the informal sector and very extensive poverty (Ebenezer, 2014). The high concentration of people in the emerging urban centres in the developing world has two implications: it leads to increases in waste generation and also creates a large pool of unemployed and underemployed residents with few alternative means of earning a living. In response to the unemployment growth led some youths in rural and urban areas to engage in waste scavenging as a mean of survival strategies. A waste scavenger is a person who salvages reusable or recyclable materials to sell or for personal consumption (Hari, 2011). Scavenging from the waste stream is an important economic activity that provides income for over 15 million people worldwide, most of whom are in cities in developing countries, and it has a financial impact of several billions of US dollars every year (Medina, 2010).

Waste scavenging is a popular informal activity which depends on the quantity and quality of waste generated by the population. The proliferation of waste scavengers on the streets and waste dumpsites in Nigeria since the early 1990s represents one of the most visible consequences of the deep economic crisis the country has been suffering. These scavengers play an important role in the process of waste recycling. They sort out the useful materials like paper, aluminium, glass etc and sell them to the recycling industries. Unemployed youths engage in activities that earn income for their survival and that of their families.

Most of the scholars worked on waste scavenging examined its economic significance as an efficient livelihood strategy (Reynals, 2002; Schamber and Suárez, 2002). Despite a lot of studies on scavenging as economic activities, mush attention has not been paid to the health risks associated with it in the study area despite the fact that scavengers live and work in unhygienic conditions and the nature of their occupation exposes them to hazards that may lead to the spread of various diseases. Hence the study examinewaste scavenging as a means of livelihood coping strategy among youth in South-western Nigeria either as sources of wealth or death

The specific objectives of the study include to;

i. describe socio-economic characteristics
ii. examines economic benefits of waste scavenging

iii. assess the health implications associated with the waste scavenging

METHODOLOGY

To achieve the objective of the study, the four solid waste dumpsites randomly selected inIkole-Ekiti and Ado-Ekiti in Ekiti State and Osogbo and Ile-Ife in Osun Sate . Purposive sampling was employed in identifying those who were directly involved in the process. The research is based on data collected through multistage sampling procedures from 120 waste scavengers drawn equally from the four solid waste dumpsites in the study areas using interview schedule and participants observation.

The data from the questionnaire survey was analysed using SPSS analytical program. Waste scavengers' demographic characteristics that were examined in the study include religion, age, ethnicity, income, marital status, educational qualification, working hours, and number of children supported by waste workers. Scavengers were asked to mention some of the diseases and injuries they had suffered repeatedly in the last twelve months preceding the study. Lastly, three focus group discussions were held at the three dumpsites where scavenging takes place.

RESULTS AND DISCUSSION

Socioeconomic characteristics

The results from the table show that above average numbers of scavengers (54.4%) were observed in the age group 21 to 30 years and 14.5 % of scavengers were in the age group 20 year and below. The findings imply that youths of school age were into scavenging business despite the risks involved in the job.

One of the participants from Osogbo in focus group discusion said that*"My parents died wheni was young. There was no one to sponsor me and I wanted to go to school. I used the income from scavenging to fund myself through school, feeding, buying booksand clothing "*The above disclose the reasons for working in the dumpsite at such a young age as a means for survival. Male (76.7%) dominated the business of scavenging In this study, 48.3% of scavengers were married, The rest were either single who have never been married, separated, divorced and widowed(51.7%)(Table 1).This is supported by the following statement from a woman at Ade-Ekiti:*"Most women working here are either divorced or separated with no husband to support us. We struggle on our own to paying house rent, feed the children and sent them to school form the money we made from this business.*

Nigeria has earlier been identified to comprise of three main ethnic groups- Hausa, Yoruba and Igbo. The ethnic group of waste workers is important most especially to waste

Pickers/scavengers since they have in the past been identified to be migrants who are out to make a living in the city (Benson and Vanqa-Mgijima, 2010; Hayami et al. 2006).

In this study, the Hausas who are migrants from the northern part of Nigeria have the largest representation among scavengers. This findings is in line with Obadina (2015) findings that majority of scavengers in Lagos State were Hausas.

In this study 48.7% of waste scavengers have no education. Despite the fact almost half were not educated we found out that some are highly educated up to higher institutions.

Table1 also revealed that, 71.8 % scavengers have been working for between 5 to ten years. Majority of the scavengers had average income of 16,000 monthly.

Table 1 Socio-economic characteristics of scavengers

Variables	Frequency	percentage	Mean/STD
Age			
Less than 20	17	14.2	
21 – 30	65	54.2	27.4(5.8)
31-60	24	20.0	
Above 60	14	11.6	
Sex			
Male	92	76.7	
Female	28	23.3	
Marital Status			
Married	58	48.3	
Single	40	30.3	
Widowed	7	5.8	
Separated	9	7.5	
Divorced	6	5.0	
Ethnicity			
Scavengers	0	0.0	
Hausa	68	56.7	

Variables	Frequency	percentage	Mean/STD
Yoruba	31	25.8	
Igbo	14	11.7	
Others	7	5.8	
Educational level			
None	58	48.3	
1-6 (primary school)	34	28.3	
7-12 (Secondary school)	21	17.5	
13 and above	7	5.8	
Income			
≤ 10,000	34	28.33	
11,000-20,000	61	50.83	
≥21,000	25	20.83	

Reason for entry into a job at the dumpsite

This section examines the reasons for entry into scavenging. The findings that have emerged include to get out of poverty (92.6%), unemployment, lack of access to credit for business, ethnic crisis and the need for survival. About 70 % of male scavengers identified that they could not get a job back in their home state. This necessitated their need to travel from their town to seek for ways of making a living. In addition to unemployed migrants, there are also waste workers who had been employed but due to loss of employment had to look for a way of getting a job. The finding indicated that some of the scavengers were into it for economic reason so that they could satisfy their needs.

Table 2: Reasons for Entry into a Job of scavenging

Reasons for scavenging	%	Rank
To get out of poverty	92.6	1st
I cannot get job in my place or state	87.1	2nd
Ability to take care of my family	85.2	3rd
No certificate to do other job	73.5	4th
Loss of job due to retrenchment	58.3	5th
Inadequate access to credit facilities	56.3	6th
I can be on my own	40.6	7th

Perceived health related problems

The study further reveals that majority of scavengers are exposed daily to a numerous life threatening health problems which might result to death as they sort through the waste for recyclable products, Scavenging has some detrimental effects on the health of the scavengers, who suffer from headaches from working in the sun, minor injuries from stepping on broken bottles or sharp objects in the refuse, eye irritation; respiratory diseases, with coughing, sneezing, etc.; skin diseases, especially scabies;; headaches from working in the sun; and backaches from bending down most of the time.

Other infections that might associated with waste scavenging includes, skin and blood infections resulting from direct contact with waste and from infected wounds, chronic diseases like respiratory diseases and cancers resulting from exposure to dust and hazardous compounds, accidental injuries that include skeletal disorders resulting from the handling of heavy containers, infected wounds from contact with sharp items; poisoning and chemical burns resulting from contact with small amounts of hazardous chemical waste mixed with general waste; burns and other injuries from occupational accidents at waste disposal sites or from methane-gas explosions at landfill sites.

Table 3: Health related problems among waste scavengers

Health problems	%	Rank
Headaches from working in the sun	95.8	1st
Minor injuries	90.5	2nd
Eye irritation	89.6	3rd
Coughing	87.4	4th
Minor injuries from stepping on broken bottles or sharp objects in the refuse	83.4	5th
Backaches from bending down	78.3	6th
skin and blood infections	67.2	7th
Poisoning and chemical burns	49.1	8th

CONCLUSION AND RECOMMENDATIONS

Waste scavenging among youth arises mainly due to the existence of waste dumps and recycling enterprises on one hand, and the income earned as well as poverty on the other hand. Scavenging as an informal activity has employed a number of youths. Waste workers have in the past been identified with low education levels while some of the workers are educated and even with Higher National Diploma and National certificate of Education. Scavengers have faced problems of informality and vulnerability to diseases, hence they need government assistance.

The paper recommends that given the economic implication of the enterprise, policy measures that would enhance the health status of the scavengers such as provision of necessary working equipments like hand gloves and boots needs to be adopted by Government. Training needs to be organised by government agency and Non-Governmental Organisationon the safety measures. Furthermore, theyneed to be targeted in federal government social intervention programme.

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GENDER AND PARTICIPATION IN ARTISANAL FISHING AND FISH PROCESSING ACTIVITIES IN BADAGRY, LAGOS STATE

[1]Nwezza, S. N., [2]Eshiet, I., [1]Adeogun O., [1]Jim-Saiki L. O., [1]Unah, R. L., [1]Obasi, E. U., [1]Olajide, O. T.
[1]Nigerian Institute for Oceanography and Marine Research, Victoria Island, Lagos, Nigeria
[2]Department of Sociology, University of Lagos, Lagos

ABSTRACT
The study investigated the influence of gender on participation in fishing activities in Badagry Local Government Area of Lagos State. Specifically, the study sought to understand whether gender is associated with participation in artisanal fishing, and artisanal fish processing activities. The study adopted a non-experimental research design and cross-sectional survey method. The study population comprised adult males and females. Using a combination of probability and non-probability sampling techniques, a sample size of 300 was drawn. Questionnaire was used to elicit information from respondents. It was found that gender was significantly associated with participation in artisanal fishing activities and participation in artisanal fish processing. Finding reveals that women are marginalized in the fishing industry despite their historical involvement in fishing. The study recommends that the government should encourage women to participate in artisanal fishing through training and assistance in procurement of fishing gadgets.
Keywords: Gender, artisanal, fishing, processing, Badagry

INTRODUCTION

The demand for fish has been rising rapidly in Nigeria as a result of increase in population, per capita income and price of alternative sources of animal protein. However, the domestic supply of fish does not satisfy the demand. Attempts to meet the demand have seen the country resorting to importation of fish. The Nigerian fisheries industry comprises of three major sub sectors namely the artisanal, industrial and aquaculture. Artisanal fishing is the hunting of self-reproducing stocks of wild fish in a very harsh environment over which man has almost no control (Gorden, 1993). According to Williams (1995), it is the finding and capturing of wild species of fish that the fisherman cannot see in vast and largely barren areas of rivers, lakes and streams. The artisanal sector is made up of coastal canoe fishery, brackish water canoe fishery, riverine and lake canoe fishery and the flood pond fishery (Ovie, 2011). It accounts for about 87 per cent of the total fish production in Nigeria (Tobor, 2001). Artisanal fishing in Nigeria is associated with a number of characteristics, which include its labour intensive nature, non-availability or poorly developed infrastructural facilities such as storage and processing plants (Moses, 2012).

Gender concerns are deeply rooted in the cultural patterns among the fishing communities where the most common gender division of labour has been between activities carried out from the shore and those carried out from the boats at some distance from the shore (Adeokun, O., et al 2006). This division has typically evolved in part because of the dangers and frequent loss of life involved in going out in small boats and because of women's direct responsibilities for children. This is revealed in the many gender stereotypes within the fishery sector. The idea that fishing predominantly involves men going fishing in boats (therefore overlooking a huge range of inshore resource use) is common throughout the world (Adeokun et al., 2006). Fishing has further been understood to be predominantly men's work, while women are thought to be only engaged in postharvest activities such as smoking, drying, and marketing, which earns a narrower profit margin than that earned by the fish catchers (Adewumi and Olaleye, 2011). Women make significant contributions to fishery-related activities other than fishing. They play a major role in processing fish and fishery products, as well as in marketing. While these roles may be different from those of men, they are integral parts of the industry, and ignoring these activities means ignoring a large portion of the sector by Abohweyere, (2004). The descriptive noun "Fishermen" although rooted in western culture, is a stereotyping noun that tends to exclude women from the sector. This perception affects the way the fishing industry is supported. There is therefore a need for a conscious choice of gender sensitive words like "fishworkers/fishtraders", "fishers" as opposed to the term "fishermen". However, the ability to obtain and sell fish is dependent on the ability to invest in the fishing business of a fisherman, getting fish from a husband/son, or accessing credit to buy fish. In some families, the wife invests in her husband's fishing business to secure her position as the sole buyer/distributing agent of his fish.

Women who can save a small capital or access credit can buy their own processing equipment and/or finance fishing trips. A small number of women are able to cross the gender-defined division between fishing and marketing by investing in fishing equipment and boats run by male family members run or an outside captain and crew. Women can also inherit canoes and other equipment from their aunts or mothers.

Also, in the literature, some scholars have tendered some explanations on the nexus between gender and participation in artisanal fishing activities. Nevertheless, more empirical studies are still needed to add up to the literature, which is what this study seeks to do. However, to fully mainstream gender, there is need to create Fisheries Commission that will integrate gender into its own mission and activities. The study aims to investigate how gender mediatesparticipation in artisanal fishing and fish processing activities between men and women in Badagry, Lagos State.

The objective of the study is to examine the relationship between gender and participation in artisanal fishing and fishprocessing activities in Badagry Lagos State.

METHODOLOGY

The study was conducted between March, 2017 and July, 2018 in 10purposely selected fishing communities in the Badagry area of Lagos state (Akarakumo sea beach, Ajido sea beach, Agorin, Yovoyan, Sakpa, Boglo, Seshi, Gberefun, Gbethromeiy, Ogorogbo). Badagry, an ancient yet historic town, presently about 57 kilometers by road from Lagos is situated on the coastline running parallel to the sea (Badagry Local Government Secretariat, 2018).

The study adopted the non-experimental research design and the cross-sectional survey method to gather the quantitative data from a sample size of 300 who were randomly selected from the 10 fishing communities, who were resident in the communities as at the time of study. Out of the 300 instruments that were taken to field, 296 were returned. Out of the 296 instruments, 4 instruments were screened out due to issues of inconsistency and refusal to respond to core questions, so 292 instruments qualified for data analysis.Questionswere asked on socio-demographic characteristics of respondents as well as questions base on the objectives of the study. The data collected was analyzed using the Statistical Package for the Social Sciences (SPSS) version 20 and the result presented in descriptive and inferential statistics using chi-square test.

RESULTS AND DISCUSSION

Table 1 shows the distribution of respondents by socio-demographic data. The table indicates that majority of the respondents in this study (51.4%) were female. Similarly, majority of the respondents (49.3%) were between 21 and 30 years of age. Likewise, the table shows that majority of the respondents (61.4%) were married. Furthermore, the table indicates that majority (40.5%) of the respondents had primary school education. Finally, the table reveals that majority (39.1%) of respondents expressed that head of household makes decision of buying of OBE, followed by sharing of fish caught, buying of crafts, sponsoring fishing trip and buying of gears respectively.

Table 1: Distribution of Respondents by Socio-demographic characteristics

Variables	Frequency	Percent (%)
Sex		
Male	142	48.6
Female	150	51.4
Age		
20 and below	43	14.7
21-30	144	49.3
31-40	29	9.9
41-50	37	12.7
51-60	30	10.3
61-70	4	1.4
71- Above	5	1.7
Marital Status		
Single	79	33.2
Married	179	61.4
Divorced	8	2.7
Separated	8	2.7
Level of Education		
None	44	15.2
Primary	117	40.5
Secondary	101	34.9
Tertiary	27	9.4
Total	**289**	**100.0**
Decision made by head of household		
Sharing of catch	20	31.3

Variables	Frequency	Percent (%)
Buying of OBE	25	39.1
Buying of crafts	14	21.9
Buying of gears	1	1.5
Sponsoring fishing trip	4	6.2
Total	**64**	**100.0**

Table 2 reveals respondents' participation in artisanal fishing activities, indicates that majority (92.3%) of the respondents think that males participate more than women in artisanal fishing activities.

Table 2: Distribution of respondents by participation in coastal artisanal fishing activities

Gender that participate more in Artisanal Fishing activities	Frequency	Percent (%)
Males	144	92.3
Females	12	7.7
Total	**156**	**100.0%**

Data in the Table 3reveals that more than half representing majority (94.8%) of the respondents, think that females participate more than men in fish processing.

Table 3: Distribution of Respondents by Participation in artisanal fish processing

Gender participation in Fish processing	Frequency	Percent (%)
Males	9	5.2
Females	165	94.8
Total	**174**	**100.0**

INFERENTIAL ANALYSIS (Test of Hypotheses)

H_1: there is a relationship between gender and participation in coastal artisanal fishing activities in Badagry

Table 4 shows the association between gender and participation in artisanal fishing activities. The table reveals that a vast majority (95.1%) of males participated in artisanal fishing activities as compared to less than a quintile (17.5%) of females. The table further shows that the chi-square value is 174.192; the degree of freedom is 1 while the p-value is 0.000. This implies that there is a significant association between gender and participation in coastal artisanal fishing activities as males are predominantly participate far more than females.

Table 4: Cross-tabulation of gender and participation in artisanal fishing activities

	Ever participated in artisanal fishing activities		
Gender	**No**	**Yes**	**Total**
Male	7 (4.9%)	135 (95.1%)	142 (100.0%)
Female	118 (82.5%)	25 (17.5%)	143 (100.0%)
Total	125 (43.9%)	160 (56.1%)	285 (100.0%)
χ^2: 174.192;	df: 1;	P-value: 0.000	

H_2: There is a relationship between gender and participation in artisanal fish processing in Badagry

Table 5 an association between gender and participation in artisanal fish processing. The table reveals that only a tiny minority (2.8%) of males participate in fish processing. But a large majority of females (82.4%) participate in the process. The chi-square value of 155.847 and p-value of 0.000 indicate that the relationship between gender and participation in artisanal fish processing is significant.

Table 5: Cross-tabulation between gender and participation in artisanal fish processing

	Participation in fish processing		
Gender	**No**	**Yes**	**Total**
Male	103 (97.2%)	3 (2.8%)	106 (100.0%)
Female	25 (17.6%)	117 (82.4%)	142 (100.0%)
Total	128 (51.6%)	120 (48.4%)	248 (100.0%)
χ^2: 153.847;	df: 1;	P-value: 0.000	

DISCUSSION OF FINDINGS

This study highlighted several important issues concerning participation in artisanal fishing and fish processing activities in Badagry, Lagos State. The study pointed out that more than half, 54.8% of the respondents have never participated in artisanal fishing and fish processing activities. Furthermore, result from the study also reveals that gender mediates on participation in artisanal fishing and fish processing activities in Badagry. This implies that those who are male tend to participate in artisanal fishing activities more than female in Badagry.An explanation for this result is rooted in the socially constructed gender division of labour, which prescribes fishing activities as the responsibility of men. Likewise, gender mediates on participation in artisanal fish processing activities in Badagry. The finding reveals that females participate more in artisanal fish processing than males. This is also rooted in the gender division of labour which prescribes post-harvest or fish processing activities such as smoking, drying, and marketing, as the job of women.However, women's involvement in fish processing is limited to semi-processing activities, as full processing requires huge capital investment which women can hardly afford due to their high poverty level.

CONCLUSION AND RECOMMENDATIONS

The study has shown that gender mediates on the participation in artisanal fishing and fish processing activities in Badagry, Lagos State. Men are the ones mostly engaged in artisanal fishing, while women are mostly involved in fish processing activities such as smoking and sun-drying of fish product. This result shows that participation in artisanal fishing and fish processing activities in Badagry is characterized by gender imbalance. Men are involved in the core fishing activities, while women are involved in the peripheral fish processing activities.

The following are recommended based on the findings;

- Women should be encouraged to participate in artisanal fishing through sensitization and training by relevant government agencies, fishermen and women processors should also be assisted with modern fish processing tools.
- Men and women involved in artisanal fishing and processing activities in Badagry should be organizedinto cooperatives to access credit and other governmental programmes, like mini cold rooms with good storage facilities, modernized smoking kiln to reduce spoilage and enhance quality of their products.

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DETERMINANTS OF CHILD LABOUR AMONG RURAL FARMING HOUSEHOLDS IN KWARA STATE, NIGERIA

[1]Oladimeji, Y. U. and [2]Edun, A. J.
[1]Department of Agricultural Economics, Ahmadu Bello University, Zaria, Nigeria
[2]Department of Political Science, University of Ilorin, Ilorin, Nigeria

ABSTRACT
The study assessed the determinants of child labour among rural farming households in Kwara state, Nigeria. Primary data were obtained through multistage random sampling of 378 rural farming household heads from six (6) Local Government Areas (LGAs) in Kwara State, Nigeria through field surveys. The main tools of analysis were descriptive, Foster-Greer-Thorbecke (FGT) index and inferential statistics. Of the sampled 378 household heads, 52.8% live on less than US$1 a day which portends extreme poverty and about 73.1% on less than US $1.5 a day. The proceeds from child labour activities are used by household for consumption (53.7%), purchase of farm inputs (21.8%), purchase of livestock (11.7%), repair and construction of residential building (6.9%), and others (4.9%). The pooled results indicated that the determinants of child labour among households include: age ($p<0.01$), marital status ($p<0.05$), household size ($p<0.01$), cultural factor ($p<0.10$) and occupation ($p<0.10$). Child labour legislation must spell out the chores children could render to the family with special attention to age groups.
Keywords: Child labour, education, interventions, poverty

INTRODUCTION
Child labour refers to children working in contravention of ILO standards contained in Conventions 138 and 182. This means all children below 12 years of age working in any economic activities, those aged between 12 and 14 engaged in more than light work, and all children engaged in the worst forms of child labour. It remains endemic in many of the developing countries which represents an obstacle to Sustainable Development Goals (SDGs). These goals include the eradication of poverty, decent quality learning for all children up to secondary school level, reduced inequality and the creation of decent jobs (United Nations General Assembly, 2015). According to Quattri and Watkins, (2016) child labour keeps children out of school, hinders effective learning and denies children an opportunity to acquire the knowledge and skills they need to escape poverty, and that their countries need to drive inclusive growth and human development. The symptoms of child labour include loss of freedom, a violation of rights, a source of vulnerability and a constraint on learning. In addition to exposure to risk of injury, these children are denied a chance to acquire what Sen (1994) describes as 'human capabilities' - the knowledge, skills and competencies needed to expand choice and extend opportunity.

Nigeria is experiencing rapid population and many poor rural families struggle for a better life in rural and urban areas. Nigerian population has increased from about 60 million in 1963 to 88.5 million in 1991 (National Population Census, 1963 and 1991) and to a recent estimated figure of over 184 million in 2016 (NPC, 2016; Oladimeji, 2017). This pushes rural households to engage their wards to work in order to supplement family incomes (Oladimeji *et al.*, 2015).

The study therefore, intends to examine factors that determine child labour among rural households in Kwara State Nigeria and to what extent has child labour (livelihood strategies) improved the well-being of their households in Kwara State, Nigeria.

METHODOLGY
Study area and data collection - Kwara State is situated in North Central Nigeria with Ilorin as capital. The study is based on primary sources of the data gathered by field surveys in 2017 off farming season through questionnaire and interview. Three categories of child labour were captured based on the main principles of the ILO convention concerning the minimum age of admission to employment and work are as follows: (i) hazardous work: any work which is likely to jeopardize children's physical, mental or moral health, safety or morals of age of 16-18. (ii) basic minimum age for work should between 18 years and (iii) for light work (13-15 years).

Sampling procedure and sampling technique - The analysis in this paper was based on a multi stage random household survey. Firstly six (6) LGAs (Asa, Baruten, Edu, Ifelodun, Moro and Patigi) in 2017 being an area with households that have myriads opportunity to child labour. Secondly, 12 villages were randomly selected from a total 51 villages that have proximity with quarrying and mining site. Thereafter a total of 378 household heads were randomly selected from 2,456 listed sample frame using the card method.

Analytical techniques - Descriptive statistics, Foster Greer and Thorbecke index and Tobit model were employed. Tobit model was used to determine the factors that influenced child labour among households thus:

$$Y_i^* = \sum X_i\beta + \mu_i \qquad (2)$$

Where: Y_i = the dependent variable. Y_i^* is the vector of variables indicating the extent of livelihood strategies of household or otherwise in child labour activities. It is the rank level of child labour participation (livelihood strategies) by the households. β is a vector of unknown co-efficient and μi is an independently distributed error term. Xi is a vector of explanatory variables.

RESULT AND DISCUSSION

Descriptive statistics of socio-economic factors in determinants of child labour - The results in Table 1 revealed the presence of female-headed households (10.8%) which could be attributed to a number of reasons such as death of male heads, migration and divorce. The result of household size showed that the average numbers of persons per household were approximately 10 which could affects the extent of involvement in child labour and often affects poverty status and household food security.

Table 1: Dominance indicator of socio-economic characteristics of rural household heads

Variables	Modal range	F	%	Mean	Min.	Max.	Stdev
Age (years)	40 - 49	142	37.57	**45.6**	**20**	**73**	**11.9**
Sex	Male	339	89.2	-			
	Female	41	10.8				
Marital status	Married	326	86.2	-			
Household size	11- 15	156	41.3	9.8	20	75	3.8
Level of education	Primary	143	37.8	**4.9**	**0**	**15**	**10.5**
Farm size (ha) *	1.1- 2.0	136	39.7	**1.8**	**0.6**	**11**	**1.8**

* indicates that the sample size is not equal to 378
Field survey, 2016/2017

The result of the analysis of the years of schooling of respondent shows that the educational status is largely skewed towards the informal education with mean year of schooling of 4.9 years below 2015 UNDP mean education index of 5 years for Nigeria.

Figure 1 depicts the reasons for households' involvement in child labour. The result revealed that poverty status (34.2 percent), economic hardship (28.3 percent) and self-actualization (17.2 percent) constitute the major reasons (80 percent) for involvement in child labour. The child labour in the study area link to the idea about poverty (34.1 percent) which implies that households in poor conditions wish to get out of poverty and therefore find it necessary to earn additional income. According to the poverty theory it is most common for children to work because families need to increase their household income. The study therefore found this theory to correlate partly to the child labour in Kwara state case in line with studies by Johansson, 2009, Oladimeji *et al.*, 2015, Quattri and and Watkins, 2016). Result also revealed that about 28.3 percent of respondents' household engaged in child labour due to economic hardship. Contrary to the findings of Johansson (2009) the result corroborates the theory about child labours as a contribution to the family household income in the study area. This is in line with studies of Oladimeji *et al.* (2015) and Quattri and and Watkins, 2016.

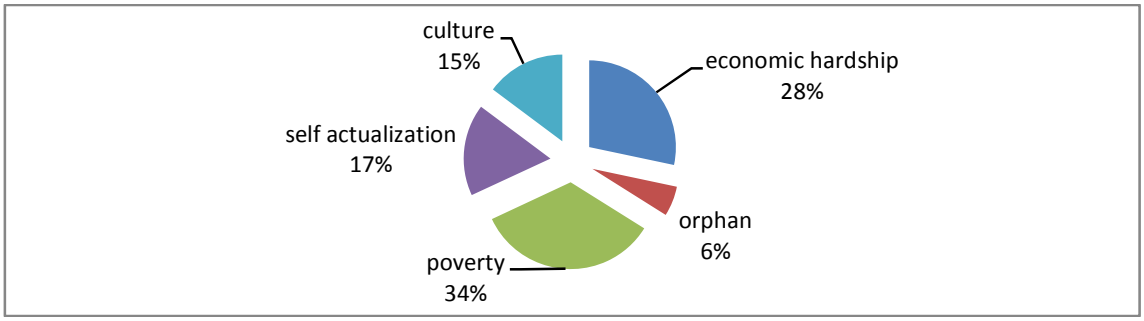

Fig 1: Reasons for households' involvement in child labour

Results in figure 2 showed that household members of the sampled rural households were mainly engaged as family labour (46.1 percent), domestic servants (10 percent) and hired farm labour (8.1 percent). The family-contribution theory is therefore solely found to be partly correlating to the child labour in the study area. The implication of these findings were also similar to what Reardon *et al.*, 2001) and Oladimeji *et al.* (2015) pointed out that the rural farming

households have diversified array of activities and enterprise oriented economy and has developed capacity to cope with increasing vulnerability associated with farming.

Poverty profile of rural household involved in child labour based on income - Table 2 depicts poverty profile of rural household involved in child labour based on income. It is pertinent to note that the t-value indicates there is no statistically significant difference between income of respondents with and without child labour. The result is comparable with studies of Oladimeji *et al.* (2015) on determinants of participation of rural farm households in non-farm activities in Kwara state, Nigeria.

Determinants of factors affecting child labour among rural farming households - The result of Tobit model in Table 3 revealed that the determinants of child labour was influenced by age, marital status, household size, household income and number of male children involved in child labour. The negative coefficients suggest an inverse relationship of these variables with child labour. These findings are comparable with studies of Johansson, (2009) and Oladimeji *et al.* (2015).

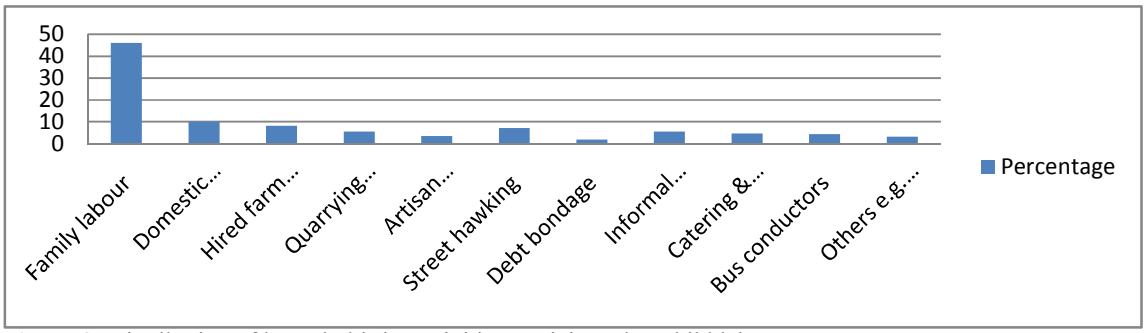

Figure 2: Distribution of households by activities participated as child labour

Table 2: Per capita household income (Naira) per month through child labour

Modal range	F	%	P_0	P_1	P_2	Share of poverty	
Without extra income (Naira)							
10,000 - 50,000	172	45.5	0.85	0.20	0.03	154	65.5
Mean	59,078.5						
2/3 (poverty line)	N39,385.7	59.8					
With extra income (Naira)							
10,000 - 50,000	145	38.4	0.74	0.18	0.01	139	69.5
Mean	N71,006.8						
2/3 (poverty line)	47,337.9	46.0					
t-value with and without	1.57^{ns}						

Po is the headcount index, P_1 is the poverty gap index, P_2 is the squared poverty gap

Table 3: Tobit estimates of determinants of child labour among rural farming households

Variables	β	SE	t-value	P > (t)
Constant	-0.119**	-0.057	2.09	
Age (years)	0.302***	0.1	3.01	0.000
Marital status	0.087**	0.042	2.06	0.016
Household size	-0.219***	0.041	5.31	0.000
Cultural factor (dummy)	0.007*	0.004	1.75	0.070
Occupation (dummy)	0.361*	0.211	1.71	0.081
Household income (Naira)	-0.004**	0.002	2.14	0.012
Number of male children	0.402***	0.146	2.75	0.000
Log likelihood ratio	-97.71			
Chi square ($\chi 2$)	12.38			
Probability > Chi^2	0.000			

Note: t-value; ***; **; * indicates 1%; 5% and 10% level of significant

CONCLUSIONS AND POLICY IMPLICATIONS

The study revealed that socio-economic characteristics were the major determinants of child labour among rural farming households. Child labour legislation must spell out the chores children could rendered to the family with special attention to age groups. Governments need to ensure that all children have access to basic education as a front-line response to child labour to achieve SDGs Goal 1: end extreme poverty including hunger, Goal 3: ensure effective learning for all children and Goal 4: achieve gender equality, social inclusion, and human rights.

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THE SOCIAL CONFLICT THEORY: A DISCUSSION ON ITS RELEVANCE AND IMPORTANCE TO NIGERIAN SITUATION

Salihu, M. A.
Department of Agricultural Extension and Rural Sociology, Faculty of Agriculture, University of Abuja, Abuja-FCT, Nigeria

ABSTRACT
A prominent sociological theory that is often contrasted with structural-functionalism is Conflict Theory. Karl Marx is considered the father of conflict theory. Conflict theory argues that society is not best understood as a complex system striving for equilibrium but rather as a competition. Society is made up of individuals competing for limited resources.Some people and organizations have more resources and use those resources to maintain their positions of power in society. Conflict theory is suited for explaining social change. Social change involves social conflict. Understanding social conflict theory can assist groups to function in finding common grounds. Wherever there are changes there is bound to be conflict. Conflict is human nature; e.g. farmer'sand herders,labour union and government, executive and legislators etc. We have to continue to resolve them by being tolerant to each other's religion, fight corruption, extremism, injustice system, poverty, inequality, ethnic division, regional difference, class difference. As panacea;we have to generate new employment, more equitable access to land, equitable distribution of income, wide spread improvement in health, institutions and housing, Others include; greatly broaden opportunities for all individuals to realise their full potentials through education and strong voice for all rural people in shaping decisions and actions that affect their lives,above all, we have to be our brother's keeper and provide rural social intervention to those affected by conflict in our country.
Keyword: Sociology, sociological theory, Karl Max, Social change, Nigeria.

INTRODUCTION

A theory is a proposed relationship between two or more concepts. In sociology, theories are statements of reason why particular facts about the social world are related. Sociologists develop theories to explain social phenomena. A theory is a proposed relationship between two or more concepts. In other words, a theory is explanation for why or how a phenomenon occurs. (https://en.wikibooks.org/wiki/Introduction_to_Sociology/Sociological_Theory).

There are many theories in sociology. However, there are several broad theoretical perspectives that are prominent in the field. These theories are prominent because they are quite good at explaining social life. Conflict theories tend to agree that the existence of group with different interest does not mean that they will be in conflict all the time. They may be period of truce (Haralambos and Holborn, 2017).

Theoretical analysis

The Social Conflict Theory is one of the theories in sociology. The conflict theory was originated by Karl Marx in the mid – 1800's. The theory states that human behaviour results in conflicts between competing groups. According to Karl Marx, the two competing social groups comprised of the ruling class, on one hand, and the subject class on the other, have unequal access to power and resources. The ruling class enjoys being the owner, having control over the forces of production thereby exploiting the subject class which results in a conflict of interest between both parties.

The primary assumptions of modern conflict theory are:

- Competition over scarce resources is at the heart of all social relationships. Competition rather than consensus is characteristic of human relationships.
- Inequalities in power and reward are built into all social structures. Individuals and groups that benefit from any particular structure strive to see it maintained e.g. politicians and their associates.
- Change occurs as a result of conflict between competing interests rather than through adaptation. Change is often abrupt and revolutionary rather than evolutionary.(https://en.wikibooks.org/wiki/Introduction_to_Sociology/Sociological_Theory).

Understanding social conflict theory can assist groups to function in finding common grounds, developing alliances, defining core values, identifying and indeed eliminating differences in viewpoints where necessary, setting group boundaries, and strategizing to achieve the expected change.

Discussion on its relevance and importance to Nigerian situation

In Nigeria, conflicts are caused by competition and struggle for resources. The resources are shrinking and the population is increasing. There are various causes of conflict in Nigeria among others are:

1. **Religious Conflict-** Firstly, the main reason for this is intolerance between religious groups. The first major conflict started on the

1st of May 1953. It was called the Kano Riot. This conflict led to a series of violent actions between Muslims and non-Muslims. The Muslims waged a violent war against representatives of other religions during the proposal of Sharia law in 1999. Christians also created problems with violent attacks in Jos in the 1990s. The most obvious example of the radical Islam is represented by the Boko Harm group on the North-East of Nigeria(https://www.naija.ng/1122557-causes-conflict-nigeria-ways-resolving-them.html#1122557).

2. **Insurgency (Boko Haram)** -The Boko Haram insurgency started in 2009, they pretended to be peaceful followers of Islam. All this changed in 2009, the group was arming itself. This sparked deadly clashes between the Nigeria security forces and members of the Boko Haram resulted to the death of their leader – Mohammed Yusuf. The conflict has claimed over 30,000 lives and properties worth 45 billion destroyed. (https://www.naija.ng/1122557-causes-conflict-nigeria-ways-resolving-them.html#1122557).
3. **Political conflict**-The most obvious ones are;
   i. ***Corruption***-This is because of the failures of our political system .Nigeria is on the list of top most corrupt countries in the world. Public fund are diverted for private use. The rich are become richer while the poor become poorer. Our institutions, both public and private, are hardly functional. We have lost value dignity and respect. The get rich quick syndrome has become our ways of life.
   ii. ***Failure of Justice System***-People at the top of the political system of Nigeria can easily destroy the ones who are at the bottom. We have no independent justice system in the country – the corrupt leaders always have their ways. They are untouchable power! The poor has no guarantee of justice.
   iii. ***Poverty***-This is referred to as regulated poverty. When people struggle and do not get enough money to eat and exist and have no idea how to get the next meal and hopelessness, they cannot make sound political choices. Our political leaders take advantage of this desperation. People are given money as inducement during election as indicated in the Ekitiand Osunand rivers election in 2008.
4. **Ethnic conflicts**- This the intolerance and inadequate relationship between the ethnic group within the country. For exampleHausa Igbo and Yoruba etc have attempted to engage in supremacy in governance of Nigeria.
5. **Inequality in Nigeria**. It is hard not to rebel if you see how rich becomes richer and poor becomes poorer. Nigerians witness this inadequacy from generation to generation. With no social flexibility aggrieved, Nigerians have no option than to be rebellious.

Other sources of conflicts in the Nigerian polity:

Land-space and the resources available, disputed jurisdiction of certain traditional rulers and chiefs, creation of local government councils and the location of their headquarters, ethnic and individual/sectional competition over access to scarce political and economic resources, micro- and macro-social structures with varietyof conflicting cultural interests, values and preferences, population growth and expansionist tendencies to sustain ethnic-bound occupations, perception of disregard for cultural symbols and the pollution of cultural practices and politicization of religious pluralism and fanaticism of religious practitioners among others.

Possible solutions

1. We should learn how to acceptance each other irrespective of your religion ethnicity, region, state, sex, rich or poor etc. There should be social justice, equity, fairness other. We should fight corruption head on.
2. Our national challenge is on the negative social forces, social formations and social dynamics that tend towards crises, conflicts and violence. The God- given social facts are good in themselves, and therefore, they could not generate any crises or conflict. It is the wrong use of these blessings of God and creation by human beings and social structures and institutions that generate crises, conflict and violence.
3. We have to tolerate our differences in either religion, ethnic, cultural, regional, believe, weakness and strength etc.
4. Integrated rural development strategy is the solution where a balanced social and economic with emphasis on the equitable distribution as well as the creation of benefit.
5. Generation of new employment, more equitable access to land, equitable distribution of income, wide spread improvement in health, institutions and housing, greatly broaden opportunities for all individuals to realise their full potentials through education and strong voice for all rural people in shaping decisions and actions that affect their lives

CONCLUSION

Conflict is human naturewhat matters is how to manage the conflict. Religious intolerance, corruption, extremism injustice system, poverty, inequality, competition over access to scarce political and economic resources; conflicting cultural interests, values and preferences; population growth, ethnic diversity, regional difference, class difference among others are the causes of conflict in our nation Nigeria. These should be contained.

We have to continue to resolve these conflicts. We have to tolerate, accept each other and be our brother's keeper to avoid conflict by providing rural social intervention to those affected.

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EFFECT OF E-WALLET PROGRAMME ON RICE PRODUCTION AMONG SMALL SCALE FARMERS IN NIGER STATE, NIGERIA

[1]Abubakar, M. B., [1]Olaleye, R. S. [2]Adeniji, O. B. and [3]Adeoye, A. S.
[1]Department of Agricultural Economicsand Extension TechnologySchoolof Agriculture Agricultural Technology, Minna, Nigeria
[2]Department of Agricultural Economics and Extension. Federal University of Oye-Ekiti, Nigeria
[3]Department of Agricultural Extension and Rural Development, Federal University of Agriculture, Abeokuta, Nigeria

ABSTRACT
E-wallet programme is aimed at subsidizing the cost of major agricultural inputs like fertilizer and seeds to the farmers. The study examined the effect of e-wallet programmme on rice production in Niger State, Nigeria.Multi-stage sampling technique was used in selection of rice farmers. A total of two hundred and seven (207) forms the sample size. Data collected were subjected to both descriptive and inferential statistical analyses. The result reveals that most (91.8%) of the respondents were male with mean age of 38 years, 93.2% of them were married, 87.4% of them had formal education.Result revealed that most (80.7%) of themsources information on e-wallet programmefrom radio station. Findingsindicated that respondents had positive perceptionon the e-wallet programme. The major constraints faced by rice farmers are difficult or no access to extension agents, element of corrupt tendencies at redemption centres. The study concludes that the rice farmers have great discernment towards e-wallet programme toward ensure maximum production and eradicate poverty in the study area. It was recommended that extension services should be improved upon at local level or brought closer to the farmers.
Keywords: Assessment, Effect, Perception, Information, Rice production

INTRODUCTION
E-wallet programme is aimed at subsidizing the cost of major agricultural inputs like fertilizer and seeds. The programme started in May 2012, and has so far registered about 14 million farmers throughout Nigeria for direct redemption of farm inputs through the e-wallet system (communicating with rural farmers via e-wallet precisely SMS). This shows that e-wallet system/new media has a significant role to play in evolving such a paradigm (Meera, Jhamtani and Rao, 2004). The National Food Security Programme, according to the Federal Ministry of Agriculture and Rural Development, is to ensure sustainable access, availability and affordability of quality food for all Nigerians and for the country to become significance provider of food to the global community (Amobi 2010). The Federal Government of Nigeria is implementing an Agricultural Transformation Agenda (ATA) through a set of complementary programme intervention which aim to solve, in a holistic and integrated manner, the constraints and weaknesses that have held down agricultural development in the country for a long time. Among the ATA components, the e-wallet programme provides a unique connecting link as it targets the farmers directly with critically needed modern farm inputson real-time basis(Okafor and Malizu, 2013). This guarantees registered farmers e-wallet voucher with which they can redeem fertilizer, seeds and other agricultural inputs from agro-dealers at half the cost, the other half being borne by the Federal Government and State Government in equal proportions (Okafor and Malizu, 2013).The applications of ICT in the agricultural production are becoming increasingly important. Electronic wallet programme introduced in 2011 seeks to tackle the inefficiencies in the distribution of key inputs, making them readily available and affordable. In this regard, agro-dealers are assigned a critical role, especially in implementing the e-wallet project, which took off in 2012. Under this programme, farmers are to benefit directly from an innovative electronic wallet programme of delivering subsidized inputs. The specific objectives are to: (i) identify the sources of information available to farmers about e-wallet programme. (ii) determine the perception of rice farmers on the usefulness of e-wallet in the study area. (iii) identify the constraints of using e-wallet in rice production.

Hypothesis of the study states that: There is no significant relationship between socio-economic characteristics of rice farmers and their rice production in the study area.

METHODOLOGY
The study was conducted in Gbako, Gurara and Wushishi Local Government Area of Niger State, Nigeria. It is located in the north-central geopolitical zone of Nigeria and lies within latitudes 8^0 21` N to $11^0$30`N and longitudes 3^0 30`E to $7^0$ 20`E with about 86,000sq.km, or about 8.6million hectares, representing 9.3% of the total land area of the country. Niger State is predominantly agricultural, with an estimated 80% of its population living in rural areas and earning their livelihood directly or indirectly from agriculture. A multi-stage sampling technique was

used in selecting the sample. The first stage was the purposive selection of one extension block known for rice production in each of the agricultural zones. The second stage involved random sampling of five cells from each selected extension blocks. The third stage was also the purposive sampling of rice farmers in accordance with Yamane's simplified formula as cited in Singh and Masuku (2013) to calculate sample size (n) 207 from N population (sample frame) of 430 in the study area. The formula is given as:

$$n = \frac{N}{1 + N\,(e)^2}$$

Where n is the sample size, N is the population size, 1 is the constant, and e is the level of precision i.e sampling error (0.05).The data collection was analyzed using descriptive and inferential statistics.

RESULTS AND DISCUSSION

Socioeconomic characteristics

Result in Table 1 revealed that most (91.8%) of the respondents were male while 8.2% were female.This findings agrees with FAO (2001) that men are more open and readily to adopt new technology than female counterparts.Age categories of rice farmers revealed that most (87 4%) fall between the age range of 21- 50 years, with the mean age of respondents was 38 years.Most (93.2%)of the respondents were married. Also result revealed that most (87.4%) of respondents formal eductation ranging from primary, secondary, tertiary and Arabic education respectively.The mean years of farming experience was 21years.Above half (51.2%) of the respondents reveals that respondents had a farm size ranges from 1 – 4 hectares of land for their rice production in the study area.

Table 1b: Distribution of respondents according to their socio-economic characteristic (n=207)

Variables	Frequency	Percentages (%)	Mean
Sex			
Male	190	91.8	
Female	17	8.2	
Age (years)			
Less than 21	10	4.8	
21 – 30	51	24.6	
31 – 40	70	33.8	38.1years
41 – 50	60	29.0	
Above 50	16	7.7	
Marital status			
Single	14	6.8	
Married	193	93.2	
Educational level			
No formal education	26	12.6	
Primary education	22	10.6	
Secondary education	93	44.9	
Tertiary education	31	15.0	
Arabic education	35	16.9	
Years of farming experience			
1 -10	45	21.7	
11 – 20	93	44.7	
21 – 30	35	16.9	21.4 years
31 – 40	25	12.1	
>40	9	4.3	
Farm size (ha)			
0.01-1.00	100	48.3	
1.01-2.00	84	40.6	1.61
2.01-3.00	15	7.2	
3.01-4.00	7	3.4	
>4.00	1	0.5	

Sources: Field survey, 2015

Source(s) of Information

Result in Table 2 showed that most (80.7%) of the respondents source information about e-wallet from radio programme (mass media method), and ranked 1st, above half (58.5%) of the respondents source information on e-wallet

programmes from village head (individual method) and ranked 2nd and almost half (49.3%)of the respondents source of information about e-wallet from co-operative (group method) and ranked 3rd among the extension method of disseminating information to farmers.

Table 2: Distribution of respondents according to sources of information on e-wallet (n = 207)

Variables	Frequency	Percentage	Ranking
Individual method			
Village head	121	58.5	2nd
Friend neighbour	50	24.1	7th
Relatives	56	27.1	6th
Extension agents	79	38.2	4th
Group method			
Workshop	29	14	10th
Seminar	33	15.9	9th
Cooperative	102	49.3	3rd
Mass media			
Radio	167	80.7	1st
Television	75	36.2	5th
Telephone	40	19.3	8th

*Multiple responses
Sources: Field survey, 2015

Perception of rural farmers on usefullness of e-wallet programme

The result in Table 3 revealed the perception on the usefulness of e-wallet programme on rice production in Niger State, the findings indicated that all the majority (95.2%) of the respondents had favourable perceptionwhile few (4.8%) of the respondents had unfavourable perception towards the usefulness of e-wallet programme in the study area.

Table 3: Dstribution of respondents by their perception on usefullness of e-wallet programme

Perception	Frequency	Percentage (%)	Decision
64 – 105	197	95.2	Favourable
21 – 63	10	4,8	Unfavourable

Constraints of using e-wallet in rice production

Table 4 shows constraints faced by rice farmers in the usage of e-wallet in their rice production. The findings showed the mean value of major constraints militating against e-wallet programme in the study area which includes difficulties/no access to extension services ($\bar{x}$ = 4.70), element of corrupt tendencies at redemption centers ($\bar{x}$ = 4.68), Untimelydelivery of inputs during cropping season ($\bar{x}$ = 4.62), complicated input redemption process ($\bar{x}$ = 3.89) and verydistant redemption centers ($\bar{x}$ = 3.04) were the major constraints facing e-wallet in rice production.

Table 4: Constraints of using e-wallet in rice production

Constraints	Mean	Ranked
Complicated inputredemptionprocess	3.89	4th
Dysfunctioal/ineffective networkconnectivity	2.14	10th
Ineffectveness of coordiation mechanism	2.44	9th
Ineffective/untimelydelivery of services	2.62	8th
Unsatisfactory numberof bags of fertilizerper head	2.96	7th
Very distant redemptioncenters	3.04	5th
Problem of transportationof inputs acquired	2.98	6th
Untimely delivery of inputs during croppingseason	4.62	3rd
Difficulties/no access toextension services	4.70	1st
Elements of corrupttendencies at redemptioncenters	4.68	2nd

Assessing the effect of socio-economic characteristics on rice production

The ordinary least square (OLS) was used and the result obtained are presented in Table 5. The coefficient of determination (R^2) showed that (55.38%) variation of the effect on rice production was explained by the independents variables included in the models. While the remaining (44.62%) was as a result of non-inclusion of some explanatory variables and error in the

estimation.Result in Table5 showed that out of ten independent variables, four were found to have significant influence in the effect on rice production. These variables: household size (3.615886) which was significant at 1% level of probability, education (.6614678) which was significant at 5% level of probability, farm size (13.77984) which was significant at 1% level of probability and access to inputs (32.48219) which was significant at 10% level of probability were found to have significant influence on rice production in the area. The positive coefficient of the household implies that farming household had positive influence on rice production among the respondents. The positive coefficent of education implies that the higher the education the better farmers' output.

Table 5: Effects of socio-economic characteristics on rice production(n=207)

Variables	Coefficients	Standard error	t-value	p-value
Sex	-5.24788	4.019879	-1.31	0.193
Age	-0.15979	0.246716	-0.65	0.518
Household size	3.615886	0.533396	6.78	0.000***
Education	0.661468	0.303642	2.18	0.031**
Farming exp	0.215027	0.188018	1.14	0.254
Farm size	13.77984	2.569847	5.36	0.000***
Extension	2.392486	3.539883	0.68	0.500
Input access	32.48216	17.9743	1.81	0.072*
Constant	-33.3215	18.75277	-1.78	0.077

Source: Field survey, 2015R-squared=0.5538, Adj R-squared =0.5310
F-Ratio = 24.32****** = Significant at 1%, 5% and 10% level of probability

CONCLUSIONS AND RECOMMENDATIONS

Based on the findings, it can be concluded that rice production in Niger State were small-scale farmers enterprise and it was dominated by male. The major source of information on e-wallet was through radio transmission. Also, majority of the respondents had favourable perceptionon the usefulness of e-wallet in the study area. Furthermore, through the use of e-wallet on rice production farming households were found to be positively influenced in the study area. Moreover, difficulties or lack of access to extension services, corruption among others were the constraints faced by farmers in the usage of e-wallet in the study area. Based on the findings of this report, it is recommended that: extension services should be improved at local level and brought closer to the farmers. Formation of association will break the tendency of corrupt practices. Provision of delivery point during cropping or planting season andadequate provision of more agricultural inputs to the farmers.

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POSTHARVEST INFORMATION NEED AMONGST PLANTAIN MARKETERS IN SOUTHWESTERN NIGERIA

Olajide B. R. and Olonibua, O. O.
Department of Agricultural Extension and Rural Development, Faculty of Agriculture, University of Ibadan, Ibadan, Nigeria

ABSTRACT
Information need of marketers involved in the post-harvest handling of plantain in southwestern Nigeria was investigated in this study. Data were collected from 120 randomly selected plantain marketers and data were analyzed using frequency counts, percentage and mean. Findings reveal that most of the marketers were female (68.0%), married (64.0%) and 39.2% had secondary education. Friends (1.20) was the major source of information for the marketers, while inadequate extension contact (47.5%) was the major constraints faced in accessing postharvest handling information. Marketers were engaged in sorting (58.3%) and transportation (50.0%) as postharvest handling practices. The study concludes that information on transportation, marketing and processing of plantain represents respondents' main information need.
Keywords: Information need, Postharvest practices, Plantain marketers

INTRODUCTION

Increased agricultural production without improved postharvest handling and processing techniques will fail to yield commensurate improvement in food security as high postharvest food losses continues to plague the food systems in developing countries. Postharvest loses of food items in Nigeria accounts for as much as 20 – 30% of total grain production, 30 – 50% of root and tuber and usually highpercentage of fruits and vegetables are lost with a substantial amount recorded during storage. Plantain (*Musa spp. L.*), is a fruit crop that provides more than 25% of the carbohydrates and 10% of the daily calorie intake for more than 70 million people in the continent (IITA, 2000). Plantain is a food and cash crop with the potential to contribute to strengthening national food security and decreasing rural poverty (Adejoro et al, 2010). Its export potential, processing utilization and health benefits of the produce makes it a crop of national importance. However, seasonal glut during the peak periods of harvest which occurs from September to February due short life and poor post-harvest systems cause quality deterioration (Kwami and Nitty, 2014) and poor handling practices makes the crop vulnerable to high postharvest losses to as high as between 30%-40%(Adeoyeand Oni, 2013).

According to Adewumi*et al,* (2009), the bulk of the postharvest losses of plantain are incurred by the marketers (wholesalers and retailers) that are involved in the transportation, marketing and sales of the produce. On examining the effect of knowledge, attitude and constraints on postharvest losses among plantain farmers and wholesalers in southwestern Nigeria, Ladapo and Oladele (2011), identified that there is the need for an improved knowledge of postharvest practices to addresses postharvest loss along the plantain value chain. However,improving theknowledge on postharvest handling activities and practice demands addressing marketers' information needs, as information is not only needed on best practices and technologies for crop production, but also on information about postharvest activities including processing, marketing, storage, and handling (Rugumamu, 2010).Achugbue and Anie (2011) also affirm that among the information needs of farmers, postharvest information is the most sought after.This is necessary to minimize economic losses to farmers and marketers in the absence of proper storage and adequate market access. Most studies on plantain inNigeria have been on production, marketing processing and postharvest losses, economic analysis of postharvest losses. Given the need to address postharvest losses of plantain produce, it is expedient to identify the information need on postharvest handling practices, hencethe postharvest handling information needs amongst plantain marketers in southwest Nigeria was investigated in this study. Specifically, the study described respondents' socio-economic characteristics, sources of information, post-harvest handlings practices, information need and constraints to accessing information on post-harvest handling practices.

METHODOLOGY

Study area - This study was carried out in southwestern Nigeria which has six states namely Lagos, Ogun, Oyo Osun, Ondo and Ekiti states. It is located between latitudes 5 and 9 North and longitudes 2 and 8 East. It is bounded by the Atlantic Ocean in the South, Kwara and Kogi States in the north, Eastern Nigeria in the East and Republic of Benin in the West.

Sampling procedure and sample size - Two states (Lagos state and Osun state), one local government areas in each state, and one market were selected. Furthermore, using snow balling, a list of marketers (300) was generated and 40% were randomly selected to give a total of 120 respondents for the study.Data were analyzed using

simple frequency counts, percentages, mean and Pearson moment product correlation.

RESULTS AND DISCUSSION

Socioeconomic characteristics

Table 1 shows that most of the respondents were female (64.1%), with the mean age of 37 years. This confirms Ajayi and Mbah(2000), Adewumi et al, (2009) findings that plantain production is dominated by men, while women were young, active and were engaged in plantain marketing. Most of the respondents were married (84.2%) and had household size of between 1 and5 persons. Also, most of the respondents were retailers (55.5%), more than wholesalers (37.0%) and they mostly had secondary school education.

Table 1: Distribution of respondents based on their socioeconomic characteristics

Variables	Frequency	Percentage (%)
Sex		
Male	32	43.3
Female	68	56.7
Age		
Below 30 years	68	64.1
31-50 years	32	35.9
Marital status		
Single	8	10.3
Married	64	82.1
Divorced	5	6.4
Widow	1	1.3
Household size		
0-5	82	68.3
6-11	38	31.7
Marketing occupation		
Wholesaler	35	55.5
Retailer	65	37.0
Wholesaler and retailer	10	7.5

Source: Field Survey 2015

Sources of information on postharvest handling practices

Table 2 shows that friends ranked first as major source of information for the marketers while radio and Cooperatives ranked 2nd and 3rd, respectively. Though, it is worrisome that extension agent ranked 4th and least in the order of importance as source of information to marketers, the picture presented by this result represents the truth situation of extension services in Nigeria, which apart from being in short supply (Olajide, 2011), also always concentrate efforts in production component of most crops in Nigeria, but neglect stakeholders in the value chain addition.

Table 2: Distribution of respondents' source of information

Variables	Mean	Rank
Friends	1.20*	1
Radio	0.71*	2
Cooperatives	0.53	3
Extension agent	0.22	4

Source: Field survey 2015

Postharvest handlings practices engage in by the respondents

Information in Table 3 shows that the postharvest practice engaged in by marketers were marketing (63.3%), sorting (58.3%) and transportation, while processing was least practiced (27.5%). This corroborates the findings of Ladapo and Oladele (2011) that all the farmers and wholesalers engaged in sorting, marketing and transportation as a postharvest activity.

Table 3: Distribution of respondents based on their postharvest handling practices

Variable	Mean	Rank
Marketing	1.63	1
Sorting	1.42	2

Packaging	0.94	3
Transportation	1.21	3
Ripening	0.81	4
Cleaning	0.86	5

Source: Field survey 2015

Information need on postharvest handling practices of plantain

Table 4 shows that information need on marketing ranked highest implying that plantain marketers experience inadequate marketing systems. This corroborates Kader (2005), who posited that inadequate marketing systems in developing countries is accentuated by lack of marketing information; Information need on credit and supply inputs ranked second on the information need of farmers.

Table 4: Distribution of respondents based on their information needs on postharvest practices

Postharvest practices	Mean	Rank
Marketing	2.57	1
Credits and input supplies	2.53	2
Processing	2.22	3
Packaging	1.70	4
Transportation	1.61	5

Source: Field survey, 2015

Constraints to accessing information on postharvest handling practices

Table 5 shows that the major constraints to accessing information were inadequate extension contact (47.5%) and inaccessibility (42.5%). The constraint of inadequate extension contact can be attributed to the few number of extension workers while the constraint of inaccessibility to information may be due to lack of electricity/power interruption, and agricultural information being broadcast at odd hours when marketers who need the information are not available (Aina, 2007).

Table 5: Distribution of respondents based on constraints to accessing information on postharvest handling of plantain

Variables	Mean	Rank
Information inaccessibility	2.4	1
Inadequate extension contact	2.03	2
Lack of feed back	0.83	3
Irrelevant information	0.80	4

CONCLUSIONS ANDRECOMMENDATIONS

This study concludes that informal source (friends) serves as the main source of information to plantain marketers, processing were rarely done by marketers. Poor extension contact remains an albatross to their access to information on postharvest handling. It is therefore recommended that deliberate attempts should be made by extension organizations and other media outlet to serve the information needs on postharvest handling of activities of plantain marketers.

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ASSESSMENT OF FARMERS' ADOPTION OF COWPEA RECOMMENDED PRODUCTION PRACTICES ON LIVELIHOOD OF FAMERS IN KUDAN LOCAL GOVERNMENT AREA OF KADUNA STATE, NIGERIA

Yusuf, H. O., Yakubu, L. L., Yusuf, H. A., Shuaibu, H. and Usman, A.
Department of Agricultural Extension and Rural Development, Faculty of Agriculture, Ahmadu Bello University, Zaria, Nigeria

ABSTRACT
Cowpea *(Vigna unguiculata (L) Walp)* occupies a unique place as the most widely cultivated and utilized grain legume in Nigeria with its high protein content. Agricultural Development Project (ADP), research institutes promoted the adoption of recommended cowpea production practices. Therefore, the study aimed at investigating adoption of improved-cowpea production practices, identify the recommended cowpea production practices adopted, ascertain the sources of information and identify the constraints to adoption of recommended cowpea production practices in the study area. Multi-stage sampling proceedure was employed in selecting the respondents and descriptive statistic was used to analyze the data collected. Result shows 27% of the respondents received information through fellow farmers while 15% received information through extension agents. Majority (33%) of the respondents adopted the use of improved cowpea while 17% adopted the recommended spacing. However, 12% of the respondents reported lack of extension services, 23% indicated high cost of inputs and 15% reported lack of mechanical tools as constraints. Based on the finding of this study, it is recommended that: Government should pay more attention to the supply of adequate inputs to farmers. Farmers in the study area should be encouraged to form cooperative groups.
Keywords: Assessment, Adoption, Farmers, Kaduna State, Nigeria

INTRODUCTION
Until the discovery and subsequent exploration of petroleum in Nigeria, agriculture was the mainstay of Nigerian economy as far back as the colonial period to the early 1970's, thereafter agriculture was relegated to the background as a result of high foreign exchange earnings from the petroleum industries. Agriculture is a major sector of Nigeria's economy, it provides food and processed products for the populace as well as raw materials for agro-allied industries (Odebode, 2007). Agricultural development in Nigeria has suffered a lot of setback due to the shift of emphasis and manpower development to petroleum sector. However, to ensure food sufficiency, priority must be given to small holder farmers who constitute about 95% of farming household in Nigeria and produced most of the food crops consumed in the country.

Cowpea *(Vigna unguiculata (L) Walp)* occupies a unique place as the most widely cultivated and utilized grain legume in Nigeria with its good and high protein content (25%). Cowpea remains one of the cheapest source of protein in the diet of many Nigerians providing over 57% protein from the leguminous sources, fat content of 1.3%, fiber content of 1.8%, carbohydrate content of 67% and water content of 8.9%. The importance of cowpea crop can be observed in various ways in terms of usage. For example, it is used for; livestock feed supplement, erosion control, improved soil fertility and provides human with high plant protein needed for complete dietary. The low income earners tend to consume more of cowpea food products to get the desired protein than from animal protein. Increasing demand for cowpea consumption without increase in its supply could lead to increase in its market prices which could go beyond the purchasing powers of low income earners that constitute the majority of the populace (Ibrahima *et al.,* 2016).

One way small-scale farmers can achieve sustainable agricultural development is to raise the productivity of their farm by improving on production practices. FAOSTAT (2000) reported that the world cowpea production was estimated at 3,319,375 MT and 75% of that production is from Africa. Cowpea is an important crop grown in many parts of Nigeria. It provides protein to rural as well as urban dwellers as a substitute for the animal protein. About 80% of the cowpea is cultivated in the savannah ecological zone of northern Nigeria which includes mainly Kaduna, katsina, Kano, Jigawa and Borno State (Food and Agricultural Organization Statistical Data, 2006). Kaduna State Agricultural Development Project (KADP) and research institutes promoted the adoption of recommended cowpea production practices (improved varieties, fertilizer application, pest and disease control land preparation, seed treatment, spacing, seed rate, weed control, harvesting and storage) to farmers in Kudan local Government Area (L.G.A) of Kaduna state. Therefore, the study aimed to identify the recommended cowpea production practices adopted; ascertain the sources of information on recommended cowpea production, determine factors influencing adoption and to identify the constraints to adoption of recommended cowpea production in the study area.

METHODOLOGY

Kudan is one of the Local Government Area in Kaduna State, Nigeria. The area has an area of 400km2 and a population of 138, 992 at the 2006 census. The major source of livelihood in this area is agriculture and the bulk of agricultural production is undertaken by small farmers. The major crops grown in the area are maize, cowpea, potatoes, tomatoes, pepper, onions, wheat, lettuce, carrot, garden eggplant, amaranthus and sugarcane. Random sampling technique was employed in selecting the villages (Jaja, Hunkuyi and Kudan) and twenty percent (20%) of cowpea farmers were randomly selected for this study. A total of 135 cowpea farmers were interviewed for the study. Descriptive statistics and Logit were used to analyze the primary data collected from the selected farmers with the aid of structured questionnaire.

Logit Model

Logit was used to determine factors influencing adoption of improved cowpea production practices in the study area.

$Y = \alpha_o + \beta_1X_1 + \beta_2X_2 + \beta_3X_3 + \beta_4X_4 + \beta_5X_5 + \beta_6X_6 + U$

Where:

Y = Adoption of cowpea practices (1= adoption and 0 = non adoption)

X_1 = Age (years)

X_2 = household size (number of people)

X_3 = Level of education (years)

X_4 = Farming experience (years)

X_5 = Extension visits (number of times)

X_6 = Farm size (hectares)

U = Error term

α_o = Constant term

β_{1-6} = Regression coefficients.

RESULTS AND DISCUSSION

Sources of information on recommended cowpea production technologies.

The importance of Agricultural information as an ingredient for advancement of agriculture cannot be over emphasized as inadequacy could be dangerous and turn to become a major constraint to agricultural development (Adeola, 2008). Radio, fellow farmers, village heads and extension agents were the major sources of information among farmers in the area. Result presented in Table 1 shows the various sources of information of the farmers. 27% of the respondents received information through fellow farmers, 15% received information through extension agents, 17% identified village/ward head as source of information while 23% of the respondents received information through radio. This result conforms to the result of Inusa (2003), that radio was the best source of information on improved practices.

Table 1: Distribution of farmers according to sources of information

Information source	Frequency	Percentage (%)
Radio	39	23.92
Village head	29	17.80
Extension agents	26	15.95
Other farmers	44	27.00
Friends	25	15.33
Total	**163**	**100**

***Multiple responses**

Cowpea Production Practices Adopted by Farmers

The cowpea production practices were; improved cowpea variety, land spacing (inter row 75cm and intra row 20-30cm), application of single super phosphate (200kg/ha), herbicide for weed control, spray with fungicides (5 weeks after sowing) and spraying with insecticides (during flowering). Majority (31.37%) of the farmers adopted the use of improved cowpea seeds. The result on recommended spacing of improved cowpea revealed that only 17% of the respondent adopted this practice. The most commonly and highly adopted practices was use of improved seeds and use of weed control. The low adoption of plant spacing could be as a result of adherence to traditional planting spacing method. Similarly, Ibrahima *et al.* (2016) in their study found that farmers rarely adopt recommended plant spacing. The result further shows 13.33% adopt application of single super phosphate (200kg/ha), 19% used herbicide for weed control, 9% spray with fungicides (5 weeks after sowing) and 7% spraying with insecticides (during flowering). Contrary to this finding, Awugu (2004) found highest adoption was recorded for the use of insecticides to control pests on cowpea farms. Adeleye *et al.* (2016) also found the components of improved rice production with high adoption among farmers included: planting of improved rice variety, sorting of rice seeds for planting, use of herbicide for clearing, use of herbicide for weed control in rice fields.

Table 2: Distribution of farmers on adoption of recommended cowpea production practices

Recommended production technologies	Frequency*	Percentage
Improved cowpea varieties (sampea-12)	80	31.37
Land spacing inter row 75cm (20-30)	45	17.64
Application of single super phosphate (200kg/ha)	35	13.72
Use of herbicide (weed control)	50	19.60
Spraying with fungicides (5 weeks after sowing)	25	9.80
Spraying with insecticides (during flowering)	20	7.84
Total	**255**	

***Multiple responses**

Factors influencing adoption of recommended cowpea production practice

Among the variables included in the logistic model (Table 3), two were observed to be statistically significant. The co-efficient of household size (0.11005) was significant (P< 0.05) and positively related with the adoption of improved cowpea production technologies. This implies that the larger the family size of farmers, the higher the probability of adoption.

Extension visitation was significant at P<0.01 but negatively (-5.91) related with the adoption of recommended cowpea production practices. This finding is contrary to *apriori* expectation. Extension contact determines the information that farmers obtain on production activities and the application of innovations through counseling and demonstrations by extension agents. For instance, Onu (2006), Yusuf *et al.* (2009) and Omodano (2013) found that farmers who had access to extension contacts adopted farming technologies more than farmers who had no access to extension. This could be in the form of multiple visits by extension agents greatly increases farmers' knowledge of available technologies and their potential benefits, hence acting as a trigger for adoption.

The co-efficient of age, education and farm size were not significantly related with the adoption of recommended improved cowpea production technologies. This implies that as age, education and farm size increases the adoption of cowpea production technologies decreases. Similar to the findings of this study, Issa *et al.* (2016) reported that adoption of improved maize production practices is irrespective of level of education, age and farming experience. However, Mbanaso (2011) and Idrisa *et al*. (2012) reported age, farm size, education, farming experience and were the factors influencing adoption of recommended production practices in their study.

Table 3: **Distribution of respondents according to socio-economic factors influencing the adoption of recommended cowpea production practices**

Variables	Coefficient	Standard error	T-ratio
A constant	0.66418	0.26700	2.49
X_1 age	-0.01596	0.03822	-0.2NS
X_2 household	0.11005	0.04849	2.27**
X_3 Educational Level	-0.00960	0.02559	-0.38NS
X_4 farming experience	0.00467	0.01427	0.33NS
X_5 extension visits	-0.36884	0.06246	-5.91***
X_6 farm size	-0.02515	0.02900	-0.87NS

*** P<0.0 1 ** P<0.0 5 *P<0.010 NS = not significant

Constraints to adoption of recommended cowpea production technologies

The problems encountered by farmers in the adoption of improved cowpea production practices (Table 4) were; 12% of the farmers reported lack of extension services, 23% indicated high cost of inputs, 27% revealed lack of capital and 21% were constraint by low selling price. This indicates that high cost of inputs and lack of capital are the major constraints to adoption of improved cowpea production practices. This result concurred with that of Agbamu (2006) and Issa *et al.* (2016) who observed that lack of capital, high cost of inputs and labour were the major constraints to adoption production technologies among farmers.

Table 4: Distribution of respondents according to constraints in the adoption of recommended cowpea production technologies

Variables	Frequency*	Percentage (%)
High cost of pesticides	108	23.27
Lack of capital	127	27.37

Variables	Frequency*	Percentage (%)
Low selling price	99	21.33
Lack of mechanical tools	74	15.94
Inadequate extension contact	56	12.06
Total	**464**	

***Multiple responses**

CONCLUSION AND RECOMMENDATIONS

In conclusion, this research established that extension agents do not visit cowpea farmers in the study area. Also, the farmers complained lack of mechanical tools in the area which make agricultural production not to be attractive to the youth. The most adopted production practices among farmers include use of improved seeds, land spacing and use of herbicide (weed control). Based on the finding of this study, it is recommended that adequate credit facilities should be provided to farmers to enable them manage their farm operations. Government should pay more attention to the supply of adequate inputs such as fertilizer and pesticides to farmers. Farmers in the study area should be encouraged to form cooperative groups and combine their resources so that they can afford the inputs required for the improved recommended cowpea production.

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UTILISATION OF FADAMA III ADDITIONAL FINANCING AMONG RICE FARMERS IN NIGER STATE NIGERIA

Jacob, G. B., Ajayi, O. J. and Tsado, J. H.
Department of Agricultural Extension and Rural Development, School of Agriculture and Agricultural Technology Federal University of Technology, Minna, Nigeria

ABSTRACT

The study assessed the utilization of Fadama III AF rice technologies among rice farmers in Niger state, Nigeria. The specific objectives were to describe the socio-economic characteristics of the rice farmers in *Fadama* III AF in the study area, and determine the factors influencing utilisation of *Fadama* III AF rice technologies by the farmers. Primary data were used for this study and these were collected with the aid of structured interview schedule. Multi-stage sampling procedure was used to select 160 respondents randomly for the study. Descriptive and inferential statistics such as multiple regression (OLS) were used to analysed the data. The age of the farmers revealed that 33% were between 40 – 49 years. The mean age of the farmers was 41 years. On the sex of the farmers,82% were male while 34% had secondary education. A total of 30% of the farmers had between 6 – 10 members of household with an average household size of 9 members. The result also showed that 21% had between 16 – 25 years of farming experience. Average farming experience was 16 years. A total of 100% had 1 hectare of farm size and all the farmers had contact with Fadama facilitators during the cropping year. It also revealed that only 11% had no access to credit. About 75% of the farmers had 3 – 4 information sources relating to the programme. All the farmers were actively committed to Fadama III AF programme. There average income from rice farming was #328,081.50. The regression analysis results (OLS) shows that sex, education, farming experience, information source, contact with fadama facilitators were significant at 1% or 0.01, farm size, social organisation and age significant at 5% or 0.05 and access to credit indicated positive and significant at 10% or 0.1 with utilization of Fadama III AF rice technologies. The study recommended that farmers should be given more assistance to obtain credit facilities through financial institutions organisations.

INTRODUCTION

Nigeria is a key regional player in West Africa, with population of approximately 184 million, Nigeria accounts for 47 percent of West Africa's population, and has one of the largest population of youth in the world. (World bank, 2017). The Federal Government of Nigeria through the pooled World Bank loan came up with the National *Fadama* Development Project, to finance the development of *Fadama* lands which has a lot of agricultural potential than the associated upland soils. The term *Fadama* is a Hausa word meaning, floodable plains along major bank of rivers and streams (IDA, 2010).

The objective of the Additional Financing (AF) for the Third National *Fadama* Development Project for Nigeria was to increase the incomes for users of rural lands and water resources within the *Fadama* areas in a sustainable manner throughout the recipient's territory. The additional financing focuses on improving farm productivity performance of clusters of farmers engaged in priority food staples namely rice, cassava, sorghum and horticulture in six selected states with high potential. According to Idrisa (2009), utilization of improved technologies is an important factor to increase the productivity of small holder farmers, thereby fostering economic growth and improved their well-being.

Fadama III AF project has been disseminating technologically improved production techniques/inputs to rice farmers in Niger state since 2015, however little or no effort has been made to investigate the utilization rate of the various rice technologies by farmers. The research was therefore designed to describe the socio-economic characteristics of the Fadama III AF rice farmers, and determine the factors influencing utilization of *Fadama* III AF rice technologies by the farmers.

METHODOLOGY

The study was conducted in Niger State of Nigeria which lies between Latitude 8^{o} and 11^{o}20'N and Longitudes 4^{o}30' and 7^{o}40'E. It has a land area of 76,363 km2 (Niger State website, 2018). Multi-stage sampling was used in the study. Therefore, one Local Government Area (LGA) each among the agricultural zones was randomly selected giving a total of three LGAs. That is Lavun LGA from Zone A, Gurara LGA from Zone B and Wushishi LGA from Zone C.

From these LGAs three Fadama rice producing clusters were selected, with exception of Gurara LGA that has only two rice producing clusters during the last cropping season. Four production groups were selected from each cluster, giving a total of thirty-two (32) production groups. Finally, five (5) rice farmers which make 50% were randomly selected from each of the production group, giving a sample size of 160 respondents. Both descriptive and inferential statistics were used to analyse the data collected for the study.

Theoretically, the Regression model is expressed as:

$Y = f(\beta Xi. U)$ ..... (1)

Where:
Y = Rice technologies utilized by the farmers, takes value between 1 – 14
Xi = set of explanatory variables comprising socio-economic and institutional.
U = random error term.
β = parameters to be estimated.
i = 1, 2, 3....., n number of independent variables.
Explicitly, the functional form model is expressed as:

$$Y = \beta o + \beta_1X_1+\beta_2X_2+\beta_3X_3+\beta_4X_4+\ldots+\beta_{11}X_{11} + e \ldots (2)$$

RESULTS AND DISCUSSION

Table 1 shows that majority (82.50%) of the farmers were male. This results implies that males have dominated rice farming in the study area. However, Olaolu *et al*. (2013) asserted that the *Fadama* rice farmers is skewed towards males in the *Fadama* development project.On the level of education of the farmers, those who have secondary education dominates the distribution with 34.38%. This result is in line with Onyewaku and Ohiajianya (2005) and (Tanko and Opara, 2010) as cited in Folorunso, (2015), that there is a positive relationship between education and productivity in rice production.

The result reveals that the mean age of the Fadama rice farmers in the study area is 41 years. This age represents the active group who are in their active period of life. This result is in agreement with the findings of Nlerum, (2013) who opined that active age group of between 20 to 40 years dominates the society that contributes immensely to agricultural sectors.The study revealed that about 21.88% had farming experience between 16 – 20years. Ezeh, (2006), found that experience enhances more efficient use of scarce resources by small-farm holders.

Results on household size shows 30.63% of the farmers had household size of 6 – 10 members. Family labour is an important component of factor of production for small-scale farmers. This is mainly because the subsistence farm households are resource poor and depend on family labour for agriculture activities (Idrisa, 2009). Table 1 reveals that (100%) of the rice farmers had 1 hectare of land. This is as a result of Fadama III AF intervention that was given only to 1 hectare of land for farmers in other to actualized maximum output. Small land holding is a typical situation which characterised the third world countries (World bank, 2008).

Table 1, shows that 88.75% of the rice farmers in the study area had access to credit. However, the study further revealed that the source of the credit was mainly from family and friends and not financial organisations. According to an earlier study by Danjuma *et al*. (2016) farmers have the potentials to improve their productivity but they lack the capital necessary to finance their farming activities.

The study revealed that 75.63% of the Fadama III AF rice farmers had between 3 – 4 sources of information. According to Daudu *et al*. (2009), revealed that most farmers depend on extension agents and friends for agricultural information.The study shown that about 58.75% spend between 6 – 10 years in social organisation. It revealed that all the Fadama III AF rice farmers interviewed were 100% active members of the project. According to Gasana (2011), farmers join social organisation for external support, cooperatives performance, market access and collective bargaining, access to input service and credits, wealth creation risk sharing.

Table 1, showed that 87.50% received 24 visits. The visits were based on the Fadama facilitator's contact per annum. According to Onu, (2006), Contact with farmers plays a great role in influencing farmers adopt and utilization of improved agricultural technologies.Result from the study shows that 86.88% of the rice farmers had an annual income between #1 – #500,000. The mean annual farm income was #328,081.50. Studies by Agbamu (2006) revealed that there is a significant positive relationship between farmers' level of income and utilisation of agricultural innovation.

Table 1: Distribution of respondents by their socioeconomic characteristics

Socioeconomic Variable	Frequency	Percentage	Mean
Sex			
Male	132	82.50	0.83
Female	28	17.50	
Level of education			
No Formal Education	18	11.25	
Primary	43	26.88	
Secondary	55	34.38	
Tertiary	44	27.50	
Age			
20-29	15	9.38	41
30-39	53	33.73	

Socioeconomic Variable	Frequency	Percentage	Mean
40-49	54	33.75	
50-59	34	21.25	
60-69	1	0.63	
70-79	3	1.88	
Farming experience			
1-5	11	6.88	16
6-10	20	12.50	
11-15	33	20.63	
16-20	35	21.88	
21-25	24	15.00	
26-30	21	13.13	
31-35	11	6.88	
36-40	5	3.13	
Household size			
1-5	28	17.50	9.68
6-10	49	30.63	
11-15	41	25.63	
16-20	24	15.00	
21-25	15	9.38	
26-30	3	1.88	
Farmsize (ha)			
1	160	100	1.00
Access to credit			
Yes	142	88.75	0.89
No	18	11.25	
Information source			
1-2	11	6.88	3.21
3-4	121	75.63	
5-6	28	17.50	
Membership of organisation (years)			
1-5	58	36.25	6.73
6-10	94	58.75	
11-15	6	3.75	
16-20	2	1.25	
Income (#)			
1- 500,000	139	86.88	328,081.50
500,001- 1,000,000	19	11.88	
1,000,001- 1,500,000	2	1.25	
Contact with Fadama facilitators			
12	20	12.50	22.50
24	140	87.50	

Source: Field Survey (2018)

The coefficient of sex was significant at 1%. The positive and significant relationship between gender of the farmers and the utilization of Fadama III AF rice technologies also agrees with (Onu, 2006) which reported that gender plays significant role in utilization of agricultural technologies. Age of the farmers was significant at 5% level and relates negatively with utilization of Fadama III AF rice technologies. This implies that an increase in the age of the farmers will translates to a reduction in rate of farmers' utilization of technologies. This confirms to the study of Ibok *et al*. (2015) that young farmers are keen to adopt new knowledge and information faster than older farmers.

Table 2 again shows a positive and significant (1%) relationship between the level of education and utilization of Fadama III AF rice technologies which agrees with (Ofuoku *et al*.,2006; Abdul *et al*., 2003) that the level of education of farmers has significant relationship with innovation utilization. The coefficient of farmers' experience was significant (1%) and relates positively with utilization of Fadama III AF rice technologies (Table 2). The result is in consonance with the study (Ezeh, 2006), that farmers experience enhances more efficient use of scarce resources by small-farm holders. Also year of membership of social organisation was

significant (5%) and positively relates with the rate of utilization of Fadama III AF technologies.

Contact with Fadama facilitator was significant at 1% level of probability. This implies that as contact with Fadama facilitator increase, it will translate in a corresponding increase in the rate of utilization of Fadama III AF rice technologies. Farm size was statistically significant at 5% level of probability. This means as farm size increase, utilization of Fadama III AF rice technologies increases. Access to credit was significant at 10%,The implication is that the more farmers have access to credit, the greater the rate of utilization of technologies. This agrees with the study of Danjuma *et al*. (2016) that sufficient capital and credit aid farmers to purchase inputs as well as to procure farm machines to ease their farming activities.

Finally, the information source shows positive and significant at 1% level of probability. This implies that the more information sources the farmers have concerning Fadama III AF rice technologies, the more the farmers utilizes technology. According to earlier studies Daudu *et al*. (2009), revealed that most farmers depend on extension agents and friends for agricultural information.

Table 2: Multiple regression analysis of factors influencing utilization of fadama iii af rice technologies by rice farmers

Variables	Estimated Coefficient	Standard Error	t-value	P-value
Constant	8.570397	0.5251743	16.32	0.000***
Sex	0.4655575	0.1503256	3.10	0.002***
Age	-0.0336822	0.0131031	-2.57	0.011**
Education	0.1899787	0.0218478	8.70	0.000***
Experience	0.1064868	0.0124514	8.55	0.000***
Household	0.0508341	0.0357813	-1.42	0.158^{NS}
Social organisation	0.1333786	0.0542485	2.46	0.015**
Fadama Facilitator	0.0809638	0.0127845	6.33	0.000***
Farm size	0.1161071	0.0558127	2.08	0.039**
Access to Credit	0.3164653	0.1804455	1.75	0.082*
Income	2.69e-07	3.55e-07	0.76	0.451^{NS}
Information source	0.2682218	0.0510152	5.26	0.000***
R^2	0.85			
R^{-2}	0.84			
F				

Note: *** Significant at 1%, ** Significant at 5%, * Significant at 10%, NS Not Significant
Source: Regression Extract, (2018)

CONCLUSION AND RECOMMENDATION

Utilization of technology could assist farmers increase their production levels and income considerably. Their capacity to educate their children would be enhanced and their standards of living improved. Government should therefore assist farmers to access the more efficient factors which influence technology utilization. In areas where illiteracy level is high, the employment of extension agents and the use radios would facilitate technology utilization.Research institution and organisations related to agriculture should intensify their research efforts in breaking new grounds for innovations to be disseminated by extension agents.

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SOURCES OF INFORMATION USED IN GINGER PRODUCTION AMONG FARMERS IN JABA LOCAL GOVERNMENT AREA OF KADUNA STATE

Momoh, O. Y. and Yusuf, B.
Department of Agricultural Extension and Management, Federal College of Land Resources Technology, Kuru-Jos

ABSTRACT
This study assessed the sources of information used in ginger production among farmers in Jaba Local Government Area of Kaduna State, Nigeria. A purposive sampling technique was adopted for sample selection of one hundred farmers from five districts in the study area, while structured questionnaire/interview was used for data collection. Data were analyzed using descriptive statistics and multiple regressions. The results of sources of information indicated that 34.3% of respondents had extension agent as source of information, 32.3% indicated friends, and 26.3% indicated radio. While the results of the regression analysis revealed that age, educational qualification, marital status, extension contact and years of farming experience were positively significant to farmers' participation in Ginger production in the study area. It can therefore be concluded that extension agent serves as the major source of information used in ginger production. This study therefore recommends that, agricultural extension service delivery efforts should be intensified and more sources of information dissemination through the electronic media be explored for wider coverage and timely information needed in production.
Keywords: Dissemination, agronomic information, sources and participation

INTRODUCTION

Ginger, botanically known as 'Zingiber officinale' is the most popular hot spice in the world (Abubacker, 2009). Ginger is an herb grown for its pungently aromatic rhizome and an important export crop valued for its powder, oil, oleoresin, food and medicinal value (Eze and Agbo, 2011). The land area of ginger under cultivation in the world was 429,481 hectares in 2007. Nigeria has about 55% of the total area under ginger cultivation in the world (Abubacker, 2009) making Nigeria one of the leading exporters of ginger in the world.

Despite this, Nandi *et al.*, (2011) indicated that a negative coefficient and insignificant value of planting materials underscored the low yield as compared to yield obtained in other countries like India and China. However, sources of information and communication are essential ingredients needed for yield performance. Therefore, for farmers to benefit from better yield performance, transfer of agronomic information is inevitable for efficient utilization of farming resources. This design is the principal function of agricultural extension delivery in all part of the world. Information is also an important ingredient that enables the rural farmers to make informed decision in production capacity, especially in the developing countries (Lwoga, 2010). Therefore, agronomic information is key to successful operation and management process of ginger activities. To a large extent, sources of information serve as an instrument for better understanding and ease of farming operations. In developing countries, information source has played a prominent role in backing up agricultural sector through extension activities (Qamar, 2006). Also, Nazari and Hassan (2011) pointed out that information source has the capacity to uplift farmers' knowledge and behaviour.

Besides, Danladi *et al*. (2017) pointed out that farmers' information needs on technical and allocative efficiency of inputs in farm enterprises may often arise because of associated constraints in production. In addition, ginger production in Nigeria today, is laborious and virtually all operations are done manually making the production of the crops unattractive (Danladi *et al.,* 2017). Therefore, unavailability of empirical sources of information to ginger farmers on improved production practice still remained unanswered. Therefore, the study seeks to examine the following specific objectives.

i. To identify sources of information used in ginger production in the study area
ii. To identify the agronomic inputs combinations sourced for in ginger production.
iii. To verify factors influencing farmers participation in ginger production.

METHODOLOGY

Jaba Local Government area is located in the southern part of Kaduna State and lies between latitude 8^0-10^0 North, and Longitude 6^0-10^0 East. Jaba Local Government area is bounded to the North by Kachia Local Government, to the East by Jama'a Local Government Area, to the South by Nasarawa State and to the West by Kagarko Local Government. The rain starts from late April, and stabilizes by May ending to June, and stops by October. It has an average annual rainfall of 1125mm with a mean maximum temperature ranging from 29^0c-35^0c in raining and dry reason respectively. Soils are generally deep, well drained and vary from sandy loam to clay loam. It has 5 districts with its headquarters situated in Kwoi. The

major occupation of the people is farming and mostly grows ginger for commercial purposes.

Jaba Local Government Area and was purposively chosen from the 23 Local governments in the state due to its predominant participation in the cultivation of varieties of ginger. A purposive sampling was used to select twenty farmers from each district with the assistance of the Village Extension Agent making a total of one hundred farmers from the five districts in: Kurmin Jatau, Fai, Dura, Ungwan Rana and Nok in the study area. However ninety nine questionnaires were returned.

Primary data and secondary data were used for this study. The primary data was collected from the respondents using a well structured questionnaire and interview schedule.

Frequencies, percentages were used to analyze the facts sought for in the specific objectives 1and 2 while a multiple linear regression was used for objective (3).

Model specification for linear multiple regression in implicit and explicit forms is given by: $Y= f(X_1, X_2, X_3, X_4, X_5, X_6, X_7, X_8, e)$

$Y= a+ b_1 X_1+ b_2 X_2+ b_3 X_3+ b4X_4+ b_5 X_5+ b_6 X_6+ b_7 X_7,+ b_8X_8 + e$

Y= Participation in ginger production

X_1 = Sex

X_2 = Age

X_3 = Marital status

X_4 = Level of education

X_5 = Year of farming experience

X_6 = House hold size

X_7 = Farm size

X_8 = Extension contact

b_1 - b_9 = coefficients

e= error term

RESULTS AND DISCUSSIONS

The result from Table 1 revealed that 26.3% of the respondents' sourced information for ginger production from radio, while 34.3% respondents' sourced agronomic information for ginger cultivation from extension agents. While 32.3% of the respondents sourced information from friends, while 5.1% sourced information from the internet. It implies that farmers still depend largely on extension agents for sourcing vital information on ginger production. And this reveals that extension agent and farmers' interaction have proved proactive and beneficial to provide solutions to associated challenges in ginger production. While farmers' social interactions with friends may have a reciprocal influence on the use of cheap planting materials that limit level of production. Besides, the use of radio as source of information portends a danger of untimely information during the period of emergencies such as drought.

Table 1: Sources of Information used in Ginger Production

Sources of information	Frequency	Percentages%
Radio	26	26.3
Television	1	1.1
Friends	32	32.3
Newspaper	1	1.1
Extension agent	34	34.3
Internet	5	5.1
Total	99	100

Source: Field survey, 2017

Table 2 shows agronomic inputs required by the respondents in the cultivation of ginger production. It was found out that 68% of the respondents need improved seed rhizomes for ginger production, while 34% in need of information on planting distance, 83% of the respondents in need of methods used in ginger processing and storage, while 10% of respondents' in need of soil types, 29% requires fertilizer recommendation, 81% in need of pest and disease control and 54% in need for marketing channels. The result implies that farmers' priority is the need for knowledge on ginger processing and storage and this might be due to the high standard required in the exportation of this crop to international market. Besides, acquisition of improved seed rhizome also implies a reflection of better performance, which means that healthy seed rhizome should be sourced from agricultural extension agent or other accredited seed dealers.

Table 2: Required agronomic inputs in ginger production

Agronomic input required for production	Frequency	Percentage
Need for seed rhizome	67	68
Planting distance (15-45×15-45cm)	34	34
Processing and storage	82	83
Type of soil	10	10
Fertilizer recommendation	29	29

Agronomic input required for production	Frequency	Percentage
Pest and disease control	80	81
Marketing channels	53	54

*multiple responses
Source: Field survey, 2017

The results from the multiple regressions in table 3 revealed the factors influencing farmers' participation in ginger production. Outcome of the results reveals the positive coefficients of age to (2.15), farming experience (2.34) which is statistically significant at 5% level and education (4.06) farmers' marital status (7.13) and extension contact (2.77) at 1% significant level. This implies that for each increase in the level of age, education and farming experience, marital status and extension contact of the respondents means an increased participation of farmers in ginger production. The R^2which 0.62 indicates that 62% of the variables accounted for farmers participation in ginger production.

Table 3 Factors influencing farmers participation in ginger production

Influence in ginger production	Coefficient	std. Error	t-value
Sex	-0.0002	0.006	-0.03
Age	0.128	0.059	2.15**
Marital status	0.487	0.068	7.13***
Education level	0.139	0.034	4.06***
Years of farming experience	0.013	0.006	2.34**
Household size	-0.012	0.013	-0.93
Farm size	-0.005	0.017	-0.28
Extension contact	0.037	0.013	2.77***
Constant	2.000	0.157	12.74

R^2=0.62 adjusted R^2=0.56; ***= significant1% **=5%
Source: Field survey, 2017

CONCLUSION AND RECOMMENDATION

In conclusion, it is shows that extension agent, friends, radio, internet, television and newspaper are available as the sources for information used by farmers in ginger production. However, extension agent serves as the major source of information which translates to most preferred medium for information dissemination in the study area.

This study therefore recommends that, agricultural extension service delivery efforts should be intensified and sustained while more sources of information dissemination through the electronic media should be explored for wider coverage in order to dispense timely information needed in production of ginger. This means that time of radio and television farm programme before the kick off of ginger cultivation be made available to farmers in order to plan their time to listen and watch such programme.

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STAKEHOLDERS' RESPONSIVENESS TOWARDS CROWDFUNDING FOR AGRIBUSINESS FINANCING IN OYO STATE, NIGERIA

Olufemi, O. A.
Department of Agricultural Extension and Rural Development, University of Ibadan, Ibadan

ABSTRACT

In-spite of the various agricultural financing strategies deployed in Nigeria to assist poor farmers, the agricultural sector is still plagued by limited access to this resource. In a bid to overcome this challenge, crowdfunding, which is a new and innovative alternative funding mechanism is gradually being deployed to increase poor farmers' access to finance and other productive resources. Therefore, the study evaluated the responsiveness of pragmatic stakeholders to crowdfunding for agribusiness financing in Oyo state, Nigeria. The pragmatic stakeholder categories selected for this study were academia, researchers and practitioners in the agricultural sector. A multi-stage sampling procedure was used to obtain data from 195 stakeholders in the study area. Data collected were analysed using descriptive statistical tools like mean, frequency counts, standard deviation and inferential statistics like ANOVA. Majority (88.7%) of the respondents were married with mean age of 42.3 $\pm$8.2 years, while 69.7% of the stakeholders have a household size of between 4-6, while the mean annual salary was N1,359,736.3$\pm$850,960.46. The problems were inadequate information on crowdfunding ($\bar{x}$=5.67), issue of trust ($\bar{x}$=5.52) and poor fund management by managers of agro-based crowdfunding platforms in Nigeria ($\bar{x}$=5.25). There was no significant difference in the level of responsiveness across the 3 categories of stakeholders towards crowdfunding for agribusiness in the study area (F=1.992, p=0.139), however the post-hoc analysis further established that agricultural practitioners had the highest level of responsiveness when compared to research and academia. More awareness about crowdfunding for agribusiness should be created in order to increase participation.

Keywords: Stakeholders, Responsiveness, Crowdfunding, Agribusiness

INTRODUCTION

The agricultural sector feeds the populace and makes up a good portion of the overall economic activities in Nigeria. In 2017, agriculture accounted for 29.15% of Gross Domestic Product (GDP) with crop production dominating over 91.17% of the total output while fishery forestry and livestock accounts for the remaining (PricewaterhouseCoopers 2017).

The challenges in the agricultural sector are numerous, furthermore, inadequate financing towards production remains fundamental. The access to finance plays a major role as it provides timely access to agricultural input required for production, sadly the volume of funds available has continued to decline. Since previous efforts have been less sustainable, more effort is channelled into the search for more sustainable alternative sources of funding agriculture. Crowfunding in agriculture has proven to be successful and sustainable in other climes, this success hinges on the fact that the administrators treat agriculture as a business. Crowdfunding is essentially the process of raising capital from a large number of people. It is an organised financing method that involves funding projects with contributions from a large group of individuals. In recent years, it has evolved based on its ability to canvass a large group of people who are potential contributors instead of professional institutions like banks.

As the Sharp, et. al. (1999) has been studied that every system engineering needs stakeholders. Agribusiness crowdfunding also needs stakeholder for its system, the stakeholders' active engagement could be highly influential within strategic decision-making thus, this research determined stakeholders responsiveness towards crowdfunding for agribusinesss financing in Oyo state, Nigeria.

The specific objectives are to:

a. identify the socioeconomic characteristics of the stakeholders in agribusiness in the study area
b. determine the level of responsiveness of stakeholders in the study area
c. determine the possible hindrance of participating in crowdfunding for agri-business in the study area

Hypothesis of the study as stated is that there is no significant difference in the responsiveness of the stakeholders towards crowdfunding for agribusiness in the study area.

Crowdfunding**:** Crowdfunding is the process of raising small amount of money from a large number of individuals to financeagriculture. With respect to this study, crowdfunding is the process that brings together potential investors and small scale farmers in order to expand their farms, purchase input and increase their overall output and income with an assurance of interest on investment for investors.

METHODOLOGY

Study area: The study was conducted in Oyo state which is geographically located in the southwest of Nigeria. The state has population of 5,591,589; comprising of 2,809,840 males and

2,781,749 females (NPC 2006) and agriculture is a major occupation of the people.

Sampling procedure and sample size - The respondents for this study were drawn from the academia, practitioners and researchers in the agricultural sector in Oyo state. Simple random selection of two institutions from each stakeholder category was carried out. University of Ibadan (UI) and LadokeAkintolaUniverisity (LAUTECH) were randomly selected from a list of academic institutions in the state. Cocoa Research Institute (CRIN) and National Horticultural Research Institute (NIHORT) were randomly selected from a list of the research institutes in the state. FADAMA and Agricultural Development Projects (ADP) were randomly selected from the list of practitioners in the state. Thereafter, proportionate selection of 35% of the respondents from the selected institutions was carried out for equal representation in the sample. A total of 195 respondents were selected for the study.

Measurement of variables - Independent variables measured were socioeconomic characteristics and possible hindrances to participating in crowdfunding for agribusiness**.** The dependent variable in the study is responsiveness. This was evaluated on important components namely awareness, willingness and readiness. In determining the responsiveness of the stakeholders, the scores of the entire components variables were standardized and the mean score derived. The mean value of the score was used to categorize respondents' level of responsiveness towards crowdfunding for agribusiness into low and high.

RESULTS AND DISCUSSIONS

Socioeconomic characteristics

Table 1 reveals that majority (77.4%) of the respondents fall within the age of 31-50, 14.4% fall between 51-60 while only 8.2% were less than 30 years. The mean age was 42.3 $\pm$8.61 years. This implies that majority of the respondents were still within the economically active age range, this in turn will allow crowdfunding for agribusiness enjoy higher patronage. The table also shows that 69.7% of the respondents were male while 30.3% were female. As revealed in the table, majority (69.7%) of the respondents have a household size between 4-6.

Table 1: Distribution of respondents according to their socio-economic characteristics

Variable	Frequency	Percentage	Mean	Standard deviation
Age (in years)				
<31	16	8.2	42.33	8.16
31 – 40	68	34.8		
41 – 50	83	42.6		
51 – 60	28	14.4		
Sex				
Male	136	69.7		
Female	59	30.3		
Marital status				
Married	173	88.7		
Single	22	11.3		
Household size				
1-3	49	25.1	4.35	1.48
4-6	136	69.7		
7-9	10	5.2		
Salary (Annual)				
< 500,000	2	1.5	1,359,736.34	850,960.46
500,000 – 1,000,000	53	39.8		
1,000,001 – 1,500,000	34	25.7		
1,500,001 – 2,000,000	18	13.5		
>2,000,000	26	19.5		

Source: Field survey, 2018

Table 1 shows that majority (79%) of the respondents' annual salary fall between 500,000 – 2,000,000 naira.

Possible hindrances to participate in agribusiness crowdfunding

Results presented on Table 2 revealed that inadequate information on crowfunding ($\bar{x}$=5.66) ranked highest among the possible hindrances that may limit participation in crowdfunding for agribusiness. The lists of possible hindrances were classified into distinct categories namely challenge, constraint and problems. These categories were derived by using the mean scores from the analysis to generate a range of values. The categorization ranged between 4.1 – 4.65 (challenge), 4.66 – 5.16 (constraints) and 5.17 – 5.67 (problem). The table

further revealed that lack of access to technology ($\bar{x}$=4.59), government regulations ($\bar{x}$=4.57), uncertainties in agriculture ($\bar{x}$=4.37) and irregular income ($\bar{x}$=4.15) are all challenges. Respondents not being able to invest in farms not managed by themselves ($\bar{x}$=4.68) was identified as a constraints while inadequate information ($\bar{x}$=5.67), trust ($\bar{x}$=5.52) and poor fund management by managers of crowdfunding platforms ($\bar{x}$=5.25) are classified as problems and these are capable of discouraging potential funders.

Table 2: Distribution of respondents according to possible hindrances to participate in crowdfunding for agribusiness

ITEMS	Challenge	Constraint	Problem	Mean	Rank	Category
Irregular income	51	81	63	4.15	8th	Challenge
Uncertainties in agriculture	33	101	61	4.37	7th	Challenge
Trust	9	73	113	5.52	2nd	Problem
Cannot invest in farms not managed by myself	25	99	71	4.68	4th	Constraint
Poor fund management by managers of crowdfunding system	13	77	105	5.25	3rd	Problem
Inadequate information on crowdfunding	12	55	128	5.67	1st	Problem
Lack of access to technology	16	119	60	4.59	5th	Challenge
Government regulations	30	95	70	4.57	6th	Challenge
Grand mean				**4.85**		

Source: Field survey, 2018

Responsiveness of respondents towards crowdfunding for agribusiness

The scores generated from all the components of responsiveness (awareness, willingness and readiness) was standardized and mean score generated was then used to categorize respondents' responsiveness towards crowdfunding for agribusiness into low and high. Table 3 below shows that 58.9% of the respondents' responsiveness level towards crowdfunding for agribusiness was high while 41.1% responsiveness level was low.

Table 3: Categorization of responsiveness level of respondents

Category	Frequency	Percentage (%)
Low	80	41.1
High	115	58.9

Min = 1.51, Max = 13.19, Mean = 7.60

Source: Field Survey, 2018

Hypothesis testing

Test of difference in the level of responsiveness across the 3 stakeholders towards crowdfunding for agribusiness in the study area

Table 4 revealed that there was no significant difference (F= 1.992, p=0.139) in responsiveness to crowdfunding for agribusiness across the categories of the stakeholders.

Table 4: Analysis of variance of the difference in responsiveness towards crowdfunding for agribusiness across the stakeholders

Test variable		Sum of Squares	df	Mean square	F	p-value
Responsiveness towards crowdfunding for agribusiness	Between Groups	18.401	2	9.200	1.992	0.139
	Within groups	886.671	192	4.618		
	Total	905.072	194			

Source: Field Survey, 2018

The post hoc test using Duncan multiple range as shown in table 5 revealed the separation of mean across the stakeholders. It revealed that the responsiveness was highest for practitioners ($\bar{x}$=7.8763), followed by researchers ($\bar{x}$=7.7710) and academia ($\bar{x}$=7.1740). This could be attributed to the fact that practitioners have more exposure to practical application of knowledge and new technologies applied in agriculture because of their frequent and continuous interaction with the farmers.

Table 5: Post hoc analysis of separation of means for responsiveness to crowdfunding for agribusiness across the stakeholders

Stakeholder category	N	Subset for alpha = 0.05		
		1	2	3
Academics	65	7.1740		
Researcher	70		7.7701	
Practitioner	60			7.8763

Source: Field Survey, 2018

CONCLUSIONS AND RECOMMENDATION

The study concluded that:

- Stakeholders in the study area are economically active
- There is inadequate information about crowdfunding for agribusiness financing.
- Trust and poor fund management by managers of crowdfunding platforms are possible problems that can hinder the participation.
- The responsiveness of the stakeholders towards crowdfunding for agribusiness financing is high.

Based on the findings of the study, the following were recommended;

- Managers of agricultural based crowdfunding platforms should ensure proper management of funds contributed by participating members.
- Government policies should be put in place to regulate the activities of crowdfunding platforms in order to increase public trust, confidence and to protect investors' fund.
- Adequate advocacy should be provided to the academia in order to increase their awareness about crowdfunding as an alternative funding source for agriculture

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DETERMINANTS OF ADOPTION OF CLIMATE CHANGE ADAPTATION PRACTICES BY VEGETABLE FARMERS IN BASSA LOCAL GOVERNMENT AREA OF PLATEAU STATE, NIGERIA

[1]Onuwa, G. C., [2]Mudi, A. and [1]Binuyo, G.
[1]Department of Agricultural Extension and Management, Federal College of Forestry, Jos, Plateau state, Nigeria
[2]Department of Crop Production Technology, Federal College of Forestry, Jos, Plateau state, Nigeria

ABSTRACT
This study analyzed the adoption of climate change adaptation practices among vegetable farmers in Bassa Local Government Area of Plateau state, Nigeria. Specifically, the study aimed to describe the perception of climate change effects among the respondents and determine the factors influencing the adoption of climate change adaptation practices in the study area. This study employed multistage sampling techniques. The data generated was analyzed using Likert scale method and Multinomial logit regression model. From the results, the different perceptions of the respondents on the effects of climate change on vegetable crop production were very significant and manifested itself through incidence of flooding (2.28), decline in crop productivity (2.26), irregular rainfall (2.23), increased temperature (2.21), drought (2.11), land degradation (2.10), loss of soil fertility (1.99) and pest and disease infestation (1.94) as reflected by their mean scores. Also, the result of the regression analysis reveals that the pseudo coefficient of multiple determination (R^2) was 0.7904 implying that 79% of the variation in adaptation practices adopted was accounted for by the explanatory variable inputs in the model. The regression coefficients of education (X_4), farm experience (X_5), household size (X_6), farm income (X_7) and extension contact (X_8) were positive and statistically significant at ($p< 0.05$); this implies that the independent variables were positively related to the likelihood of adopting the various options of adaptation practices. Only age (X_1) was negative and but statistically significant at ($p< 0.05$).This negative coefficient suggests an inverse relationship with the dependent variable. The study recommended formulation of effective agricultural policies and programmes to increase farmer's access to climate information, agricultural inputs, practices and technologies that will enable them adapt to the negative effects of climate change.
Keywords: Adaptation, adoption, agriculture, climate change and determinants

INTRODUCTION
Climate change refers to a change in the state of the climate, identified by changes in the mean and/or the variability of its properties (e.g. temperature and precipitation), and that persists for an extended period, typically decades or longer and that can be detected by statistical tests (IPCC, 2007). The climate is said to have changed when there is a direct or indirect alteration of the composition of the global atmosphere and which is in addition to natural climate variability observed over comparable time periods (IPCC, 2007). Apata (2009) also emphasized the combined effect of natural and anthropogenic factors influence climatic changes. Climate change either directly or indirectly affects agricultural production. The magnitude of impact of climate change cannot be underestimated as it has the propensity to affect the output of most agricultural crops, including vegetables (Kemausuor et al., 2011; and Kotir, 2011). Datta (2013) also reported that temperature increase and erratic rainfall patterns are two major parameters that have affected the production of vegetable crops. Vegetable crop production is a source of livelihood to most farmers in the study area hence erratic rainfall pattern and high temperatures in the area has the potential to threaten the livelihoods of these farmers. Vegetables are generally sensitive to environmental extremes, and thus high temperatures and limited soil moisture are the major causes of low yields in the tropics and will be further magnified by climate change. Evidence abounds that farmers can adapt to climate change by changing their agricultural practices, which may include planting tolerant crop varieties or changing agronomic practices. Climate change poses a great threat to human security through erratic rainfall patterns and decreasing crop yields, contributing to increased food insecurity. New studies confirm that Nigeria, like other of Sub-Saharan African countries, is highly vulnerable to the impacts of climate change due to low adaptive capacity (IPCC, 2007; NEST, 2004). One of the policy options for reducing the negative impact of climate change is adaptation (Adger *et al.,* 2003; Kurukulasuriya and Mendelsohn, 2006). The capacity of farmers to adapt to climate change can be significantly influenced by their level of awareness about the effects of climate change in their communities. Selvaraju et al. (2006) identified some adaptation practices commonly used by farmers in response to climate change to include; use of improved varieties, agrochemical application, adopting improved agronomic and agro forestry practices, etc. There is great need for farmers to develop strategies to cope with the stress and damage climate change can impose on the agricultural production (Pinto *et al*., 2012). The development and Implementation of adaptation practices will go a long way to help offset the unpredictable nature of the climate in order to sustain food production and prevent food insecurity

(Sarr, 2010). It is against this backdrop that this study will seek to find answers to the following research questions:

i. What are the perceptions of climate change effects in the study area?
ii. What are the determinants of adoption of adaptation practices by the farmers?

Research hypothesis was stated thus; there is no significant relationship between the socio-economic characteristics of the farmers and their adoption of climate change adaptation practices.

METHODOLOGY

Study area - The study was carried out in Bassa Local Government Area of Plateau state, Nigeria. Bassa local government consists of nine (9) districts. Kakkek, Buji, Jere, Mafara, Kishika, Amo, Buhit, Miango and Kwall. The local government lies between latitude $10^0.05^0$N and longitude8^0.440E. The area has an estimated population of people215,263 as projected from 2006 census using an annual growth rate of 2.1%, with temperature range between 18^0C-27^{o}C and an annual rainfall average 1,215 mm-1,500 mm per annum. It has an area of 1, 743km^2 (NBS, 2013). The major vegetable crops cultivated in the study area include; cabbage, lettuce, tomatoes, cucumber, peas, green pepper and chili pepper (NBS, 2013).

Sampling procedure - A multistage random sampling technique was employed in selecting the respondents used for the study. In the first stage, two (2) districts, i.e. Miango and Kwall districts were purposively selected due to the predominance of vegetable farmers in those districts. In the second stage, three (3) villages were randomly selected from each of the two districts; the last stage involved the systematic random selection of farming households within the selected villages using a list of farmers in the study area compiled by the staff of Fadama III programme. Using a constant sampling proportion of 0.02 (2%) a sample size of 117 respondents was selected from a sample frame of 5850 farmers, while only 99 questionnaires were retrieved and used for the purpose of this study.

Method of data collection - Primary data was collected for this study using a well-designed questionnaire in line with the objectives of the study.

Analytical techniques - The analytical tools used for this study include likert scale method to analyze objective i, and multinomial logit regression model to analyze objective ii.

Models specification

Likert scale - A 3point likert scale was used to measure the perception of the effects of climate change on vegetable crop production in the study area; where 1=not intense (NI), 2 = moderately intense (MI) and 3 = highly intense (HI). To determine the mean, Likert scale levels of each item was calculated by multiplying the frequency of each response pattern with its appropriate nominal value and divide the sum with the number of respondent to the items. This can be summarized as follows:

$Xs=\sum fn/N$…… (1)

Where: Xs=mean score; ∑=Summation; f=frequency; and N=number of the respondent

Xs =1+2+3=6/3=2…… (2)

The respondents' perception was therefore ranked using the mean score on the Likert scale

Multinomial Logit (MNL) regression model - This was employed in the estimation of the determinants of adoption of climate change adaptation practices by vegetable crop farmers. It specifies the following relationship between the probability of choosing an option and the set of explanatory variables (Greene 2003):

$$pr\,(y_i = j) = \frac{e\beta_j x_{ii}}{1 + \sum_{m=0}^{n} e^{\beta m\, xij}}\; j = 0,1,2,3 \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots (3)$$

In its simplest form, the model is expressed as follows:

$Y_i = ß_o + ß_iX_i + e_i$ …… (4)

Where: Yi = Adaptation practice (i =0,1,2, 3…n) adopted by the vegetable farmers, i.e., the probability of choosing a set of climate change adaptation practices; either use of agrochemicals, agro forestry practices, adjustment in planting dates, improved agronomic practices, diversification of livelihood, adopting irrigation farming, use of improved varieties, etc. in the choice set; B_0 = the constant term; ßi ($B_1 – B_8$) = vector of the estimated parameters or unknown coefficients; and Xi = vector of the predictors (exogenous or socio-economic variables).The explanatory variables are as follows; X_1 = Age (years); X_2 = Gender (male=1, female=0); X_3= Marital status (married=1, single=0); X_4= Educational level (years); X_5= Farming experience (years); X_6 = Household size (number of persons); X_7 = Farm income (₦); X_8 = Access to extension contact (access=1, otherwise=0); and e_i = error term.

RESULT AND DISCUSSIONS

Perceived effects of climate change on vegetable crop production - From the result in Table 1, the different perceptions of the respondents on the effects of climate change on vegetable crop production were very significant and manifested itself through incidence of flooding (2.28), decline in crop productivity (2.26), irregular rainfall (2.23), increased temperature (2.21), drought (2.11), land degradation (2.10), loss of soil fertility (1.99) and pest and disease (1.94) as reflected by their mean scores.

Table 1: Distribution based on the perceived effects of climate change on vegetable crop production

Perceived effects	HI	MI	NI	∑fn	Mean	Rank
Incidence of flooding	48	31	20	226	2.28	1st
Decline in crop productivity	45	35	19	224	2.26	2nd
Irregular rainfall pattern	44	34	21	221	2.23	3rd
Increased temperature	39	42	18	219	2.21	4th
Drought	33	44	22	209	2.11	5th
Land degradation	30	49	20	208	2.10	6th
Loss of soil fertility	29	40	30	197	1.99	7th
Pest and disease infestation	25	43	31	192	1.94	8th

Source: Field survey (2017). NI= not intense MI= moderately intense HI=highly intense

The regression analysis presented in Table 2 was used to estimate the determinants of adoption of climate change adaption practices in the study area. The Likelihood ratio statistic (as indicated by X^2 statistic) is highly significant (P<0.0003), suggesting that the model has a strong explanatory power. Also, the result of the regression model reveals that the pseudo coefficient of multiple determinations (R^2) was 0.7904 implying that 79% of the variation in adaptation practices adopted was accounted for by the explanatory variable inputs in the model. The remaining 21% not explained may be due to omitted variables and the stochastic error term. The regression coefficients of education (X_4), farm experience (X_5), household size (X_6), farm income (X_7) and extension contact (X_8) were positive and statistically significant at ($p< 0.05$), this implies that the independent variables were positively related to the likelihood of adopting the various options of adaptation practices. Only age (X_1) was negative and but statistically significant at ($p< 0.05$).This negative coefficient of age suggests an inverse relationship with the dependent variable, implying that as farmers get older they become more averse to adopting improved agricultural practices or technology. This result corroborates with the findings of; Deressa *et al*., (2008) and Guiteras, (2009), who have noted in their respective studies, that there was a positive relationship between the socio-economic characteristics of farmers and their adoption of improved agricultural practices or technology.

Table 2: Determinants of adoption of adaptation practices

Variable	Coefficient	Standard error	T-ratio
Constant	0.694**	0.262	2.648
Age (X_1)	-0.536**	0.274	-1.956
Gender (X_2)	$0.017^{n.s}$	0.015	1.133
Marital status (X_3)	$0.489^{n.s}$	0.362	1.351
Education (X_4)	0.306**	0.117	2.615
Experience(X_5)	0.657**	0.218	3.013
Household (X_6)	0.881**	0.345	2.553
Income (X_7)	0.312^{**}	0.122	2.557
Extension (X_8)	0.455**	0.141	3.226
Prob<X^2	0.0003**		
Pseudo R^2	0.7904		

**= Significant at (p<0.05), NS= Not Significant
Source**:** Field survey (2017)

CONCLUSION AND RECOMMENDATIONS

The results of the study revealed that the effects of climate change were very significant and had the potential to threaten the livelihoods of these farmers as well as contribute to food insecurity. The regression analysis indicated that the farmer's socio economic variables significantly influenced their likelihood of adopting a set of adaptation practices.

Based on the findings, the following recommendations are suggested:

i. Efforts should be made to educate and increase farmer's awareness of climate change, its causes, effects, and the appropriate adaptation practices.
ii. Improved agricultural practices or technology should be subsidized and provided to the farmers, to enable them adapt to the adverse effects of climate change.
iii. Effective agricultural policies and programmes, e.g. tree planting, afforestation, etc. should focus on how to mitigate climate change.
iv. Policy formulation that will increase farmer's access to climate information,

agricultural inputs, practices or technology, affordable credit, etc.

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RURAL SOCIAL PROTECTION INTERVENTIONS IN SOME AFRICAN COUNTRIES: IMPLICATIONSFOR NIGERIA

[1]Atala, T. K. and [2]Issa, F. O.
[1]Department of Agricultural Extension and Rural Development, Ahmadu Bello University, Zaria
[2]National Agricultural Extension and Research Liaison Services, Ahmadu Bello University, Zaria

ABSTRACT
Social protection interventions aim to reduce socio-economic risks, vulnerability, extreme poverty and deprivation. This paper assessed the rural social protection interventions (RSPIs) in different African countries drawing lessons that, if utilized, are capable of enhancing the achievements of interventions in Nigeria. Desk analysis was utilized for the assessment. Specifically, the study identified the area of priority RSPIs; examined the goals of RSPIs, assessed the achievements of RSPIs, identified the resource utilization and policy hinge; and drew lessons from the RSPIs experiences. This paper concludes that most African countries implements more than one social protection intervention programmes. Effective monitoring is a hallmark for successful implementation and realization of the goals of social protection interventions. The following implications were drawn for enhancing the achievements of interventions in Nigeria: Adoption of Policy implementation roadmap, removal of practical barriers, improving coverage of routine social protection interventions, and exploring funding sources other than the social protection budget. It is also strongly recommended that potential synergies should be exploited to help build resilient and sustainable rural livelihoods.
Keywords: Social protection, rural protection policy, rural resources, Africa

INTRODUCTION
Social protection comprises a series of mechanisms to fight poverty and redistribute the fruits of growth. Social intervention is critical because social protection had become an indispensable part of the government's responsibility towards its citizens and was key to helping the reduction of poverty in line with the goals of different countries.

According to Devereux (2012), social protection is a relatively new and rapidly growing (but still evolving) policy agenda. There is no consensus on the boundaries of social protection, but most operational definitions include two elements: social assistance (protection against poverty) and social insurance (protection against vulnerability). A third component advocated by some definitions addresses social injustice and exclusion ("*social equity* to protect people against social risks such as discrimination or abuse" (Devereux and Sabates-Wheeler, 2004)).

The primary functions of social protection are to alleviate income poverty and manage vulnerability. Poverty alleviation or reduction is achieved by raising household incomes, while income or livelihood vulnerability can be managed or reduced by stabilising incomes.

Vulnerability also has a social dimension, related to marginalisation and exclusion, and this can be addressed through strategies that empower people.

Recent thinking on social protection emphasises 'graduation' and 'self-reliance'. For low income households that have labour capacity, social protection should provide only temporary support, and should promote sustainable livelihoods rather than dependence on 'handouts' (Government of Ethiopia, 2009).

UNICEF defined social protection as a set of interventions whose objective is to reduce social and economic risk and vulnerability, and to alleviate extreme poverty and deprivation. A comprehensive social protection system should include four broad sets of interventions:

Protective programs that offer relief from economic and social deprivation, including alleviation of chronic and extreme poverty. These interventions include humanitarian relief in emergencies, and targeted cash transfer schemes;

Preventive programs are put in place before a shock (ex-ante) and are designed to avert deprivation or to mitigate the impact of an adverse shock, and include mechanisms such as health and unemployment insurance and non-contributory pension schemes;

Promotiveprograms enhance assets, human capital and income earning capacity among the poor and marginalized, such as skills training and active labor market programs;

Transformative interventions are those aimed at addressing power imbalances that create or sustain economic inequality and social exclusion, and include legal and judicial reform, budgetary analysis and reform, the legislative process, policy review and monitoring, and social and behavioral/attitudinal change.

In the last decade, an increasing number of developing countries have started implementing social protection programmes with the objective, among others, of contributing to the eradication of poverty. In Africa, in particular, there has been an impressive growth in the number of non-contributory programmes over the last 15 years targeting poor and vulnerable households and individuals and serving various purposes such as reducing poverty and vulnerability, and improving

health, education and food security among beneficiaries (Tebaldi, 2016).

Most rural people in Africa rely on agriculture and pastoralism for their livelihoods, yet these activities are threatened by a number of systemic and local risks and challenges, including: widespread poverty and lack of access to basic social and productive services; high climate variability and the impacts of climate change, including increased shocks and stresses (drought and floods, rising temperatures and changes in rainfall patterns); displacement, loss of assets and livelihood disruptions due to conflict and violence; and long-term social and economic impacts due to the highest population growth rates in the world.

Conflicts in Mali, the Lake Chad Basin and the Sudan have forced millions of people from their homes in recent years, increasing the number of people in need of humanitarian assistance. The situation has exacerbated existing economic and social vulnerabilities of the poorest, threatening to reverse development gains.This situation calls for social protection systems that are long-term, predictable, regular, flexible, risk-informed and shock-responsive. Such systems can bridge the gap between humanitarian and development interventions, helping to reduce poverty, hunger and food insecurity, while strengthening people's resilience to disasters and crises. They enable the poor and marginalized to protect their assets and engage in productive activities.

Over the past three decades, several continent-wide deliberations have emphasized the need to initiate social protection schemes. These deliberations include the African Common Position on Human and Social Development in Africa in 1994; Ouagadougou Declaration and Plan of Action in 2004 on the Declaration on Employment and Poverty Alleviation in Africa; Social Policy Framework for Africa in 2008; Yaoundé Tripartite Declaration on the Implementation of the Social Protection Floor in October 2010; Social Ministers' Khartoum Declaration on Social Policy Action in 2010; and, most recently, the Ministers' Addis Ababa Declaration on Social Protection for Inclusive Development in April 2015. In addition, the International Trade Union Confederation (ITUC) Africa Region has also identified social security and social protection as key areas that labour movements in Africa must focus on to improve the welfare of the labour force. Furthermore, 'Social Protection and Poverty Reduction' is a division of the African Development Bank's Human and Social Development Department. Moreover, numerous conferences and workshops focusing on social protection have been held across the continent. For instance, the Southern African Social Protection Experts Network (SASPEN) and Friedrich-Ebert-Stiftung (FES) Zambia hosted a two-day conference on the 'Sustainability of Social Protection in the SADC: Economic Returns, Political Will and Fiscal Space' in Johannesburg on 20–21 October 2015. Inclusive Development (INCLUDE) (2016)

The Nigerian social policy is derived from the fundamental principle and objective of state policy which is based *'...on the principle of...social justice'* (Sec 14.1). This is even further highlighted in Sec 16.2.d which obliges the Federal Government with the responsibility of ensuring;

> *'that suitable and adequate shelter ...reasonable national minimum living wage, old age care and pensions, and unemployment, sick benefits and welfare of the disabled are provided for all citizens.'105*

The state law is established '...for every employment in the Public Service of the State, a Contributory Pension Scheme (in this Law referred to as the Scheme) for the payment of retirement benefits of employees to whom the Scheme applies under this Law...' (1999 Constitution). The Scheme applies to all employees in the Public Service of the State (***Mustapha andUyot, C. (????).***

While policies to promote broad-based economic growth are fundamental to overall social development, the benefits of growth do not automatically reach the poorest and most marginalized families; direct interventions are still required to reach the socially and economically excluded. Consequently, creating and strengthening social protection systems is an important priority for governments, donors, UN agencies and NGO partners in Africa.

Despite the expansion of social protection in Africa, national governments are often reluctant to introduce comprehensive social protection programmes as these require a reallocation of resources and are often considered too expensive.

The phenomenal rise of social protection interventions in Africa has been viewed by some as the rise of the welfare state (Ferguson, 2015). Despite this expansion, compared to high-income countries, social protection coverage in Nigeria is low. ILO (2011) declared that most people living in rural areas of developing countries are not covered by any type of social protection ILO (2011).

In the light of the above background, this paper examined the social protection interventions (RSPIs) in different African countries drawing lessons that, if utilized, are capable of enhancing the achievements of interventions in Nigeria.

Social protection interventions (SPIs) in African countries

In the past few years, a growing number of developing countries have introduced large-scale

social transfer programmes in response to high levels of poverty and vulnerability. In many countries, children have been a particular focus of transfer programmes, for several reasons, including the following: i) children are an especially vulnerable group, with high incidence of poverty; ii) spells of poverty in childhood can have long-lasting effects on later development, including intergenerational transmissions of poverty; iii) reducing child poverty is important in the context of breaking the intergenerational cycle of poverty that is common in developing countries; iv) improving children's nutrition, health and education can enable those in poverty to escape it and move into growth trajectories, contributing to economic growth and development; and v) large-scale social transfer programmes focused on children, such as *Oportunidades*in Mexico, *BolsaFamilia*in Brazil, the Child Support Grant in South Africa and Food/Cash for Education in Bangladesh, show they are a feasible and desirable policy option in middle- and low-income countries (Barrientos and DeJong 2006).

In Senegal, social protection includes social security regimes that provide benefits to private sector employees and public sector functionaries; private or community regimes, formal and informal, with similar objectives to mutual health and professional funds; and social assistance programmes for the poorest and most vulnerable. The social protection for children {Orphans or vulnerable children (those who risk losing family support) aged 0 to 18 in the neighbourhood of Taïba in Grand Dakar}focused on Payment of school fees, provision of monthly food ration, payment of medical costs, training for parents and allocation of non-reimbursable grant for income-generating activities as well as training for local CBO to take over the programme. A total of 1,080 individuals (900 children and 180 adults) were covered by the programme. Two visits were instituted per month to monitor the development of the family as a procedure for achieving the set target. Refuge centre was also created as an institution to implement the programme with the major objective of Integration and social promotion of children and youth Rehabilitation of under-age delinquents.

In Ghana, the major advantage of the NHIS is its focus on the poor and social health protection. Clients, irrespective of their socioeconomic status, seem to have had satisfactory experience with the system and are willing to remain insured in future. More people are able to gain access formal health care through the NHIS and there is a clear shift away from the 'Cash and Carry' system in favour of the NHIS. Hospital authorities have indicated that there had been a decline in the proportion of hospital deaths among the insured due to early treatment as indicated by the observed higher utilization of outpatient care coupled with a modest decline in inpatient admissions.

In Uganda, the National Social Protection Policy (NSPP) and Programme Plan of Interventions were approved by the Cabinet in November 2015. The Government of Uganda under the Ministry of Gender, Labour and Social Development (MoGLSD) has been implementing the Expanding Social Protection Programme since June 2010 and has undertaken the rollout of the Senior Citizens Grant to all districts beginning with 55 by 2020. The core of the Ugandan social protection system includes direct income support programmes, which provide small but regular transfers to targeted individuals and households and guarantee a minimum level of income security.

The Government of Uganda has adopted the National Social Protection Policy, and Intergrated it in its National Development Plan (NDPII), underscoring the importance of social protection in addressing risks and vulnerabilities. Efforts are underway to build a comprehensive national social protection system, including adoption of the policy implementation roadmap, putting in place the national coordination architecture, and a single registry.

Several social protection interventions currently under implementation have demonstrated strong evidence of the positive impact on communities, notably:

- Direct income support interventions such as the Social Assistance Grants for Empowerment (SAGE) now in 47 districts of Uganda reaching 153,700 beneficiaries. Under this program, the number of households eating fewer than two meals per day fell more than twice, attendance rates in primary and secondary schools rose nearly three times, while employment increased by 50 percent.
- Disaster Risk Financing in Karamoja region of Uganda reaching 33,000 beneficiaries.
- Labour intensive public works under phase three of the Northern Uganda Social Action Fund in Eastern and Northern Uganda reaching 31,386 beneficiaries.
- Others include pensions for public servants and NSSF for contributory social security.

In Ethiopia: The Productive Safety Net Programme (PSNP), for instance, is defined as a transition from 'chronically food insecure' to 'food sufficient'. "A household has graduated when, in the absence of receiving PSNP transfers, it can meet its food needs for all 12 months and is able to

withstand modest shocks" (Government of Ethiopia, 2007).

In Mali, Government support for households affected by shocks is split mainly across three ministries: the Ministry of Solidarity and Humanitarian Action (MSAH), which is responsible for contributory and non-contributory social protection, humanitarian assistance, mutual health organisations and free medical assistance for poor households; the Ministry of Security and Civil Protection (MSPC), responsible for DRM and for emergency and rescue services; and the Food Security Commission (CSA), which runs Mali's early warning system and oversees the response to food insecurity.

In addition, the Ministry of Education leads a school feeding programme; the Ministry of Economy and Finance houses a World Bank-financed national cash transfer programme, Jigisèmèjiri, set up in 2012; the Ministry of Health oversees free access for some health care procedures; and the Ministry of Agriculture represents Mali in AGIR, the Global Alliance for Resilience initiative which aims to promote resilience in West Africa, including through social protection.These efforts are complemented by the work of numerous aid agencies (international NGOs, UN agencies and national actors) – about 130 as of 2016 – some of which have operated in Mali for decades. They are spread across the country but work especially in the north where the provision of government services is very limited.

The government of Mali does not strongly distinguish social protection from humanitarian responses: activities that might be classified as 'humanitarian assistance' by an external observer are considered by the government as social protection interventions when they deal with direct support to households and individuals. One of the main relevant programmes is the annual free food distribution (AFFD):

Annual free food distribution: This is a *de facto* safety net addressing chronic as well as emergency needs: in 2015, 1.1 million people received food assistance, against an estimate of 410,000 in immediate need of assistance and 2.7 million at risk of food insecurity. The CSA supports about half the caseload itself, drawing on the National Food Security Stock; the remainder are supported by the World Food Programme, the Red Cross and ECHO.Increasingly, besides its focus on free food distribution, the annual National Response Plan for food insecurity (which combines government and donor-funded interventions and is developed at the start of the lean season in April based on 'ENSAN' food security surveys) also includes livelihood support to build resilience: in 2015 1.2 million people received this type of assistance, covering items such as seeds, fertilizers, and the vaccination of livestock.

CONCLUSION AND IMPLICATIONS FOR NIGERIA

Most African countries implements more than one social protection intervention programmes. Effective monitoring is a hallmark for successful implementation and realization of the goals of social protection interventions. The following are essential implications for enhancing the achievements of interventions in Nigeria.

Adoption of Policy implementation roadmap: Policy implementation roadmap should be adopted, putting in place the national coordination architecture, and a single registry. Removal of Practical barriers: Practical barriers to entry should be removed–economic, geographic, political and cultural. There are many people living remotely who do not have easy access to health facilities and therefore may not have access to benefit from NHIS.

Improving coverage of routine social protection interventions: This will help the whole system be more responsive to shocks and would offer a major contribution to households' ability to withstand crises. To improve geographical coverage programmes would need to strengthen the delivery of essential government services in conflict-affected areas; to meet the needs of pastoralists and migrants as well as people displaced by shocks.

Exploring funding sources other than the social protection budget: Recognizing that the social protection budget alone will not sufficient to deliver the step change in funding that is required to address food insecurity more fully, it will be valuable to consider how activities relevant to shock-responsive social protection relate to – and can be funded through – other sector budgets, especially agriculture.

Alignment between emergency and long-term social protection interventions: Alignment of core delivery mechanisms – for example the transfer modality and value, or the approach to registering and selecting beneficiaries – can enable a transition in the medium-long term, once government capacity and funding are in place. This may be appropriate in situations where the objectives of the interventions are similar.

Creation of Unified Social Registry: This could play an instrumental role in supporting the expansion of existing programmes as well as being used by new programmes. Yet this research stresses the necessity of developing a system for data collection and updates that generates trust in the data quality; and also the importance of enabling appropriate access to those responsible for disaster response and social protection, particularly

at local level – including training for staff in its use – while ensuring that this does not generate security risks for beneficiaries.

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EFFECTS OF FLOODS ON LIVELIHOOD OF RURAL FARMERS IN THE RIVERINE AREAS OF NIGER STATE, NIGERIA

Ndatsu, J. A., Umar, I. S. and Ibrahim, M.
Department of Agricultural Extension and Rural Development, Federal University of Technology, Minna, Niger State, Nigeria

ABSTRACT
The study examined the effects of floods on livelihood of rural farmers in the riverine areas of Niger state, Nigeria. The specific objectives were to assess the frequency of flood occurrence and determine the effects of floods on livelihood of farmers in the study area. A multi stage sampling technique was used to select a total of 213 respondents across the zones; data collected were tested for validity and reliability and analyzed using descriptive statistics and OLS multiple regression analysis. The mean age of the respondents was 42 years, 89.5% were male, and 83.5% were married with farming experience of about 22years, household size of 10 persons. Most of the respondents had tertiary education with mean income of about ₦888,666 per annum. The study also revealed that 50% experienced floods once in a year while about 37% of the respondents experienced floods twice in a year. The OLS regression result shows that the effects of floods on the livelihood of farmers in the study area includes lost of lives ($P < 0.05$; $t = 2.29$), collapse of houses ($P < 0.05$; $t = 2.30$), lost of crops ($P < 0.10$; $t = 1.86$) and occurrence of diseases ($P < 0.05$; $t = 2.07$). The study concludes that flood occurrence was majorly once in a year with devastating effects on the livelihood of rural farmers in the study area. Based on the findings of this research, it was therefore recommended that credit facilities should be made available to farmers to facilitate their adoption of flood control measures and government should provide assistance to the farmers to enable them recover from the effects of floods.
Keywords: Floods, Riverine, Livelihood, Niger

INTRODUCTION
Flood disaster is rising in frequency worldwide due to a variety of environmental and human factors. Natural disaster and floods in particular are becoming more frequent and destructive. Physical causes of floods include the nature of precipitation, topography, vegetation, soil type and runoff pattern. Human factors contributing to flooding are mostly associated with development and land use practices across the globe such as burning of fossil fuels, coal, petroleum and natural gases and widespread deforestation. Nigeria is not exempted from the hazard and challenges flooding poses on the economic wellbeing of humans. Flood threatens food production; food prices as well as both nutritive and microbial quality of harvested food materials, and drives food insecurity and malnutrition. Oyeleye and Adetunji (2013) reported that Northern Nigeria is mostly affected by flood and this affects the agriculture and socio economic activities of the rural populace from agricultural point of view, flooding in Nigeria has resulted into poor harvest, claiming the agricultural land of the riverine communities and finally leads to poor standard of living. It has also resulted into unto hardship, loss of human being, productive agricultural land, agricultural produce, animals, livestock and buildings.

Though a lot of studies have been carried out on the impact of climate change on agricultural activities, yet there is a dearth of information on the effect of flooding on the life of these settlers along river banks who are more prone and vulnerable to flooding. It was against this backdrop that this study is carried out to analyze the effects of floods on livelihood of rural farmers in the riverine areas of Niger State and the specific objectives were to: (i) describe the socio-economic characteristics of rural farmers, (ii) assess the frequency of flood occurrence and (iii) determine the effects of floods on livelihood of rural farmers in the riverine areas of Niger State.

METHODOLOGY
Study Area: The study was conducted in Niger State which was created out of the former North Western State with her headquarters located in Minna. It lies between Latitudes $8^{0}20^{1}$ and $11^{0}30^{1}$ North of the Equator and Longitudes $3^{0}30^{1}$ and $7^{0}20^{1}$ east of the Greenwich Meridian line. Niger State has an estimated human population of 3,950,249 (N.P.C.2006), which was projected to be about 5,016,816 in 2016 with an annual growth rate of 2.7%. The senatorial districts in Niger State were Niger South (A), Niger East (B) and Niger North (C).

Sampling Procedure: A multi-stage sampling technique was used for the study. The first stage involved purposive selection of three (3) senatorial districts that make up the State. The second stage involved random selection of two (2) Local Government Areas from each of the senatorial districts to make up a total of six (6) Local Government Areas. The Local Government Areas from Niger South (A) – Lavun and Kacha, Niger East (B) – Gurara and Shiroro and Niger North (C) – Wushishi and Kontogora Local Government Areas respectively. The third stage involved a random selection of four (4) villages from each of the selected Local Government Areas

to make up a total number of twenty-four (24) villages. In the final stage, 30% of the sampled frames were selected in order to have a total number of 213 respondents for the study.

Methods of Data Collection: Primary data was used for the study and a well structured questionnaire, complemented with interview schedule was used to elicit the necessary information from the respondents. The questionnaire was pre-tested to ensure its validity and reliability for the research.

Data Analytical technique: Both descriptive and inferential statistics were used to analyze the data in line with the stated objectives.

Model Specification

The explicit form of the OLS regression model is given as:

$Y = \beta_0 + \beta_1X_1 + \beta_2X_2 + \beta_3X_3 + \beta_4X_4 + \beta_5X_5 + \beta_6X_6 + \beta_7X_7 + \beta_8X_8 + \beta_9X_9 + \beta_{10}X_{10} + e_i$ (1) Where:

Y = Livelihood Index

$$= \frac{(\text{Income} + \text{Savings} - \text{Expenditures} + \text{Debts}) \times 100}{4}$$

X_1 = Farmland submerged (ha), X_2 = Food crops lost (kg), X_3 = Livestock lost (Count), X_4 = Rivers contaminated (count), X_5 = Life lost (count), X_6 = Collapsed buildings (count), X_7 = Collapsed bridges (count), X_8 = Cost of adopting coping strategies (₦), X_9 = Number of flood occurrence (Number/Years), X_{10} = Number of disease occurrence (count), e_i = Error term, β_0 = Intercept and $\beta_1 - \beta_{10}$ = Coefficients of the independent variables. Swathilekshimi (2010) model was adopted for the study.

RESULTS AND DISCUSSION

Socioeconomic characteristics

The result as presented in table 1 revealed that about 27.7% had the age range from 41-50 years with mean age of 42years. The results simply depict that farmer in the study area fall within the active age group of agricultural practices. The study also shows that 89.57% of the respondents were male, implying that men dominated the farming activities within the sampled communities. Also, Most of the farmers had tertiary education with mean household size of 10 and mean farm income of about ₦888, 666 per annum. This result is in line with the findings of Coker *et al*. (2014), that the mean age for the floods affected communities was 50 years, implying that most of the farmers at the peak of their productive years with many years of experience.

Table 1: Socio-economic characteristics of the respondents

Variables	Frequency	Percentage	Mean
Age (years)			
< 31	46	21.61	
31 – 40	51	23.90	
41 – 50	59	27.70	
51 – 60	37	17.39	
> 60	20	9.40	42.00
Gender			
Male	191	89.67	
Female	22	10.33	
Educational Level			
No Formal	39	18.31	
Quranic	22	10.33	
Primary	46	21.60	
Secondary	48	22.54	
Tertiary	58	27.23	
Household Size			
1 – 5	52	24.43	
6 – 10	91	42.71	
11 – 15	40	18.77	10
> 15	30	14.10	
Farm Income (₦)			
< 201,000	34	15.97	
201,000 – 400,000	39	18.33	
401,000 – 600,000	36	16.90	
601,000 – 800,000	17	7.95	888,666.70
801,000 – 1,000,000	22	10.33	
> 1,000,000	65	30.52	

Source: Field survey, 2018

Frequency of flood occurrence

The result of the frequency of flood occurrence in the study area as presented in table 2 shows that majority (50%) of the farmers experienced flood once in a year, with an average of about 37% twice in a year. This implies that the frequency of flood occurrence in the study area was once in a year as indicated by majority of the respondents. This result is in line with the findings of Adegbile (2014) that majority of farmers in Oyo State experiences one form of flood or the other and estimated the average frequency of floods to be at least once in a year.

Table 2: Frequency of flood occurrence

Variable	Frequency*	Percentage
Experience flood	205	96.24
River overflow	202	94.84
Dam burst	127	59.62
Coastal flood	5	2.35
Flash flood	7	3.29
Once in a year	107	50.23
Twice in a year	79	37.09
Once in two years	23	10.80
Others	4	1.88

*Multiple responses
Source**:** Field survey, 2018

Effects of floods on livelihood of farmers

The result of the effect of floods on the livelihood of farmers as presented in table 3 revealed that the coefficient of determination, R^2 was 0.7360 which implies that about 74% of the variation in the livelihood of farmers was explained by the independent variables in the model and the remaining 26% was explained by error in estimation. The F-value was 22.23 and statistically significant at 1% ($P < 0.01$) probability level indicating that the entire model was significant and that all the variables included in the model jointly predicted the livelihood of farmers in the study area.

The coefficient of number of crops submerged ($P < 0.10$; $t = 1.86$), number of life lost ($P < 0.05$; $t = 2.29$), number of houses collapsed ($P < 0.05$; $t = 2.30$), flood occurrence ($P < 0.05$; $t = 2.26$), disease occurrence ($P < 0.05$; $t = 2.07$) and length of flood occurrence ($P < 0.10$; $t = 1.84$) were all negatively related to the livelihood of farmers in the study area were statistically significant at 10%, 5%, 5%, 5%, 5% and 10% level of significant respectively. This is an inverse relationship which implies that an increase in these variables will lead to a decrease in the livelihood of the farmers in the study area and vice versa. The coefficient of number of control measures adopted ($P < 0.01$) was found to be positively related to the livelihood of farmers in the study area and was statistically significant at 1% level of significant. This is a direct relationship which implies that an increase in the number of control measures adopted will increase the livelihood of farmers in the study area and vice versa. Therefore, the effects of floods on the livelihood of farmers in the study area includes lost of lives, collapse of houses, lost of crops and occurrence of diseases. This study is in line with the findings of Coker *et al.* (2014) that flood occurrence had a negative effect on the productivity of farmers in the study area and was statistically significant at 5% level of significance. Olajuyigbe *et al*, (2012) reported that floods is accompanied with prevalence of diarrhea and other water borne diseases as most of sources of water are polluted. In line with the above finding, Chinedu and Aifeschi (2013) reported that over 4 hundred tons of cassava, 19.1 hundred tons of plantains and 2.5 hundred tons of yams were lost to the 2012 floods

Table 3: OLS regression result for the effects of floods on livelihood of farmers

Variables	Coefficient	Standard Error	t – value
Farmland submerged	0.7149	0.9601	0.74
Crops submerged	-59151	31801	1.86*
Livestock submerged	8.88e-07	0.0000	0.03
Rivers contaminated	-1.4435	1.1406	1.27
Number of life lost	-3.6079	1.5728	2.29**
Number of collapsed houses	-3.1482	1.3672	2.30**
Number of collapse bridges	-0.4910	1.6922	0.29
Number of control measures adopted	1.7265	0.6735	2.56***
Flood occurrence	-5.9409	2.6287	2.26**

Variables	Coefficient	Standard Error	t – value
Disease occurrence	-4.0237	1.9432	2.07**
Length of flood	-39044	21212	1.84*
Number of roads damaged	-0.4811	0.9503	0.51
Number of electric poles damaged	-0.5027	1.6788	0.30
Number of hospitals destroyed	0.9632	1.4221	0.68
Constant	6.5209	7.6394	0.85
R squared	0.7360		
Adjusted R squared	0.6749		
F-statistics	22.23***		

***, ** and * implies significant at 1%, 5% and 10% respectively
Source: Field Survey, 2018

CONCLUSIONS AND RECOMMENDATIONS

The study analyzed the effects of floods on the livelihood of rural farmers in the riverine areas of Niger State Nigeria and concluded that flood occurrence was majorly once in a year with great devastating effects on the livelihood of rural farmers in the study area. Based on the findings of this research, it was therefore recommended that government should provide assistance to farmers to enable them recover from the effects of floods.

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DETERMINANTSOFFARMERS' WILLINGNESS TO PARTICIPATE IN SORGHUM VALUE CHAIN INNOVATION PLATFORMS: CASE OF AGRICULTURAL TRANSFORMATION AGENDA SUPPORT PROGRAM PHASE-1

[1]Nnanna, U. A., [2]Odunze, B. N., [3]Ibrahim, M, [3]Ajayi, O. J. and [3]Muhammad, H. U.
[1]ATASP-1 Outreach Component, ATASP-1 National Office, Abuja
[2]Field Extension Service Division, Federal Department of Agricultural Extension, Federal Ministry of Agriculture and Rural Development, Abuja
[3]Department of Agricultural Extension and Rural Development, Federal University of Technology Minna

ABSTRACT
This paper tends to examine the determinants of farmers' willingness to participate in value chain innovation platformsand ascertain the factors influencing their willingness to invest in adopting improved technologies in the value chain. Structured questionnaire was used to elicit response from 235 sorghum farmers registered under the program in Kano and Niger states. Responses were analysed using the Probit regression analysis and multiple regression analysis. The result showed that for any increase in age of the farmers, they were 43% less likely to be willing to participate in VCIPs. It was also shown that for an increase number of the farmers' household members in active labour force, they were 20% more likely to be willing to participate, while for an increase in the farmers' access to Extension services and improved technologies, they were 142% more likely to be willing to participate; an increase in the amounts farmers were willing to invest to adopt improve technologies, increases likelihood to be willing to participate in VCIPs. It showed that the factors that influence farmers 'decision to invest to adopt improved technologies included: age, their Income from the value chain activities and the number of trainings they received. It follows that younger farmers were more willing to participate in VCIPs but were less willing to make all their investment in one value chain. They were adventurous; tend to diversify their investment into other ventures but the older farmers, who were willing to participate, tended to be willing to invest more in one value chain.
Keywords: Determinants, Innovation Platform, Value chain, Willingness

INTRODUCTION
In Nigeria, just like in every other African country, there have been policy shift, over the decades, from investing in the establishment of National Agricultural Research Systems (NARS), to a two-step system of having a NARS complemented by a state run agricultural extension delivery system, to current thinking that a pluralistic, private sector driven space could provide the most effective and sustainable means for mainstreaming science and technology in agriculture. (Chema*et al.,* 2003)

Innovation platforms involve stakeholders joining to find novel ways of solving problems by combining indigenous knowledge, business interests and organization skills. The stakeholders interact to jointly identify problems and opportunities, seek and apply solutions, learn, reflect and source more solutions for the innovation process to continue (Adekunle *et al.,* 2010). Markelova *et al.* (2009) noted that the approaches and practices that encompass the full range of activities and services of market actors required to bring a product or service from its conception to its end use and beyond is termed a value chain. The value chain concept entails the addition of value as the product progresses from input suppliers, to producers and consumers. The emphasis is on the relationships between networks of input suppliers, producers, traders, processors, and distributors (UNCTAD, 2000).

The Federal Government of Nigeria (FGN) in the effort to attract private sector investment in agriculture, reduce post-harvest losses, add value to local agricultural produce, develop rural infrastructure and enhance access of farmers and other value chain actors to financial services and markets through the Federal Ministry of Agriculture and Rural Development (FMARD) in collaboration with the African Development Bank with developed the Agricultural Transformation Agenda Support Program Phase-1 (ATASP-1), which is funded by the African Development Bank (AfDB). The Agricultural Transformation Agenda Support Programme Phase-1 (ATASP-1) is utilizing the Value Chain Innovation Platform approach to bring different value chain players together, to be able to solve their problems within their capacity.

The objective of this paper is to examine the determinants of farmers' willingness to participate in value chain innovation platforms and ascertain the factors influencing their willingness decision considering the amount they are willing to invest in adopting improved technologies in the value chain.

METHODOLOGY
Study area - The Agricultural Transformation Agenda Support Program Phase-1 in Nigeriaas a pilot project focusing on three commodities (Rice, Cassava and Sorghum) is run based on the Staple Crop Processing Zone

arrangement (SCPZ) and operated in four SCPZs. Kano and Niger States being two of the States sampled from two of the SCPZ was the study.

Niger state with a population of 3.9 million people (Alamu, 2013), is classified as one of the largest states in the country spanning over 86,000 km^2 in land area with 80% of the land mass conducive for agriculture (Tologbonse, 2008); lies on latitude 80^o to 11^o:30' North and Longitude 03^o 30' to 07^o 40' East. Niger state with 9.30% of the total land area of the country experiences distinct dry and wet seasons with annual rain fall varying from 1,100mm in the northern parts to 1,600mm in the southern parts. In the same vain, the total land area of Kano State is about 20,760sq km (RDDK,2009). The total population in 2006 national census is about 9,386820 people (NPC, 2009); Kano State is located in the tropics, a region characterised by alternating wet and dry conditions, with annual rainfall of 850mm occurring between April/May and September/October with peak in July and August.

The population of the study consisted of the ATASP-1 registered sorghum farmers in Kano and Niger States. The sample size consisted of 235 registered ATASP-1 Sorghum farmers in both States. Multistage sampling procedure was used for the study. Primary data was used for this study, derived using a well-structured questionnaire and interview schedule to collected data from sampled farmers. This study used inferential statistics suchProbit regression model and Multiple regression modelwere used. The Probit regression model attempted to capture factors determining willingness decision which is a participation equation and the marginal effects of the significant variables were determined and Multiple linear regression was used to determine the relationship between these factors and amount the farmers are willing to contribute to adopt the sorghum technologies being promoted in the Value Chain Innovation Platform.

RESULTS AND DISCUSSION

The result in Table 1 shows that the variables that were significant to determine the farmers' willingness to participate in sorghum VCIPs included age (0.008, p≤0.01), number of household members in active labour force (0.029, p≤0.05), access to extension services and improved technologies (0.000, p≤0.01) and amount farmers are willing to invest to adopt sorghum (0.005, p≤0.01).The result shows that as the farmers' age increases; they are 43% less likely to be willing to participate in sorghum VCIPs than the younger farmers. This result agrees with Asante *et al.* (2011), whose study showed a negative relationship between age and farmers' participation in microcredit programmes in northern Ghana.

It also shows that as the farmers' household members in active labour force increases; they are 20% more likely to be willing to participate in sorghum VCIPs. Number household members in active labour force have great implications to agriculture and can increase farmers' willingness to participate in sorghum VCIPs. Also, as the farmers' access to Extension services and improved technologies increases; they are 142% more likely to be willing to participate in sorghum VCIPs than the younger farmers and as the amounts farmers were willing to invest to adopt improve sorghum technologies increases, they are 0.0015% more likely to be willing to participate in sorghum VCIPs.

Table 1: Determinants of farmer's willingness to participate in Sorghum VCIPs

Willingness to participate	β - value	Std. Err.	p-value	Marginal Effect
Age	-.0429346	.0160938	0.008***	-.0001642
Level of Education	-.3027757	.2096451	0.149	
Household in family Labour	.1979173	.0905079	0.029**	.0007568
Annual Income	-7.16e-07	5.97e-07	0.230	
Income from Sorghum	1.13e-06	3.05e-06	0.711	
Number of training	.105791	.0650366	0.104	
Access to Extension	1.420579	.4075397	0.000***	.0359547
Amount willing for Sorghum	.0000149	5.35e-06	0.005***	5.69e-08
Marital Status	-.6043639	.5696483	0.289	
Market access	-1.690267	1.043837	0.105	
Cons	3.533785	1.514248	0.020**	
Number of observations	235	Prob> chi2	0.0000	
Log likelihood =	-34.351648	Pseudo R2	0.4978	

***** Significant at 1%** Significant at 5%**

Considering the factors influencing willingness decision of farmers' participation, the result in Table 2 showed that the socio-economic variables were significant to influence farmers' willingness decision in relation to the amount farmers are willing to invest to adopt improve sorghum technologies included age, farmer's income from sorghum value chain sources and

number of trainings attended by farmers. The result shows that for any increase in age, there is a probability of farmers to be more willing to increase their investment in sorghum technologies by N1722 even though age of the farmers have a positive relationship with the amount farmers are willing to invest to adopt improve sorghum technologies. This implies that though the age of the farmers is negatively related to the probability of willingness to participate in sorghum VCIPs, it has an adverse relationship with amount farmers are willing to invest to adopt improve sorghum technologies. This means that the younger sorghum farmers are more willing to participate in sorghum VCIPs but are less willing to do all their investment in sorghum value chain alone since they are adventurous and tend to diversify their investment in trying many other ventures but the older sorghum farmers who are willing to participate tend to be willing to invest more or all in sorghum technologies.The result also shows that for any increase in farmers income from sorghum value chain source by N1, there is a probability of farmers to be more willing to increase their investment in sorghum technologies by 41 kobo implying that increase in farmers' income from sorghum value chain sources will result to an increase in the amount farmers are willing to invest to adopt improve sorghum technologies. The result also shows that for any single increase in number of trainings attended by farmers, there is a probability of farmers to be more willing to increase their investment in sorghum technologies by N10,051 implying that an increase in number of trainings attended by farmers will result to an increase in the amount farmers are willing to invest to adopt improve sorghum technologies

Table 2: Factors influencing willingness decision to participate in Sorghum VCIPs

Amount willing to invest	**Coef.**	**Std. Err.**	**P>|z|**
Age	1722.673	822.0808	0.037**
Level of Education	-3568.578	10684.64	0.739
Household in family Labour	-3034.165	2643.499	0.252
Annual Income	.0238149	.0184269	0.198
Income from Sorghum	.4088953	.0711006	0.000***
Number of training	10051.87	2221.551	0.000***
Access to Extension	-1676.02	27352.23	0.951
Marital Status	-16846.05	25493.93	0.509
Market access	58683.32	39377.7	0.138
Cons	-66111.88	66766.27	0.323
Number of observations	= 235	R-squared	= 0.4907
Log likelihood	= 0.0000	Adj R-squared	= 0.4704

*** Significant at 1%** Significant at 5%, ** Significant at 10%

CONCLUSION

The results showed that the determinants of farmers willingness to participate included age, number of household members in active labour force, farmers' access to Extension, and the amount farmers are willing to invest to adopt the technologies deployed in the programme. The factors influencing their willingness decision to participate considering the amount farmers are willing to invest to adopt the technologies deployed in the programme were their age, income from sorghum value chain sources, and the number of trainings they received.The recommendations of the study are that, there is increased need:

i. For further education of the farmers on the benefits of the platforms after the awareness campaigns.
ii. For development of cheap and cost effective simple farm tools that the farmers can afford to effectively help them mechanise the production processes and avoid discontinuation of technologies after adoption.
iii. To create the enabling environment for other value chain actors to fully participate in the innovation platforms especially the financial institutions so that there can be full appreciation of each other by them and the farmers.

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FARMERS' PERCEPTION OF EFFECTIVENESS OF EXTENSION STRATEGIES' DEPLOYED IN AGRICULTURAL TRANSFORMATION AGENDA SUPPORT PROGRAMME IN KANO AND NIGER STATES, NIGERIA

[1]Nnanna, U. A., [2]Odunze, B. N., [3]Ibrahim, M, [3]Ajayi, O. J. and [3]Muhammad, H. U.
[1]ATASP-1 Outreach Component, ATASP-1 National Office, Abuja
[2]Field Extension Service Division, Federal Department of Agricultural Extension, Federal Ministry of Agriculture and Rural Development, Abuja
[3]Department of Agricultural Extension and Rural Development, Federal University of Technology Minna

ABSTRACT
The study assessed how farmers perceived the extension delivery strategies deployed under the Agricultural Transformation Agenda Support Programme in Kano and Niger. In carrying out the study, 235 Sorghum farmers participating in the programme in both states were randomly selected using the multi-stage random sampling procedure. The data collected through a structured questionnaire were analysed using mean and t-test of significance. The result showed that farmers found the extension strategies deployed to be effective and the study found no significant difference between the population and sample means at 95% confidence level. The most effective strategy was the strategy of stimulating farmer-to-farmer exchanges and technology dissemination while the other strategies, though effective, was rated least included: involving farmers in all stages of research and development; allowing technologies to be better compared and adapted to local conditions; empowering farmers as diagnostic problem-solvers in the future; and building farmers capacity to source information.
Keywords: Delivery strategies, Effectiveness, Extension, Perception

INTRODUCTION
Behavioural change is the focus of adoption while the extension personnel and their activities are the focus of learning situations and the success of agricultural intervention programmes, most of the times, focuses on farmers with much reference to their level of adoption, income and the impact of the adoption decision on the farmers' standard of living. However the effectiveness of extension strategies deployed under such programmes needs to be critically looked at, especially from the farmers' perspectives as this may give a greater clue to the reason for the success or failure of such intervention programmes. When these parameters are rated low, the famers are blamed for not responding positively. The effectiveness of the extension personnel in carrying out his duties can be used to assess the success of the extension programme (Misra, 1997). Amalu (1998) Observed that most problems in research trials have been as a result of faulty planning by either managers of research or their collaborators. Research on extension strategies can help extension services improve their effectiveness and efficiency in serving farmers (Khaila, 2015). Agbarevo and Obinne (2010) also observed that the top down approach in contrast to participatory approach to mainstream resource-poor-farmers into research extension activities have been the cause farmers' poor participation in the research-extension farmer-linkage activities. The ATASP-1 sorghum value chain in its extension strategy employed the use of Participatory Research and Extension Approach which involves four stages of: (1) situation analysis and social mobilization, (2) action planning, (3) farmer experimentation and (4) participatory monitoring and evaluation.

According to Williams (1984) in Mbulwe (2015), Effectiveness has to do with what extension personnel accomplishes regarding activities it has scheduled for itself to carry out while considering how resources, such as capital, goods and services, manpower, training and technologies required for execution of the programme have been utilised.

Farmers and other stakeholders benefits from participatory research and extension approach as they are involved in all stages of research and development to:

- Ensures that local technical knowledge is utilized as appropriate
- Motivates farmer participation and opens them to new ideas
- Allows technologies to be better compared and adapted to local conditions
- Empowers farmers as diagnostic problem-solvers in the future
- Stimulates farmer-to-farmer exchanges and technology dissemination
- Bring other actors and especially markets to make agriculture a business

Consequent on the above, it is the objective of this study to assess the farmers' perception of effectiveness of extension strategies deployed under the Programme. In this regard, the paper hypothesises that there is no significant no significant difference in the farmers' perception of the effectiveness of extension strategies deployed under the Agricultural Transformation Agenda Support Program Phase-1 (ATASP-1)

METHODOLOGY

Study area - The Agricultural Transformation Agenda Support Program Phase-1 in Nigeriaas a pilot project focusing on three commodities (Rice, Cassava and Sorghum) is run based on the Staple Crop Processing Zone arrangement (SCPZ) and operated in four SCPZs. Kano and Niger States being two of the States sampled from two of the SCPZ was the study.

Niger state with a population of 3.9 million people (Alamu, 2013), is classified as one of the largest states in the country spanning over 86,000 km^2 in land area with 80% of the land mass conducive for agriculture (Tologbonse, 2008); lies on latitude 80^o to 11^o:30' North and Longitude 03^o 30' to 07^o 40' East. Niger state with 9.30% of the total land area of the country experiences distinct dry and wet seasons with annual rain fall varying from 1,100mm in the northern parts to 1,600mm in the southern parts. In the same vain, the total land area of Kano State is about 20,760sq km (RDDK, 2009). The total population in 2006 national census is about 9,386820 people (NPC, 2009); Kano State is located in the tropics, a region characterised by alternating wet and dry conditions, with annual rainfall of 850mm occurring between April/May and September/October with peak in July and August.

The population of the study consisted of the ATASP-1 registered sorghum farmers in Kano and Niger States. The sample size consisted of 235 registered ATASP-1 Sorghum farmers in both States. Multistage sampling procedure was used for the study. Primary data was used for this study, derived using a well-structured questionnaire and interview schedule to collected data from sampled farmers on their perception of the effectiveness of the extension strategies deployed. The questionnaire was a 3-point Likert type rating scale designed to elicit information on farmers' perception on the effectiveness with regard to each of the effectiveness indicators to which numerical scores were assigned thus: not effective = 1, effective = 2, and very effective = 3.The data obtained were analysed using descriptive and inferential statistics, that is, the mean and the t-test respectively. The use of mean as descriptive statistics on the 3-point scale, the mean of 2.00 was used as cut off point to determine effectiveness or ineffectiveness which was thus modified: >2.50=high (very effective), 2.0-2.5=average (effective), and <2=low (not effective). The mean of 2 as a cut-off point was used to determine effectiveness or ineffectiveness of the perception of farmers of the extension strategies deployed.

The hypothesis that there is no significant difference between the sample and population mean ratings of farmers' perception regarding the effectiveness of extension strategies deployed under the programme was tested for significance using the t-test of significance of difference between the sample and population means at 95% confidence level ($p \leq 0.05$).

This is given by the formula: $t = \frac{\bar{X} - U}{\frac{S}{\sqrt{n-1}}}$

Where $\bar{X}$ = sample mean

U = population mean estimate = alpha – level (0.05) $\frac{(S)}{\sqrt{n}} + \bar{X}$

S = standard deviation of sample n = size of sample

n = size of sample

Table 1: Mean ratings of farmers' perception of effectiveness of extension strategies deployed by the Sorghum commodity value chain

S/N	Extension Strategies	Very Effective F*3	Effective F*2	Not Effective F*1	Ẍ	Rank
1	Farmers and other stakeholders are involved in all stages of research and development	351	212	12	2.4*	3RD
2	Ensures that local technical knowledge is utilized as appropriate	315	234	13	2.4*	3RD
3	Motivates farmer participation and opens them to new ideas	348	228	3	2.5*	2ND
4	Allows technologies to be better compared and adapted to local conditions	321	250	3	2.4*	3RD
5	Empowers farmers as diagnostic problem-solvers in the future	309	248	8	2.4*	3RD
6	Stimulates farmer-to-farmer exchanges and technology dissemination	414	186	3	2.6**	1ST
7	Bringing in other actors, especially markets to make agriculture a business	327	246	3	2.5*	2ND
8	Building farmers capacity to source information	303	262	0	2.4*	3RD

S/N	Extension Strategies	Very Effective F*3	Effective F*2	Not Effective F*1	Ẍ	Rank
9	Building farmers capacity to evaluate and apply information in decision making	318	258	0	2.5*	2ND
10	Extension agents working together with farmers for change	387	200	6	2.5*	2ND

* Effective
** Very Effective

Table 2: Significance of Difference in perception of effectiveness of Extension strategies deployed

Groups	N	Ẍ	SD	p-value	t-cal	t-tab	Remark
Sample	235	2.45	0.33	0.05	-1.1	1.6	Not Significant
Population		2.47					

Decision: Null hypothesis accepted

RESULT AND DISCUSSION

The result in Table 1 shows that the strategy perceived as very effective is the strategy of stimulating farmer to farmer exchanges and technology dissemination which had a mean score of 2.6. MulwafuandKrishnankutty (2012) noted that the lead farmer approach had numerous benefits. They noted that the lead farmers provide a focal point in the community for introducing new technologies, for building farmer capacity, and as an entry point for service providers, such as input suppliers;and FederandSavastano(2006) confirmed that farmers learn best from their peers, or those of slightly higher social status.

The strategies perceived by farmers to be effective that ranked second with a mean score of 2.5 were the strategies of:motivating farmer participation and opening them to new ideas; bringing in other actors, especially markets to make agriculture a business; building farmers capacity to evaluate and apply information in decision making; and Extension agents working together with farmers for change. These strategies are also fully adopted in the value chain innovation platforms that ATASP-1 also adopted as a way of carrying out its activities.

The third ranked strategies with a mean score of 2.4 also perceived as effective by the farmers were the strategies of: farmers and other stakeholders being involved in all stages of research and development; ensuring that local technical knowledge is utilized as appropriate; allowing technologies to be better compared and adapted to local conditions; empowering farmers as diagnostic problem-solvers in the future; and building farmers capacity to source information.

The result in table 2 shows no significance and as result the null hypothesis was accepted. This implies that there is no significant difference between the sample and population mean ratings in farmers' perception of effectiveness of extension strategies deployed.

CONCLUSION

The farmers perceived the extension strategies as all effective but the most effective was the stimulation of farmer to farmer exchanges and technology dissemination, therefore, more research is needed on low-cost ways to improve effectiveness of lead farmers, and forums are needed where practitioners can share experiences in implementing such programs.

Extension managers, lead farmers and trainees should all be involved in finding ways to improve the effectiveness and efficiency of programs using the lead farmer approach

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EFFECTIVENESS OF INDIGENOUS TECHNOLOGIES FOR THE TREATMENT OF HELMINTHS IN CATTLE AMONG SETTLED AGRO-PASTORALIST IN SOUTH WEST NIGERIA

[1]Adekola, O. A., [2]Sonibare, A. O., [3]Fabusoro, E. and [3]Adeoye, A. S.
[1]Department of Agricultural Extension and Management Oyo State College of Agriculture and Technology, Igboora, Oyo State, Nigeria
[2]Department of Veterinary Medicine and Surgery, Federal University of Agriculture, Abeokuta, Abeokuta, Ogun State, Nigeria
[3]Department of Agricultural Extension and Rural Development, Federal University of Agriculture, Abeokuta, Abeokuta, Ogun State, Nigeria

ABSTRACT
The study examines the indigenous technologies for the treatment of helminths in cattle among settled agro-pastoralist in southwest Nigeria. Two hundred agro-pastoralists were selected using convenient sampling techniques. The findings showed that the age of the settled agro-pastoralists ranges from 18 to 65years old with the mean age as 47 years, most (86.5%) of the respondents household size ranges between 11 and 28 persons with mean value of 12 persons. Majority (78.11% and 66.3%) of the agro-pastoralist practices oral and drenching method of administration. Majority (86.4%) of the respondent indicated weight loss, 84.0% dullness, 76.3% lower productivityand 66.3% diarrhoea were visible symptoms due to helminthes infestation. The preferred indigenous technology for the treatment of helminthes was *Ewuro*, *Efirin, Igbo, Ata wewe, Iyeye,* and so on. Larger proportion of the agro-pastoralist reported that *Ewuro*, *Ata wewe*, *Ipebe*, *Iyeye and Efirin* were the most effective traditional plants for the treatment of helminthes. The study concludes that agro-pastoralist communities are rich in traditional knowledge on medicinal plants diversity and have used them to treat livestock.
Keywords: Effectiveness, Indigenous, Technology, Helminthes, Treatment, Agro-pastoralist,

INTRODUCTION
Helminthosis is a disease condition caused by internal parasitic worms that invade the internal organs of livestock while Helminths are endo-parasites comprising of a large and varying group of invasive parasites. Despite this numerical strength in livestock sector, an average Nigerian till date, consumes less than 9 grams(g) which is about 25 percent of the recommended animal protein intake of 34g/ head/day as acknowledged by Food and Agriculture Organisation (FAO, 2006). The term 'Indigenous technology' is otherwise used when this phenomenon is based on traditional knowledge system that is handed down orally and improved from generation to generation (Tabuti, 2003). In Nigeria, government investment in veterinary services is quite low and there are only few private veterinary services that can provide good quality animal health services needed at when needed. Agro-pastoralists would rather draw on years of knowledge and experience of indigenous technology practices conserved in oral histories and traditions among different groups. Cattle are parasitized by various helminths species, the most important being gastrointestinal nematodes (GIN), lungworms and liver fluke. Infections with lungworm are more acute and can place a sudden high economic burden on a farm due to mortalities and sharp decreases in milk yield (Holzhauer, van-Schaik, Saatkamp and Ploeger, 2011). It is therefore critical to create an enabling environment, for seamless fusion of indigenous and scientific knowledge by first documenting and utilizing complimentary experiences of agro-pastoralists towards sustainable cattle health management. The study objectives are to: identify the indigenous technologies for the treatment of helminths in cattle by settled agro-pastoralists, methods of administration of identified indigenous technologies for the treatment of helminths in cattle, preferred indigenous technologies used for the treatment of helminths and the effectiveness of indigenous technologies for the treatment of cattle helminths among agro-pastoralist in the study area.

Table 1: Experimental Plants used for the treatment of helminths

Name of the plant species	Habit	Local name	Herbarium number	Plant part(s) used	Mode of Administration
Ficuscapensis (*Moraenae*)	Stem barks	Epo-Obo	110607	bark, leaves, seeds	Bark, leaves and seed were grinded till powder form and added with salt for easy palatability, given orally a day for at least 5 days for relief of helminthes
Anthocleistadjalonensis (*longaniaceae*)	Tree	Ewe Saapo	110630	bark, leaves, seeds	Bark, leaves and seed are grinded till powder and added

Name of the plant species	Habit	Local name	Herbarium number	Plant part(s) used	Mode of Administration
					with salt for easy palatability, given orally a day for at least 5 days for relief of helminthes
Parinaparipolyandra*(chrysobalanaceae)*, (leaves, bark, seed)	Stem bark	Ewe Opoto	110629	Leaves with fruits	Same procedure as above

Source: Field Survey, 2016

METHODOLOGY

The study was conducted in Ogun and Oyo State.Ogun State is a heterogeneous state, inhabited predominantly by the Egba, Yewa, Ijebu, Remo, Awori, and Egun who belong to the Yoruba Ethnic group on the African Continent. Ogun State is located on the latitude $7^{0}18^{1}$N and longitude $5^{0}55^{1}$E. Ogun State has green vegetation which favours many settled Fulani pastoralists. Oyo State was one of the three States carved out of the former Western Region of Nigeria in 1976. The climate in Oyo state favours the cultivation of forage crops and pasture. The State has an equatorial climate with dry and wet seasons and relatively high humidity. The dry season usually lasts from November to March while the wet season starts from April and ends in October.

RESULT AND DISCUSSION

Socio-demographic characteristics

Results in Table 2 shows that the age of the settled agro-pastoralists ranges from 18 to 65years old with the mean age as 47 years and standard deviation of ±10.95. Also, about 40% of the population was between the age brackets 48 - 57 years which reflects an increasing population towards old age. It was observed that the household size ranges between 2 and 28 members. Most (86.5%) of the respondents household size ranges between 11 and 28 persons with an average household size of 12 persons. Result further reveals that most (90.5%) of the agro-pastoralists were married. Responses gathered on educational status reveal that 35.5% of the pastoralists had no form of education while (43.8%) had only Quranic education. They all however are literate in Quranic education indicating low level of literacy (Fabusoro*et al.* 2010). Resultin Table 2 shows that the pastoralists kept between 20 and 300 heads of cattle at the time of this study, (26.0%) of agro-pastoralists herd size were between 51 and 100 and the mean herd size of the pastoralists was found to be 64.

Table 2: Personal characteristics of the agro-pastoralist (n = 169)

Variables	Frequency	Percentage (%)	Mean /Std. dev
Age (yrs)			
18-27 years	15	8.9	
28-37 years	35	20.7	
38-47 years	45	26.6	47.5/10.95
48 -57 years	61	36.1	
57 years and above	13	7.7	
Household size			
1-5	8	4.7	
6-10	15	8.8	
11-15	76	45.0	12.7/11.21
16-20	30	17.8	
21-25	22	13.0	
26 and above	18	10.7	
Educational status			
No formal education	60	35.5	
Quranic education	74	43.8	
Primary education	26	15.4	
Secondary education	6	3.6	
Adult education	3	1.8	
Marital status			
Single	11	6.5	
Married	153	90.5	
Divorced	2	1.2	
Separated	1	.6	

Variables	Frequency	Percentage (%)	Mean /Std. dev
Widowed	2	1.2	

Source: Field Survey, 2016

Method of administration of identified indigenous technologies

Based on multiple responseresult in Figure 1 revealed that majority (78.11%) of the agro-pastoralist practices oral method of administration which is a voluntary intake of fluid per cattle, 66.27% drenching method is a forceful intake of fluid through the mouth cavity into the system of the cattle, 59.17% inclusion into feed and 38.46% practices skin massage method of administration in the study area. According to Iwu (1993) methods of medicinal application are dictated by the nature of the illness and the plant part used.

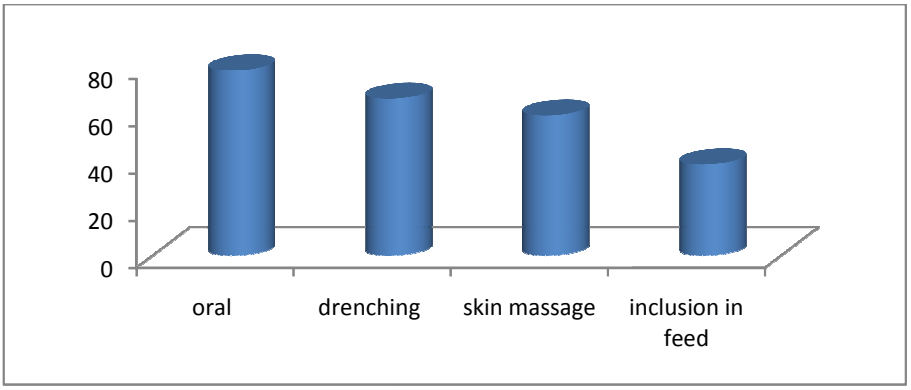

Figure 1: Method of administration of identified indigenous technologies for treatment of helminthes

Preferability and effectiveness of indigenous technology for the treatment of helminthes in cattle

Table 3 describes the preference for the traditional plant based technologies used by the agro-pastoralist. The respondents preferred using *Ewuro* with the mean value of 2.49, *Igbo* 2.41, *Ata wewe,* 2.39, *Esekannakana,* 2.37, *Iyeye,* 2.36, *Ibepe,* 2.34, *Moringa*2.33, *Ewe Aloe,* 2.28, *Ewe ogbo,* 2.22, *Ewe ato*, 2.21, *Efirin,* 2.23 and *Dagunro,* 2.19 in the treatment of helminthes in the study area. This respondent preferred using these plant based technologies compare to other plant for the treatment of helminths. Result in Table 3also describes the effectiveness of indigenous technologies for the traditional plant based technologies used by the agro-pastoralist. It was revealed that larger proportion of the agro-pastoralist reported that *Ewuro* with the mean value of 3.32, *Ata wewe* 2.99, *Ipebe* 2.92, *Iyeye*2.87, *Efirin* 2.78, *Ewe ogbo*2.69, *Igbo* 2.67, *Ewe iyalode* 2.67, *Alubosa* 2.65, *Iyere* 2.62, *Efirinwewe 2.62* and *Dagunro* 2.57 in the study area were the most effective traditional plant based technologies. Farrah (2009) opined that rich and efficient ethno-veterinary traditions pertaining to health care and management of livestock exist with the indigenous people most especially in the villages, but their beliefs, knowledge, practices and skills are not documented but transferred orally and informally.

Table 3: Effectiveness of indigenous technology for the treatment of helminths (n = 169)

Variables	Species name (Scientific name)	Effectiveness Mean	Preferability Mean	Usage mean
Ayin	*ZanthoxylumchalybeumEngl*	2.57	2.02	2.66
Iyeye	*Euphorbia heterophylla Linn.*	2.87	**2.36**	3.26
Erin mado	*Secamoneafricana (Oliv) Bullock*	2.41	1.92	2.56
Ewuro	*Vernoniaamygdalina Del.*	3.32	**2.49**	3.69
Imi-esu	*Rhoicissustridentata (L.f.) Wild and R.B. Drummond*	2.51	2.00	2.67
Efirin	*Vernoniagrantii Olive*	2.78	**2.23**	3.29
Ojuologbo	*PhytolaccadodecandraL'Herit*	2.24	1.84	2.53
Ibepe	*Carica papaya L.*	2.92	**2.34**	3.16
Kasu	*Cyphostemmaadenocaule (A.rich.) willd Drummond*	2.33	2.14	2.54
Ewe Ogbo	*Cassia occidentalis L.*	2.43	**2.22**	2.51
Abrangbe	*Cassia obtusifolia L*	2.28	1.79	2.41
Alubosa	*ClerodendrumrotundifoliumOliv.*	2.65	1.93	3.17

Variables	Species name (Scientific name)	Effectiveness Mean	Preferability Mean	Usage mean
Taaba	*Nicotianatabacum L.*	2.37	2.13	2.57
Egbogi	*Lagenariasphaerica*	2.23	2.14	2.42
Ewe	*TetradeniaripariaHochst) Codd*	2.38	1.83	2.45
Ata wewe	*Physalisperuviana L*	2.99	**2.39**	3.24
Ejinrin-nia	*Memordicafoetida*Schumach	2.65	2.16	3.04
Iwere-jeje	*Coleus latifolius Andr, SennadidymotryaFresen*	2.42	1.86	2.48
Epaikun	*Asparagus tuberosum*	2.53	1.86	2.65
Dangunro	*Flueggeavirosa (wild) Voigt/ Securinega. Virosa*	2.51	**2.19**	3.07
Aloko-agbo	*Sapiumellipticum (Hochst)*	2.42	1.69	2.36
Igbo	*Cannabis sativa L*	2.22	**2.41**	1.89
Ewe ato	*Justiciabetonica L*	2.37	**2.21**	2.19
Ewe amunimuye	*Curcubito maxima*	2.43	1.78	2.21
Lapalapa	*Jatrophacurcas L.*	2.30	2.08	2.25
Agbo	*HarrisoniaabyssinicaOliv.*	2.38	1.89	2.54
Iyere	*Kigelia Africana*	2.62	1.97	3.10
Moringa	*Moringaoleifera Lam.*	2.54	**2.33**	2.63
Esekannakanna	*Brillantaisiaowariensis P. Beauv.*	2.30	**2.37**	2.24
Atayee	*Sporoboluspyramidalis*	2.69	1.67	2.29
Efirinwewe	*Justiciaexigua +Ocimumbasilicum*	2.62	1.93	2.75
Ewe iyalode	*Veprisnobilus (Del.) mziray (Tecleanobilis)*	2.67	1.76	2.31
Aborere	*Justiciaexigua*	2.67	2.09	2.46
Ewe aloe	*Aloe sp*	2.32	**2.28**	2.29

Source: Field survey, 2016

CONCLUSION AND RECOMMENDATION

Based on the findings of the study, it could be concluded that in essence, traditional control methods of cattle helminthosis were found to be well established and utilized by the respondents. Hence, indigenous plants have become the most preferred and treasured asset of the community host although their conservation is seriously threatened to local extinction.

In view of the outcome of the study, the following are recommended for the study. Drugs and veterinary services should be made available to agro-pastoralists by both the public and private veterinary officers. Improving farm management system and routine deworming of farm animals is of great important to animal production.There is the need for the re-enforcement of laws banning bush burning and indiscriminate tree cutting in order to preserve indigenous herbs by the three tiers of government.

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EXAMINING THE IMPACT OF AGRICULTURAL TECHNOLOGIES ON FOOD SECURITY AND LIVELIHOODS IN NIGERIA: A SUSTAINABLE LIVELIHOOD APPROACH

[1]Abubakar, L., [2]Atala, T. K.., [1]Abdullahi, H. A. and [2]Musa, M. W.
[1]Agricultural Education Section, Department of Vocational and Technical Education, Ahmadu Bello University, Zaria
[2]Department of Agricultural Extension and Rural Development, Ahmadu Bello University, Zaria

ABSTRACT
This paper is a review of empirical studies regarding agricultural technologies, rural livelihoods and food security in Nigeria. Improving livelihoods and increasing food security through agricultural technologies are major policy thrusts that receive constant attention in developing countries all over the world. Agricultural technologies have been key strategies used by development planners and foreign donor agencies to support production capacity of the rural areas in Nigeria over the years. Several efforts by foreign donor agencies like Food and Agriculture Organization of the United Nations (FAO), International Fund for Agricultural Development (IFAD) and United States Agency for International Development (USAID) among others in collaboration with all the three tiers of Nigerian government have mostly focused on rural livelihoods and food security in Africa and Nigeria in particular. Rural livelihoods have been facing threats from unforeseen natural and man-made disasters that could spell doom for the economic, social and ecological survival of the entire region or the country. The purpose of this study is to examine the impact of agricultural technologies on food security and livelihoods in Nigeria by using sustainable livelihood framework of analysis. Data were gathered for 10 year studies (from 2005 to 2015) from reviews of empirical studies: dissertations, journals, conference papers, seminars, research reports, as well as policy documents of governments and non-governmental organizations. Analysis of contents was made on the findings based on the Sustainable Livelihood (SL) framework that shows how rural people's assets, capabilities, access and activities determine livelihoods transition and adaptation, which can be important determinants of food security. The study revealed that rural areas have diversified wage earning opportunities and increased output in food and fibre from using improved agricultural technologies like improved varieties of crop and agronomic practices introduced by the organized institutions and structures. The study recommends that, support in supply of inputs and credit facilities and procurement of motorized implements be improved.
Keywords: Agricultural technologies, rural livelihoods and food security

INTRODUCTION

Agricultural technologies have been identified as the major inputs that promote poverty alleviation through improving farmers' productivity and income. Common agricultural technologiesdisseminated through agricultural extension system includeimproved crop and livestock varieties, improved agronomic practices such as planting spacing, weeding, rate of fertilizer application; improved processing technologies;agriculturaleducation/training of the farmers or educational activities on farm;agri-tourism;accessing credit; cooperatives for local services;analysis of work organisation;recovery of old tree orchards;water sanitation;natural resource management;land registration and consolidation; new irrigation pumps; fish and bee keeping technologies; improved extension and recreational services among others. It has been found that using improved agricultural technologies by small holder farmers can increase productivity and thus raise household income and reduce poverty (Abdullahi, 2005: Cunguara and Darnhofer, 2011).

Food security is the availability and affordability of food that ensure adequate nutrition to people. Food security is the primary goal of agricultural development policy in most developing countries.

Livelihood comprises the capabilities, assets (including both material and social resources) and activities required for a means of living (Chambers and Conway, 1991). A livelihood is sustainable when it can cope with and recover from stresses and shocks, maintain or enhance its capabilities and assets, while not undermining the natural resource base.

In Nigeria, in particular, foreign agencies and international organizations like the World Bank, International Fund for Agricultural Development (IFAD), United States Agency for International Development (USAID), International Institute of Tropical Agriculture (IITA) among others, in collaboration with the Federal and State governments of Nigeria have played a remarkable role of developing agricultural technologies, through the various research institutes in the country. This resulted to remarkable increase in the production of various commodities that had positive impacts on the food security and livelihoods of rural farmers in the country.

Sustainable Livelihoods (SL) framework is the framework of analysis for this study. It shows how sustainable livelihoods are achieved through access to a diverse livelihood assets or resources (natural, physical, financial, human and social capitals) combined in a pursuit of different

livelihood strategies [agricultural intensification or extensification, livelihood diversification and migration] (Scoones, 1997). These are often mediated by institutions and organizations in the society. The institutions here include both foreign agencies like FAO, IFAD and USAID in collaboration with the Federal and state governments of Nigeria.

Evaluation of the impact of these technologies on rural household welfare have been very limited by lack of appropriate methods and most of previous research has therefore failed to move beyond estimating economic surplus and return to research investment (Asfaw, 2010). Hence, there's need to look more into these aspects towards encapsulating sustainable livelihood in a bit more holistically, which would give a broader dimension to poverty alleviation in Nigeria.This is meant to be a position paper that can have far reaching policy implications as regards to rural poverty alleviation.

The main objective of this paper is to examine the impacts of agricultural technologies on food security and livelihoods in Nigeria, using sustainable livelihood framework of analysis through literature review of empirical studies from 2005 to 2010. Specifically, the objectives were to focus on: (1) the impact of agricultural technologies on farmers' livelihoods and (2) the impact of agricultural technologies on food security.

METHODOLOGY

Data from various secondary sources were collated and reviewed. These include empirical studies like dissertations, conference/seminar papers, research reports from government and non-governmental organizations. Content analysis was made on the findings along the line of SL framework.

RESULTS AND DISCUSSION

Abdullahi (2011), reported that the introduction of new irrigation pumps led to change in production system that resulted in proliferation of off-farm wage earning activities, which reduced rural-urban migration by more than 90%in a study on Are-Irrigation project in Katsina State.Also,the project beneficiaries recorded increased productivity.Further, Musa (2005) in Kano state, Umaru (2015) in Kaduna state; Adegbite et al. (2008), Ogun State, reported increased productivity and income by farmers as a result of sustained use of improved varieties of crops, improved agronomic practices and higheraccess to credit and inputs facilitated by training and extension services.

Furthermore, studies like Ibrahim and Onuk (2010) and Abubakar (2010), reported that enhanced training and capacity building helped the beneficiaries in more access to input; credit facilities and marketing agricultural products among others that boost production of food and fibre. Also, new technologies in production, processing and marketing helped in increasing maize production per head among maize farmers (Abdullahi, 2005) in Kaduna state; root and tuber crops producers (Okeh, 2014) in Plateau state; as well as increasing food security of a farmer by selling the marketable surplus (Ater, 2006) in Benue state. Similar findings were reported by Nwalieji (2014) and Emehel (2014); in Anambra and Ebonyi states. In the context of SL framework, the institutions (IFAD, USAID and Sassakawa), by introducing agricultural technologies, have remarkably facilitated access to livelihood resources that helped to improve rural livelihoods and food security.

The most commonly agricultural technologies have been identified as the use of improved varieties of crops and some of the agronomic practices like planting methods, spacing and method of fertilizer application. These are obviously easy as no much capital is required to use them. However,improved technologies that require capital like motorized (mechanized) implements in both cultivation and water management were few and far between. This is evident as most of the farmers were highly constrained by little assets and access to credit facilities, which could help them acquire other assets and farm inputs to increase their production levels if they were able to use the recommended practices introduced by the agencies fully. These farmers were considered less privileged as they were still largely subsistent in their production with little or no marketing capabilities. This indicates a divide among the households in which there are few better off farmers who can afford to practice most of the recommended (improved) technologies and many others who cannot. Thus, this shows the need to address the situation so as to have the majority that can use and adopt the improved technologies for meaningful impact to show.

CONCLUSION AND RECOMMENDATIONS

Review was made of empirical studies onagricultural technologies on food security and livelihoodsin Nigeria, using the sustainable livelihoods perspective. The literature showed that improved agricultural technologies like improved varieties of crops and animals, new pumping machines; improved agronomic practices (planting methods, spacing, fertilizer application methods and new pumping machines), processing and marketing technologies over time led to increase in farmers' productivity through technical knowledge and skills acquired from training, better access to input, credit and marketwhich boosted food production that raised farmers' income. Also, farmers' welfarewas improved due to increased capacities to access

livelihood assets and resources as well as increased diversification of wage earning opportunities as a result of improvement of transportation and communication technologies in rural areas. However, it was found that access to input supply, credit and motorized implements has been persistent problem among the majority of households probably due to poor or limited access to resources (capital and land) by less privileged farmers in the populations studied.Hence, there's need to tackle such issues by the policy makers' full support in providing credit services to encourage all the farmers be able to adoptall the recommended technologies to improve their livelihood capabilities and assets.

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ASSESSMENT OF FACTORS AFFECTING SUSTAINABILITY OF NON-FARM LIVELIHOOD ACTIVITIES AMONG RURAL FAMILIES IN EMUOHA LOCAL GOVERNMENT AREA, RIVERS STATE, NIGERIA

Nwaogwugwu, O. N. and Umejuru, W.O.
Department of Agricultural Economics and Extension, Faculty of Agriculture, University of Port Harcourt, Nigeria

ABSTRACT
The study analyzed the factors affecting sustainability of non-farm livelihood activities among rural families in Emohua Local Government Area of Rivers State, Nigeria. The specific objectives of the study were to describe the socio-economic characteristics of the respondents, identify the non-farm livelihood activities of rural families and ascertain the factors affecting sustainability of non-farm livelihood activities among families in the study area. A multi-stage sampling technique was used to select 105 family-heads from a total of 350 family-heads in the study area. A structured and validated interview schedule was used to collect data from the respondents. Data collected were presented using mean, frequency, percentage factor analysis. The result indicated that the non-farm livelihood strategies of families in the study area include, trading (mean=3.98), commercial taxi services (mean=3.91), bicycle and motor cycle repair services (mean=3.71), tailoring/weaving (mean=3.53), barbing/hairdressing services (mean=2.85), carpentry (mean=3.33), mason and building (mean=3.34), food vending (mean=3.19). The factors affecting sustainability of non-farm livelihood activities include inadequate infrastructural facilities, instability, and low income to investment. It is concluded that non-farm livelihood activities in the study area are sustainable. Therefore it is recommended that continued effort on the provision of basic rural infrastructures should be intensified through a coordinated and sustainable rural development drive by groups, communities, government and non-governmental agencies.
Keywords: Sustainability, Non-farm livelihood activities, rural families

INTRODUCTION

In the developing countries such as Nigeria, many rural families depend on a variety of activities to meet their daily needs. Many studies have identified farming to be the major livelihood activity engaged by inhabitants of rural areas (Ekong, 2005; Nwaogwugwu and Matthews-Njoku, 2015). Although most rural families in Nigeria use agriculture as their major means of livelihood, some also engage in non-farm livelihood patterns as alternative means of survival. The rural non-farm sector is often seen as an important pathway out of poverty (Lanjouw, 2001). The non-farm livelihood patterns which include okada riding, agribusiness services, local construction and mining activities, petty trading, weaving, pottery, arts and crafts, mason, taxi driving, wheel barrow pushing among others may vary from one area to the other depending on available resources.

For rural families facing crop and price risk as well as agricultural income risk, there is a strong need for diversification to non-farm livelihood patterns. This is the basis for sustainability in livelihood pursuits, which has attracted attention in livelihood studies in the last four decades, especially in developing countries. A livelihood is sustainable when it can cope with and recover from stress and shocks, maintains or enhance its capabilities and assets and provide continuous opportunities now and in future. The sustainability of non-farm livelihoods may be dependent on some factors deeply embedded in some phenomena, which may include security, socio-cultural factors, finance, climatic factors, technical know-how, socio-economic factors, basic social amenities, communication channels etc. Diversification in employment and income is pronounced among those rural households which have lower income levels and inadequate resource-base for engaging themselves in more productive income generating activities, whereas the rich households diversify their economic base to further boost their already higher income levels (Vatta and Sidhu, 2007). Sustainability can be measured in terms of their involvement in a particular non-farm livelihood as well as how it affects their standard of living. According to Organization for Economic Co-operation and Development (OECD) (2009) sustainability can be measured by evaluating the interaction between indicators such as economic, social and environmental phenomena. To locate these indicators in the positive pole of the development continuum as an evidence of the

consequences of diversification in non-farm livelihoods in rural areas appears elusive.

Consequently, contribution of the rural sector to the overall national development has continued to dwindle, while many rural communities across Nigeria continue to make demands on government at all levels for the provision of rural amenities from limited national budget. The above background raised the need for the current study, which in specific terms; described the socio-economic characteristics of the rural families in the study area, identified the non-farm livelihood activities of rural families, ascertained the sustainability of non-farm livelihood activities, and analyzed the factors affecting the sustainability of non-farm livelihood activities among rural families in the study area.

METHODOLOGY

The study was carried out in Emohua Local Government Area of Rivers State, Nigeria. Emohua Local Government Area lies between longitude 6^0 51^1 E and 6^0 39 E and latitude 4^0 53^1 N and 4^0 02^1 N. It is bounded in the North by Ikwere Local Government Area, in the West by Ahoada Local Government Area, in the South by Degema Local Government Area, and in the East by Obio/Akpor Local Government Area. The sample frame is composed of 403 (four hundred and three) family-heads. A simple random sampling technique was used to select a sample size of 112 family-heads from 403 family-heads in the study area, which is 27.8% of the total population. Data for the study was collected with the aid of a structured questionnaire designed and validated by the researchers. Likert–type 4 point summated rating scale of agreement was used to measure the responses on the items. The mean of the sum total of values of the scale (Mean=2.50) was the basis for accepting or rejecting any item. Data analysis was carried out using frequency, mean and varimax rotated factor analysis.

RESULTS AND DISCUSSION

Socioeconomic characteristics

The result indicates that more males, those within the age distribution 40-49 years and 50-59 years, and married members of the family are more prone to diversify to non-farm livelihood activities in the study area.

Table 1: Socio-demographic Characteristics of Rural Families in the Study Area

Variables	Frequency	Percentage
Sex		
Male	93	88.6
Female	12	11.4
Age		
20-29 years	24	22.9
30-39 years	14	13.3
40-49 years	37	35.2
50-59 years	24	22.9
60 years and above	6	5.7
Marital Status		
Single	19	18.1
Married	80	76.2
Divorced	-	-
Widow/Widower	6	5.7
Family size		
1-3	2	1.9
4-6	63	60.0
7-9	34	32.4
10-12	4	3.8
13 persons and above	2	1.9
Educational level		
No formal education	4	3.8
Primary	27	25.8

Variables	Frequency	Percentage
Secondary	58	55.2
Tertiary	16	15.2
Major occupation		
Civil service	11	10.5
Farming	19	18.1
Trading	21	20.0
Artisan	54	51.4
Farming Experience		
1-5 years	17	16.2
6-10 years	7	6.7
11-15 years	7	6.7
16-20 years	59	56.2
21 years and above	15	14.3

Source: Field Survey, 2017.

Non-farm livelihood patterns of rural families

As indicated on Table 2, Trading, commercial cars/motorcycle services, Bicycle repairing, tailoring and weaving, traditional health attendants, were among the non-farm livelihood activities in the study area. The above findings corroborate with previous studies that found the non-farm livelihood patterns among rural households in Nigeria (Nwaogwugwu, 2016, Nwaogwugwu and Matthews-Njoku, 2014). The above non-farm livelihood patterns may have persisted in the study area since most of them could serve as either permanent adaptive strategies to the failure of farm livelihood patterns or coping strategies to cushion the shocks or stress when alternative livelihood patterns fail.

Table 2: Non-farm Livelihood Activities of Respondents

Variables	Mean	Remark
Trading	3.98	Accept
Commercial motorcycle services	3.91	Accept
Bicycle repairing	3.71	Accept
Tailoring/Weaving	3.53	Accept
Traditional health attendant	3.37	Accept
Local birth attendant	3.35	Accept
Painting and Beautification	3.34	Accept
Mason	3.34	Accept
Carpentry	3.33	Accept
Carving/Basket making	3.28	Accept
Electrical works an services	3.20	Accept
Food vending	3.19	Accept
Baking	3.17	Accept
Welding and metal works	3.14	Accept
Civil service	3.11	Accept
Shoemaking/Repairing	2.87	Accept
Barbing/Hairdressing Services	2.86	Accept
Pottery	1.50	Reject

Sources: Field Survey, 2017.
Items with mean score ≥ 2.50 were accepted while items with mean score ≤ 2.50 were rejected.

Sustainability of non-farm livelihood activities

Result on the indices measuring sustainability of non-farm livelihood activities are presented on Table 3. The results indicate that the non-farm livelihood activities investigated in the study area are sustainable (Overall Mean = 3.46).

Table 3: Respondents rating of the sustainability of non-farm livelihood activities

Variables	Mean	Remark
Positive linkage with other livelihoods	3.68	Accept
Adaptable to local environment.	3.67	Accept
Make use of indigenous knowledge and skills	3.62	Accept
Easily accessible to every member of the community	3.58	Accept
Environmentally friendly	3.54	Accept
Minimal investible capital	3.46	Accept
Contributes to the growth of local economy	3.43	Accept
Provides all year employment	3.42	Accept
engages household members on a daily basis	3.37	Accept
Enhances rural-urban linkage	3.34	Accept
Adaptable to local resources.	3.34	Accept
Provide reliable income	3.10	Accept
Grand Mean	**3.46**	

Sources**:** Field Survey, 2017.
Items with mean score ≥ 2.50 were accepted while items with mean score ≤ 2.50 were rejected

Factors affecting sustainability of non-farm livelihood patterns

The renamed factors affecting sustainability of non-farm livelihood patterns in the study area arising from the result of the varimax rotated factor matrix as presented on Table 4 are inadequate infrastructural facilities, instability and low income to investment.

Table 4: Respondents rating of factors affecting sustainability of non-farm livelihood patterns

Items	Factor 1: Inadequate infrastructural facilities	Factor 2: Instability	Factor 3: Low income to investment
Inadequate communication network	0.887	0.188	-0.044
Inadequate resources	0.868	0.031	0.405
Unstable policy support systems	0.004	0.768	0.057
Inadequate availability of implements and equipments	0.053	0.419	0.718
Poor power supply	0.866	0.361	0.042
Poor capital base	0.024	0.057	0.685
Poor returns on investment	0.090	0.019	0.608
Social insecurity	0.099	0.696	0.021
Political instability	0.048	0.536	0.324
Non-adaptability to local condition.	0.075	0.053	0.372
Seasonal variability	0.037	0.547	0.451
Inadequate resources	0.636	0.048	0.024
low skill improvement	-0.008	0.027	0.643

Source: Field Survey Data, 2017
Note: Coefficients on the Table above represents regression weights

CONCLUSION

Based on the findings, it is concluded that non-farm livelihood activities engaged by families in the study area are sustainable. However, some factors which center on inadequate infrastructural facilities, instability, and low income to investment have the tendency to affect sustainability of the livelihood patterns of the families in the study area.

RECOMMENDATIONS

Based on the findings, it is recommended that continued effort on the provision of basic rural infrastructures should be intensified through a coordinated and sustainable rural development drive by groups, communities, government and non-governmental agencies. Besides, effective

security arrangements and consciousness should be put in place in rural areas by communities and government in Nigeria.

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GENDER ROLE DISCRIMINATION AGAINST RURAL WOMEN IN AGRICULTURE

[1]Abah, M. J. and [2]Hagbu, J. H.
[1]Department of Archaeology, Faculty of Arts, Ahmadu Bello University, Zaria
[2]National Agricultural Extension and Research Liaison Services, Ahmadu Bello University, Zaria

ABSTRACT
The role of Women in agriculture is quite significant in national development in Nigeria. This study identified basic aspects of agriculture; ownership of agricultural equipment, access to credit facilities and participation in agricultural-related programs, where certain cultural beliefs have robbed women of their capabilities to subdue poverty and ensure development in the nation. Study of related literature on gender issues in agriculture revealed certain discriminations against women limiting improved rural livelihood in some parts of the nation. The rights and responsibilities attributed to women with respect to agriculture in farm communities are quite limited. Women are less privileged in ownership of agricultural facilities especially at the local level. In some communities, women still lack access to certain farm inputs and credit facilities. Furthermore, women have little or no freedom of participation in decision-making and other related agricultural matters across the nation. Women farmers in Nigeria deserve equal right with their male counterparts to enhance their capabilities in agriculture. There is therefore need for intervention such as Growth Enhancement Support Scheme (GESS) in Nigeria to sensitize community leaders on the need to demonstrate gender equality in mainstreaming gender with respect to agriculture.
Keywords: Agriculture, women farmers, gender role, Nigeria

INTRODUCTION

General knowledge has it that agriculture sustains the Larger part of the world's population. In Nigeria, agriculture was and still is the mainstay of the economy; about 70% of Nigerian populace depend on agriculture as at 2014. The survival and growth of agriculture depend largely on the interest and active participation of individuals/or groups in agricultural activities at the local level.

Nigeria is a country with vast agricultural endowment and substantial natural resources. The country has an estimate of 68 million hectares of arable land; fresh water resources covering about 12 million hectares, 960 kilometres of coastline. The resources enable the country to produce a wide variety of crops and livestock, forestry and fisheries products (Shaib*et al.*, 1998).

There are specific established socially constructed characteristic rights and responsibilities of women and men with regard to agriculture in Nigerian communities. Women in most farm communities are being treated against their advantage in attributing such gender roles particularly in the aspect of agriculture.

Nigerian Women in Agriculture

Women have unquantifiable passion for agricultural activities in Africa, particularly in Nigeria. One can conclude that the phenomenon is natural and it is attitudinal in virtually every rural woman. Several researches have proved that over 60% of women over men are involved in farm activities across the nation(Meek, 1981;Aminu*et al*, 2017;Ifeanyi-obi *et al*, 2015; Yekini, 2015;Akinagbe, 2011;Ejembi*et al,* 2015;Etuk and Akpabio, 2015;NAERLS, 2000). There are evidencesof such occurrences from states such as Ananbra, Oyo, Ogun, Kaduna, Benue, Kano, Imo, AkwaIbom, Kwara, Delta and Enugu.

Women's Right to ownership of Agricultural Facilities and Access to Credit facilities in Engendered Farm Communities

Women do not have right to own farm land through inheritance in most farm communities in Nigeria.Married women depend mostly on their husbands' land and solely on whatever portion that is attributed to them by their husbands.Unmarried women only rely on their parents, other relatives, friends or their personal resources for land input in agriculture.It is important to note that land acquired through inheritance is cheaper and adds more value to agricultural production than purchased/leased land, in that it comes naturally and does not attract one's personal resources.Gender inequality in sub-Saharan Africa is one of the most pervasive forms of inequality, particularly because it cuts across other forms of inequality (Franklin, 2007) like land ownership. In parts of West Africa including Nigeria, women only have usufruct rights to separate holdings through their husband's lineage (Yemisi and Aisha, 2009).

What it means is that women in this context do not own such assets but only have the right to use them. What you do not own; you do not have authority or control over it. Women who are not married as well as married women without children have greater issues in this regard. Practically, this tradition is common in some parts of Hausa-land (Dan Jaba, Chikun LGA, Kaduna State) (APRA, 2018), Yoruba-land, Ibo-land, the Idoma and Tiv communities in Benue State amongst other ethnic groups in Nigeria.

Labour which is another crucial factor in agricultural production also constitutes an area of depravity on women in farm communities in the country. Women do not have the right or authority in the choice of farm labour in the family. The man

usually dictates who works on which/whose farm at any point in time. Experience has shown that the woman is not even expected to work on her own farm unless she is permitted by the man.

Women farmers have another challenge in agriculture that has to do with capital ownership in the face of gender ideology in some communities. Capital is important in every agricultural production, though one can practice it with a very minimal amount of capital input particularly in the rural areas. Unfortunately, by tradition, a typical woman in Nigeria has the man (say the husband) to contend with, when she tries to generate capital for agricultural purposes. The woman is not expected to be entitled to any asset of her own including money.

Labour which is another crucial factor in agricultural production also constitutes an area of depravity on women in farm communities in the country. Women do not have the right or authority in the choice of farm labour in the family. The man usually dictates who works on which/whose farm at any point in time.Farm equipment is considered as very important assets in agriculture and they usually owned and controlled by the male head in virtually every farm family.

Women farmers have another challenge in agriculture that has to with capital ownership in the face of gender ideology in some communities. Capital is important in every agricultural production, though one can practice it with a very minimal amount of capital input particularly in the rural areas. Unfortunately, by tradition, a typical woman in Nigeria has the man (say the husband) to contend with, when she tries to generate capital for agricultural purposes.

Women farmers who go contrary to this are usually stigmatized in the society; sometimes people see them as not submissive or disobedient set of people in the society. This may be part of the reasons why access to loan and other credit facilities is still a big problem to most rural women in the country. Women more than men, are exposed to a range of such challenges that prevent them from accessing extension and advisory services (EAS) (Mbo'o-Tchouawou and Colverson, 2014).

In terms of entrepreneurship, it is in rare cases that women are found in Nigeria in farm businesses.In most rural areas, certain crops or animal are perceived to be under the responsibility of men alone.In the case of animal raring, women are not expected to go beyond poultry farming and swine production in some communities. The stigma attached to a contrary attempt,has discouraged females who have innovative and creative ideas in planning and executing agro-business in Nigeria especially in the rural areas.

Right of women farmers to participation in agricultural activities in Nigeria

Participation in agricultural activities is an area where women are mostly discriminated in Nigeria. In most farm families in the country, authority is vested on the man to make all major decisions in agriculture. Women only have autonomy and her suggestion is subject is subject the man's approval the man may decide to reject the woman's opinion just serve his own interest not mindful of the efficacy of the woman's idea. In some farm families, women are not given the opportunity to make suggestion at all. In parts of Kaduna State, the extent of women participation in decision-making in agriculture is very low (Yemisi and Aisha, 2009).

In the same vein, women participation in agricultural orientation/sensitization programmes is also low in Nigeria.This is a serious barriersconfronted by women farmers (Yemisi and Aisha, 2009).

CONCLUSION AND RECOMMENDATION

It is undisputable that women farmers in Nigeria occupy a significant position in agricultural production. There is little or no doubt that the survival and sustenance of agriculture/food security in Nigeria lies heavily on rural women. Ironically, the nature of gender roles attributed to women in agriculture is such that trivialize their important position in agricultural production. Consequently, women's capabilities in farming are limited in virtually every facet of the production. The limitations are clearly manifested in ownership of the factors of production as well as in participation in important agricultural programmes in Nigeria. The approaches of the Agricultural Extension Agencies of Nigeria, in an effort to enhancing the capabilities of female farmers may not be effective if this gender syndrome is not flushed out of the rural communities in Nigeria.Despite the fact that gender roles among Nigerian people tie in with the family life and culture and body of information (Leslie, 2017), it can still be changed to conform with the nation's development plans and policies through agriculture.

The following recommendations are made;

There is need for the extension agencies of Nigeria to align with community leaders on how gender differences can be effectivelyaddressed with regard to accessibility of extension services and credit facilities as well as ownership of farm equipment by men and women smallholder farmers.

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REVIEW ON EFFECT OF ANCHOR BORROWER PROGRAMME ON THE LIVELIHOOD OF SMALLHOLDER RICE FARMERS IN NIGERIA

[1]Olughu, K. C., [2]Umar, S. I. and [2]Ajayi, O. J.
[1]Capital Hub Plaza, Banex-Gwarimpa Express Way, Kado Abuja
[2]Department of Agricultural Extension and Rural Development, Federal University of Technology, P.M.B. 65 Minna, Niger State, Nigeria

ABSTRACT
Nigerian economy in the past decades thrived on the agricultural sector as agriculture is reputed as the key driver for economic growth and development in the early 1960's. After the discovery of oil in 1970's (post-oil boom), a decline in the agricultural sector's share was recorded in terms of its contribution to Gross Domestic Product (GDP) as a result of gross shift from agriculture to oil. Consequently, the shift resulted to economic crisis, like food insecurity, import dependence, inadequate supply of raw materials to industries, excessive borrowing, and balance of payment deficit, high unemployment and inflation rates, rural-urban drift, exchange rate depreciation, among others. To remedy the situation and restore the glory of agriculture, past administrations enunciated agricultural and rural development programmes, which was associated with numerous constraints. As part of the effort to solve the problems of agricultural development, improve the livelihood status and productivity level of Smallholder Farmers in Nigeria, the Federal Government of Nigeria through Central Bank of Nigeria (CBN) initiated Anchor Borrowers Programme (ABP) in 2015. The policy thrust of the programme are provision of farm inputs in kind and cash to Smallholder Farmers to boost production, improve their livelihood status, stabilise input supply to agro processors by building strong linkage between Anchor Companies involved in processing and Smallholder Farmers. This paper reviewed the effect of Anchor Borrower Programme on the livelihood status and productivity level of participant Farmers; in extension its effect on the economy of Nigeria. This paper concludes that information generated from this study will guide CBN, various Stakeholders in ABP and Government at all levels; in their policy formulation and implementation, on how to improve Smallholder Farmers' productivity, livelihood status and grow Nigeria economy from agriculture.
Keywords: Anchor Borrower Programme, smallholder farmers, productivity level

INTRODUCTION
Agriculture is a veritable instrument for the economic development of every country especially developing countries like Nigeria. It is the bedrock for economic growth, development and poverty eradication. In the words of Gunner (1984) as cited by Kamil *et al*. (2017) "The battle for long-term economic growth will be won or lost in the agricultural sector". Nigerian economy in the past decades thrived on the agricultural sector as agriculture is reputed as the mainstay of the economy in the early 1960's.Agriculture accounted for more than one third of total Gross Domestic Product (GDP) and labour force (Dauda *et al*., 2015).

After the discovery of oil (post-oil boom), a decline in the agricultural sector's share was recorded in terms of its contribution to Gross Domestic Product (GDP). According to Aigbokhan (2011), the agricultural sector accounted for over 63% and 54% of GDP in 1950s and 1960 respectively. The author further reported that agricultural contribution declined to 47% in 1965-1969 and further declined to 29.2%, 20% and 19% between 1970, 1980 and 1985 respectively. The decline in the agricultural sector's contribution to GDP was attributed to high revenue receipt recorded from the sale of crude oil products during the era of oil boom of 1970s. This discovery has led to the neglect of agricultural sector and more focus on the petroleum sector (energy sector).

As a result of this gross neglect, agricultural sector of Nigeria is now characterized by lack of farm inputs, little or no extension agent education, lack of credit facilities, absence of storage facilities, poor infrastructural development and limited areas under cultivation culminating in low yields and poor standard of living among smallholder farmers. Consequently, the shift from the people's oriented agricultural sector to unpopular oil sector in Nigeria resulted to economic crisis, such as food insecurity, import dependence, inadequate supply of raw materials to industries, excessive borrowing, balance of payment deficit, high unemployment and inflation rates, rural-urban drift, exchange rate depreciation, among others (Eze, 2017).

To remedy the situation, restore the glory of agriculture and maximize the vast potential of agriculture, past administrations tried to address the problems of agricultural development through enunciation of some agricultural and rural development programmes, policies and schemes.

Despite the promising nature of these programmes, policies and schemes, the agricultural sector in Nigeria economy still experience retrogression in development and output. To address the aforementioned problems and fully restore the glory of agriculture in Nigeria, the

Central Bank of Nigeria (CBN) in line with its developmental function introduced the Anchor Borrowers Programme (ABP) which was launched by President Muhammadu Buhari (GCFR) on November 17, 2015.

The Anchor Borrower Programme (ABP) was initiated and implemented in 14 states of Kebbi, Sokoto, Niger, Kaduna, Katsina, Jigawa, Kano, Zamfara, Adamawa, Plateau, Lagos, Ogun, Cross-River and Ebonyi among farmers involved in the production of Cereals (Rice, Maize, Wheat), Cotton, Roots and Tubers (Cassava, Potatoes, Yam, Ginger), Tree crops (Oil palm, Cocoa, Rubber), Legumes (Soybean, Sesame seed, Cowpea), Vegetables (Tomatoes), Sugarcane, and Livestock (Fish, Poultry, Ruminants) (CBN, 2016). The programme was initiated by the Federal Government of Nigeria under Central Bank of Nigeria to create economic link between Smallholders Farmers (SHF) and reputable large-scale processors with the intension of increasing productivity, better livelihood for smallholder farmers, and significantly improve capacity utilization of the processors. The programme thrust of the ABP is provision of farm inputs in kind and cash to Smallholder Farmers to boost production of these commodities, Farmer-Processor linkage to stabilize inputs supply to Agro processors and create market for Farmers which will help to address the country's negative balance of payments on food. Meanwhile, at harvest, the SHF supplies farm produce to the identified Agro-processor (Anchor) who pays the cash equivalent to the farmer's account.

The general focus of ABF policies were geared towards increase in bank's financing to the agricultural sector, reduction in agricultural commodity importation and conservation of external reserves, creation of new generation of farmers/entrepreneurs, generation of employment for the teeming unemployed youths, deepening of cashless policy and financing inclusion, reduction in the level of poverty among smallholder farmers, and to assist rural Smallholder Farmers to grow from subsistence to commercial production levels (CBN, 2016).

This paper broadly reviewed Anchor Borrower Programme (ABP) and its policy thrust. Specifically, it reviewed the effect of ABP on the livelihood and productivity level of participant farmers.

METHODOLOGY

This study adopted document survey method to generate data. Data and information were generated from journals, books, and other online literature materials available to the researcher during the course of this study. Findings were presented in discussion format.

Review of the effect of anchor borrower programme on the livelihood and productivity level of smallholder farmers - In a study on Evaluating the Prospects of Anchor Borrower Programme for Small Scale Farmers in Nigeria, with sub-theme: Financing the Farm Business (contract farming), Evbuomwan G. O and Okoye L. U. (2017) stated that Federal Government of Nigeria under the Anchor Borrower Programme has spent huge amount of money in promoting local production of rice, soya bean, sugar and other important agricultural produce. The authors stated that about 78,000 rural farmers in Kebbi State benefitted from the pilot project which was launched by the Federal Government of Nigeria in November, 2015 and yields as high as 7.5 to 8.0 metric tons per hectare were obtained by farmers compared with less than 2.0 metric tons per hectare previously obtained. This increase in productivity level equally increased livelihood status of the Farmers.

In the study of Ayinde O.E *et al.* (2018) on the Assessment of Central Bank Intervention on Rice Production in Kwara State, Nigeria: A Case-study of Anchor Borrower's Programme. It was observed that Anchor Borrower Programme had positive effect on the income of beneficiaries as a result of increase in yield which stood at 3.94 metric tons per hectare of rice farm. This increase in yield resulted in increased in the livelihood and general standard of living of the participant Farmers as well as increase in Nigerian economy.

Again, Saheed, Z. S. *et al.* (2018) conducted a research on the Impact of Anchor Borrower Programme on Agricultural Commodity Price and Employment Generation in Kebbi State, Nigeria. Data collected were analysed with the use of descriptive statistics and multiple regression analytical tools. The results revealed that ABP supports to farmers had positive and statistically significant impact on agricultural commodity price (ACP) and employment generation (EMPG) in agricultural sector in Kebbi State, particularly in Argungu LGA. ABP supports in extension increased the livelihood status of the participant Farmers. The findings are in line with that of Dori (2016) who observed that Central Bank of Nigeria's Credit schemes increased the level of credit inflow which increased the level of productivity, employment generation, and agricultural output.

CONCLUSION AND RECOMMENDATION

This paper concludes that previous agricultural development programmes implemented by past administrations had positive effect on the productivity level and livelihood status of participant farmers but was unable to actualize its full set goals due to numerous challenges. These challenges range from lack of markets, political

interference, diversion of funds, lack of farm inputs, disconnection between institutions and farmers, lack of capital/ credit facilities, poor extension contacts, high labour cost, use of crude implements among smallholder farmers, inadequate storages facilities and lack of social amenities. Anchor Borrower Programme was initiated with policy thrusts to address the aforementioned challenges and it has recorded positive results especially in the lives of participant farmers. This study will be of immense benefits to CBN, various stakeholders in ABP and government at all levels in their policy formulation and implementation, how to improve livelihood status of Smallholder Farmers, increase their productivity level and grow Nigeria economy from agriculture.

In order to improve the living standards of Smallholder Farmers and stimulate Nigeria economy, it is necessary to make policy framework that will fit better to the needs of the agriculture households, more interaction and feedback between institutions and farmers, provide advisory services and better conditions for agricultural development.

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RELEVANCE OF LABELING THEORY TO NIGERIA RURAL DEVELOPMENT

Babalola, B. R.
Department of Agricultural Extension and Rural Sociology, Faculty of Agriculture,
University of Abuja, Abuja-FCT, Nigeria

ABSTRACT
Social thinkers have from antiquity formulated broad theories of social change. Among early theories are those that based social change on divine determination. This school of thought posited that man's obedience or disobedience to the will of God attracts rewards and punishment for his good deeds and ill deeds. Social change is the process by which attraction occurs in the structure and function of a social system. Social changes influence the society and the individual. At individual level, it is concerned with how individual learns innovation, what motivates him to change, how to adjust to change and the societal personal factors affecting social change. Labeling theory posits that people come to identify and behave in ways that reflect how others label them. Labeling theory is one of the important approaches to understanding deviant and criminal behaviour. Labelling others is common in Nigerian Society. People are labeled when the society they live in perceived their action to be contrary and in violation to the society's or group's cultural norms. A fulani herdsman who is labeled as terrorist is believed to nurse a long term identity and his socialization with other people who consider his act as deviant is as stake. This becomes stigma he carries about. Killing a person by a Security Personnel is tagged by the same Society as Self- defence. The behaviour is killing, but the social interpretation is different. Where others are labeled as criminals, others are excused and justified as in the case of dangerous industrial polltion being environmental risks to human body in the rural community where the industry is sited. Politicians label themselves as serial defectors along party divides but not on political ideology. Therefore, Deviants are regular members of Nigerian society like Student, Teachers, Officers, Politicians, Farmers, Proffessors, Judges etc. The society only serves as stage for the performance and display of deviant behaviour. The above stated examples are some peculiarities of Nigeria situation with relevance to labelling theory.
Keywords: Labeling theory, Social system, social change, behaviour

INTRODUCTION

If we want to reduce violent crime and other serious deviance, we must first understand why it occurs. As a whole, sociological explanations highlight the importance of the social interaction for deviance and the commission of crime. Certain social and physical factors of urban neighborhoods responsible to high crime rate. These factors are: poverty, unemployment, dilapidation, population density, poor parenting and community characteristics. All these contribute to social disorganization and weaken social bonds and institutions. (Sampson, 2006). Maier (1984) in his Differential Identification Theory Stated that, groups that people acquire their values and attitudes tend to change the behavioural pattern of such individuals. Labeling others is common in our society. People are labeled when the society they live in perceived their action to be contrary and in violation to the society's or group's cultural norm. Labeling theory helps to explain why a behaviour is considered negatively deviant to some people, group and cultures but positively deviant to others. A person who his labeled as killer is believed to nurse a long term identity and his socialization with other people who consider his act as deviant is as stake. A negatively labeled individual gets such a reaction from other that he/she is typically shunned and excluded from certain social groups. Label is a stigma that an individual carries about and incorporate into his/her own self-concept. The stigmatized person may find it easier to come to terms with the label rather than fight it. Therefore Labeling Theory is a theory in sociology which ascribes labeling of people to control and identification of deviant behavior.

There norms and rules of socialization are in parallel with the universities laid down rules. Female students expose their body by mini skirts, legis, armlets wears they put on. Exposure of their aura to male students and interaction with opposite sex promote some natural feelings. Lack of interest by the university authority to punish the offenders that expose his/her body always lead to rape. Many clubs organize party beyond the midnight. Interaction amongst students of opposite sex can expose newcomers to sexual harassment. Many at times, students clubs organize show to select Miss Campus, Mr. Handsome, and the Oppressor etc. All these labels expose the holders to the vices that are detrimental to his/her life. Newly enrolled students through socialization often encourage trending such lifestyle.

Relevance of labeling theory on rural dwellers in Nigeria

Labeling theory explained why people's behavior is referred to as defiant. Labeling theories suggested that society that people find themselves determines and filters code of behavior for individual in a social process. An individual crime is a subject to the community he /she finds himself/herself. The society through its agents of social control labels an individual deviant. Tannenbaum(1938) who started labeling theory

stated that, the procedure of criminalizing an individual begin with tagging, defining, identifying, segregating, describing, classifying and evoking, such a person with codes and symbols they consider defiant to the societal acceptable norms. Deviants are regular members of the society like students, teachers, officers, politicians, traders, professors, judges, farmers, etc. the society only serve as stage for the performance and display of deviant behavior. Politicians in Nigeria label themselves according to the situation they found themselves. A typical example is the merging of the five political parties that came together to form alliance in 2014 to vote out the Peoples' Democratic Party under former president Goodluck Jonathan administration. Politicians from New PDP, Apga, ANPP, APC, and CPC, were not labeled by the ruling party. Due to self-ego and self-esteem needs of some politicians in the ruling Party APC, many left the ruling party to the opposition PDP and they were labeled as "serial defectors" by the political elites. They were classified, tagged as people without political ideology. Lemert (1951) is of the opinion that, crime is people's expression. He went further to mention that an individual is claimed to be a primary deviant when he/she is not aware he has committed a deviant act nor considers himself/herself as a deviant. He attains a secondary status having being labeled by the society as deviant. In other words, secondary crime is a role base behavior, the label produces a deviant social role and the society confers a social status on a deviant. This theory has made some political personalities to be very adamant when being referred as serial defector or disloyal party members in Nigeria. The appearance of many youths has been a subject of public debate. A male student of tertiary institutions puts on ear-rings, low waist trousers, and unkept hairstyles. The female counterparts put on trousers that reveal their buttocks; they wear Medicure and pedicure that suggest they are prostitutes. The male students are labeled as thugs and their behaviors tilt to such direction due to patronage of the SUG by the political class. Female students put on lipsticks, perfumes and hook that seduce lecturers. They are tagged 'sex hawkers'. Thus, these become their status.

According to Backer (1963), crime is a consequence of the pronouncement of rules and sanctions to an offender. A deviant is the person to whom the label has been applied. The author classified rule breaking and crime as behavior and the reaction of the society to the rule breaker accordingly. Backer's prostitution can be justified in a situation where a drunkard who has formed the habit of coming home late in the night was arrested by the patrol team of the security agencies. Such a person can be criminalized as armed robber and later detained in the prison. He can be further subjected to torture of any kind. Incidence of jail breaking and his socialization during his detention with ardent criminal can make him to become a hardened criminal that will terrorize the society that once labeled him a criminal. Scholars have argued that many people caught up in deviant role have become engrossed with such role that it has become part of their life. Some people caught in an act or engage in crime, delinquent or antisocial behaviors are processed through criminal justice system and others are ignored. Mothers easily call their children who steal meat from the soup pot thieves but it difficult to label those that break house on Sunday morning after the family has left for church as thieves. Why? Because they were not caught in the act.

Misinterpretation of Labeling Theory by the Society

Source: http://www.gogle.com/fulani/herdsmen

Advantages and disadvantages of labelling theory to rural developments

Advantages

1. It can be used to motivate others to do the right things.
2. It is a tool to correct social disorder.
3. It promotes attitudinal and behavioral change in a social system
4. It increases food production when used on model farmer during extension teaching method

Disadvantages

1. A wrongly labeled individual can become a threat to the society
2. It promotes defiancy
3. It is biasely used by social agents

CONCLUSION

It is unarguable that Nigerian economy depends on oil. A blow on oil installation and pipelines will cripple the social economic development of the country. There is need to always listening to the agitation of the individuals group of people before it results into restiveness. There must be a window of dialog to every national issue. Sustainability of the rural development can be achieved through peaceful coexistence and crime free society. Change in its general outlook and operations may be aiming at promoting the good of all its citizens while at the same time promoting the interest of specific groups. In the process of promoting common good and for change to occur at times, rewards or incentives are needed. Therefore, in studying the rural areas of developing countries like Nigeria, one cannot analyses the various structures from the consensus perspective and excludes the conflict perspectives. The duo must go hand in hand, for balanced realistic and objective analysis. This eclectic approach (using elements and arguments from both camps) will be useful in the studying of the contemporal study of rural areas in developing countries. Labeling and individual by the society has a negative effect on the person's future and at the same time labeling can be of positive when you tagged a farmer a role model. The consequence of this is that a positively labeled individual has positive influence on his life. Every society labels an individual if his/her character, behaviour and interaction within that social system does not conform to the norms and values of that society. Behaviour can only be labeled, if the social agent implements laws and orders that guild the society without being bias.

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SOCIOECONOMIC FACTORS AFFECTING FOREST RESOURCE USE AND ITS IMPLICATIONS FOR ENVIRONMENTAL DEGRADATION IN KADUNA STATE

Sani, I., Ammani, A. A. Issa, F. O. and Haruna S. K.
National Agricultural Extension and Research Liaison Services, ABU Zaria

ABSTRACT

This study examined the socioeconomic factors affecting forest resource use and its implications for environmental degradation in Kaduna State. A sample of 120 respondents was randomly chosen from 6 LGAs of the state for the survey using a structured questionnaire to elicit responses. The results reveal that charcoal (2.96 ±0.46) and fire wood (2.67±0.69) were the most common energy sources. Other important sources of energy for cooking and warmth were kerosene (2.49 ±0.82) and gas (2.32 ±0.73). However, electricity ranked least with mean usage level of 2.25 ±0.54. The regression results on socioeconomic variables affecting forest resource use further revealed that level of education with negative coefficient (-0.1085) andincome level (-1.5207) both affect forest resources use at 1% level, while price (-0.1888) is significant at 10%. Availability (0.2422), and location (.0469) are both positive but not significant at all levels. The study recommended conducting extension programs to create environmental awareness to enhance the adoption of charcoal and fire wood substitutes, promoting employment opportunities for unemployed, and subsidizing prices of alternative energy sources. Also the enforcement of strict forest product use laws and promotion of alternative means of livelihood can help stem the trend towards massive environmental degradation.

Keywords: Forest resources, environmental degradation, extension programmes

INTRODUCTION

The forestry sector of Nigeria has contributed immensely to the economic development of the country where major forest products and agriculture were the mainstay of the country's economy. The sector had accounted about 2% of the Gross Domestic Products (GDP) over the last two decades. According to the National Forestry Policy Document (2006), the sector also provides employment for some 1.8 to 2 million people.

The Nigeria's forest and woody vegetation resources include the high forests, woodland, bushlands, plantations, and trees on farms and other places. Each of these resources variously contributes to production, protection and conservation functions of the environment. These445 gazetted reserves for according to the National Forestry Policy document (2006), occupy about 96,043 km^2 or about 10 million hectares.

The projected level of demand for wood in the year 2020 is 180 million m^3 against a sustainable level of supply of less than 100 million m^3 (NFPD, 2006). The rapid rate of deforestation in the country (approximately 3.5% per annum) translates into an average loss degradation of 350,000ha to 400,000ha of forest cover every year (NFPD, 2006). These trends do not support the government policy of maintaining 20 –25% of the land area under forest cover for the well-being of the national, regional and global environment.

Studies on sources of fuel or energy for domestic use indicated that 55%households use fuelwood despite the abundance of natural resources like oil, gas and high potential for hydro-electric power in Nigeria (Maduka, 2011).

An attempt to provide an insight into the reasons for the over dependence of Nigerians on fuelwood for energy, necessitates a study of this nature. This paper therefore, studied the use of forest resources with a broad objective of knowing the Socio-economic factors affecting forest resource use and its implications for environmental degradation in Kaduna State. It specifically:

i. described the socioeconomic characteristics of the respondents in the study area.
ii. assessed the perception of the respondents on the various sources of fuel for energy in the study area.
iii. evaluated the socioeconomic determinants of forest resource use in the study area.
iv. identified the constraints to use of various fuels in the study area.

METHODOLOGY

Study Area: The study area is Kaduna State which lies between Latitude $09^0 02^1$ and $11^0 32^1$ North and Longitude $96^0 15^1$ and $08^1 60^1$ East of the Meridian. It occupies about 46,016 square kilometres, with 23 Local Government Areas and a projected population of 8,744,908 people based on 2018 projections at 3.2% growth rate (NPC, 2016). With an average annual rainfall of 1,272.5mm, farming is the dominant occupation of people.

The State is also blessed with a lot of forest resources as it houses 68 forest reserves which covered a total land mass of 4,090,959.10 hectares and 60476.32 hectares respectively of forest reserve and forest plantation.

Sampling Technique and Sample Size: A three-stage sampling technique was used to select the sample for the survey. The first stage involved the purposive selection of six urban to peri urban Local Government Areas (LGAs) with a highest number of fuelwood sell and usage in the

State. The LGAs selected were Chikun, Kaduna South, Kaduna North, Igabi, Zaria and Sabon Gari. The second stage involved the selection of two communities each from the selected LGAs. At the third stage 10 household heads were randomly selected from each community for interview. A total of 120 respondents were used for data collection during the survey.

Cross-sectional data were collected through the administration of structured questionnaire. A 5-point Likert scale was used to help in ranking the various fuels in terms availability, usage, affordability, and price.

Analytical Techniques: Simple descriptive statistics were used for the socioeconomic characteristics of the respondents, availability, affordability, and use of different fuels. Means, frequency counts, percentage, standard deviation were used for the socioeconomics and level of fuel use. A multiple regression analysis was performed to find the determinants of forest resource use as fuel by the respondents.

$\boldsymbol{\gamma = \delta_0 + \delta_1 x_1 + \delta_2 x_2 + \cdots . \delta_3 x_3 + \ldots\ldots + \delta_8 z_8}$

Where:

$\boldsymbol{\delta_0}$= Intercept

$\boldsymbol{\delta_1}$= Age of the respondent (years)

$\boldsymbol{\delta_2}$=Household Size (number of people in the household)

$\boldsymbol{\delta_3}$= Education Level (No. of years of schooling)

$\boldsymbol{\delta_4}$= Primary Occupation of respondent

$\boldsymbol{\delta_5}$= Price of available forest resources fuel (Naira)

$\boldsymbol{\delta_6}$= Monthly Income (Naira)

$\boldsymbol{\delta_7}$= Availability of forest resource fuel (Yes/No)

$\boldsymbol{\delta_8}$ = Distance to source of fuel

RESULTS AND DISCUSSION

Socioeconomic characteristics

The result on the socioeconomic characteristics of the respondent is presented in table 1. The result showed the mean age of the respondents is 35 years with an average household size of 7 persons. The mean number of years of schooling is 7 years, with an average monthly income of N22000. The price of charcoal and firewood being the dominant fuels for domestic use in the area is ranges from N50.00 to N70.00, while alternatives such as a litre of kerosene and a Kg of liquefied natural gas are sold at N210 and N350 respectively.

The distance to forest resources selling points are a few metres from households and are available at all times.

Table 1: Socioeconomic Characteristics of the respondents

Socioeconomic characteristics of respondents	Minimum	Maximum	Mean	Std. Deviation
Age	28	60	35	6.563
Household Size	3	18	7	4.428
No. of years of formal educ	4	16	10	5.703
Price/Kg of forest resource	50	100	70	1.0
Total monthly Income (₦)	15000	45000	22000	1750
Distance to source of fuel (Km)	0.1	1	0.50	1.21

Perception of the respondents on the various sources of fuel for energy

The result on the most commonly utilized energy sources on table 2, indicated that charcoal and firewood with a mean and standard deviation of 2.96; ±0.46 and 2.60; ±0.69 respectively. Kerosene ranked 3rd, followed by gas and electricity in that order. This indicates that there is a high use of the forest resources despite the availability of other alternative clean sources of energy. Several factors as will be explained later could be the reason for this preference. A study by Adedayo *et al.* (2008) on the factors that determine rural household wood energy utilization pattern and its impact on deforestation in Ogun State found prices and availability to be some of the factors determining the choice of wood energy.

Table2: Perception of respondents on various sources of fuel for energy

Energy Sources	Total Sum	Average	Std. Dev
Charcoal	404	2.96	0.46
Firewood	364	2.60	0.69
Kerosene	349	2.49	0.82
Gas	321	2.32	0.73
Electricity	311	2.25	0.54

Socioeconomic determinants of forest resource use

The result on socioeconomic determinants of forest resource use is presented in table 3. The result indicated factors affecting forest resource use to be level of education with negative coefficient (-0.1085) andincome level (-1.5207) both affect forest resources use at 1% level, while price (-

0.1888) is significant at 10%. Availability (0.2422), and location (.0469) are both positive but not significant at all levels. This is an indication that increase in level of education, income and price of forest resources can reduce the use of forest resources as indicated by their negative coefficients. Household size, distance to energy source and availability are not significant at all levels. This result is in agreement with some findings by Maduka (2011) and Adedayo *et al.* (2008) in their studies on popularizing the use of LPG in Abuja and of household choice of wood energy sources in Ogun State respectively.

Table3: Socioeconomic determinants of forest resource use

Variables	Coef	Std. Err.	z	P>z
Age	0.2084	0.08476	2.46	0.125
Household size	-4.1258	3.4737	-1.19	0.236
Level Education	-0.1085	2.8397	-0.64	0.001
Occupation	0.1085	.57901	-0.19	0.185
Price of energy	-0.1888	.1264	-1.49	0.054
Income level	-1.5207	3.2424	-0.45	0.002
Availability	0.2422	.07034	0.23	0.0817
Distance	0.0469	.08476	2.46	0.1315
R-squared		0.72		
Adj R-squared		0.624		
Number of observation		120		
F(8, 111)		2.04		
Prob > F		0.001		

Constraints to use of various fuels in the study area

The major constraints to use of alternative sources of energy are the high cost and availability, low income level of the respondents and low level of awareness on the long term advantages of the alternative sources.

CONCLUSION AND RECOMMENDATION

The various sources of fuel for domestic use, their level of use and some of the factors affecting use have been identified by the study. It has been revealed that charcoal and firewood are the most utilized natural sources of fuel for cooking with other alternative sources such as gas and electricity being less utilized. This will definitely affect the forest resources of the state. The likelihood of people to patronize other non-forest fuel resources is dependent on level of education, income, prices and availability of the alternatives.

Based on the findings, the following were therefore recommended;

a. Charcoal and firewood were found to be the dominant sources of energy, sensitization programmes on appropriate use of theefficient cooking stoves should be embarked on.
b. Controlling excessive and illegal cutting and burning the forest resources should be embarked upon by the state government through enforcing existing laws on forest use.
c. Provision of alternative sources of income and other means of livelihood of the people especially in communities known for their dependence on firewood and charcoal making.
d. Downward review of prices of other alternative sources and making them readily available to the people is a way that can increase their level of utilization.
e. Problem of insecurity in the forests has been an issue that if not tackled by the concerned authorities that undermines any effort to control illegal use of the forests.

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PROFITABILITY ANALYSIS OF COWPEA PRODUCTION ENTERPRISE AMONG SMALLHOLDER FARMERS IN KANKE LOCAL GOVERNMENT AREA OF PLATEAU STATE, NIGERIA

Onuwa, G. C., Mailumo, S. S. and Okeke-Agulu, K. I.
Department of Agricultural Extension and Management, Federal College of Forestry, Jos, Plateau state, Nigeria

ABSTRACT
This study analyzed the profitability and constraints of cowpea production among smallholder farmers in Kanke Local Government Area, Plateau State Nigeria. Primary data was collected with the use of structured questionnaires. Multistage sampling technique was employed to select the respondents for the study. Analytical techniques such as gross margin analysis and descriptive statistics were used to analyze the data. The gross margin analysis reveals that the average farmer invested ₦59,000/ha and generated gross farm income of ₦179,550/ha with a gross margin of ₦120,550/ha. The estimates of benefit-cost and operating expense ratios gave an index of 2.04 and 0.49, respectively. The major constraints faced by farmers in the area were inadequate capital (97.0%), poor access to agricultural credit (94.0%), high cost of improved production inputs (91.0%) and inadequate extension contact (84.0%).The study recommended formation of farmers' cooperatives, improved access to agricultural credit, production inputs, commodity markets and extension contact will help to mitigate production constraints, and consequently improve productivity and profitability.
Keywords: Constraints, cowpea, production, profitability, farmers

INTRODUCTION
Cowpea is an important food legume grown in the semi-arid tropics, covering Africa, Asia, Southern Europe and Central South America (Davis, 2013). It is cultivated primarily for grain, but also as a vegetable (green pods), fodder and cover crop. The largest production is in the moist and dry Savannas of Sub-Saharan Africa (SSA), where it is intensively grown as an intercrop with other cereal crops like n millet, sorghum and maize as well as rice fallows (Ishiyaku *et al*, 2010). Sole cropping systems with the use of improved technologies can yield 2,000-2,500 kg/ha of cowpea. However, 500-750 kg/ha yield is obtained by small scale farmers who are the domestic producers in the country (Wakili, 2013). Cowpea contains 20% – 25% of protein and 64% carbohydrate. It therefore has a tremendous potential to contribute to the alleviation of malnutrition specifically amongst rural households. Cowpea forage is a significant animal feed. Its ability to replenish soil nitrogen gives it a key position in modern crop farming systems in rotation with other crops, with the view for long term sustainable agriculture development prospect (Musa *et al* 2010). Approximately 68% of global cowpea production is cultivated in west and central Africa (Singh *et. al.,* 2002). Economically, cowpea has great value in the domestic trade of developing countries. It is an important crop in both domestic and international markets, it has significant economic and nutritional value, and despite its importance there is still the insufficiency of the crop due to problems that hinder its productivity (Norcross, *et al*., 2007). Profitability has been generally recognized as the main motive of any business enterprise; it is a determinant of productivity and sustainability (Musa, 2003) and can be measured using budgetary techniques. Nigeria in particular is facing a considerable decline in cowpea profitability and productivity and a widening gap between supply-demand, brought about by a high population growth of about 3.5% per annum relative to food production growth of about 1.5% per annum (Girei, *et al*., 2013). Cowpea production is faced with several constraints that need redress. This situation raises pertinent questions as to the profitability and sustainability of cowpea production enterprise in the study area. It is against this backdrop that this research study is designed to provide answers to the following research questions:

i. Is cowpea production enterprise profitable in the study area?
ii. What are the constraints associated with cowpea production in the study area?

Research hypothesis was stated as follows; Cowpea production is not a profitable enterprise in the study area.

METHODOLOGY
Study area - The study was carried out in Kanke Local Government Area (LGA) of Plateau state, Nigeria. The Local Government Council headquarters is located in Kwal. Kanke LGA consists of four districts; Kabwir, Amper, Ampang, and Garram. It covers an estimated land area of 926km^2 and a population of 121,424 (NBS, 2013). Average rainfall per annum is 1,280mm, with an average temperature of 27^{0}C. The major food crops cultivated in the study area include; cowpea, sorghum, millet, upland rice, maize, yam and cocoyam (FAOSTAT, 2010). They are also involved in domestic rearing of various livestock such as; Cattle, Sheep, Goat, Pig, etc.

Sampling procedure - A multistage random sampling technique was employed in selecting the respondents used for the study. The

first stage involved the purposive selection of Kanke LGA from the 17 LGAs in the State. The second stage involved the selection of two (2) districts out of the 4 Districts in the LGA, using constant sampling proportion of 0.50 (50%); the last stage involved the systematic random selection of smallholder cowpea farmers from a list compiled by the local extension agents in the selected districts, using constant sampling proportion of 0.1 (10%). Based on the foregoing, using a constant sampling proportion of 0.1 (10%) a sample size of 136 respondents was selected from a sample frame of 1,369 smallholder cowpea farmers, while only 85 questionnaires were retrieved and used for the purpose of this study.

Method of data collection - Primary data was collected using a well-designed questionnaire in line with the objectives of the study.

Analytical techniques - The analytical tools used for this study include; gross margin analysis to analyze objective i, and descriptive statistics (frequency distribution and percentages) to analyze objective ii.

Model specification

Gross margin analysis - Gross margin analysis was used to estimate the profitability of cowpea production enterprise. Gross Margin was used under the assumption that fixed cost component is negligible as in the case with subsistence farming usually associated with smallholder farming households. The model is expressed explicitly as follows:

$GM = GFI - TVC$……. (1)

$GM = \Sigma QyPy - \Sigma X_iP_{xi}$ ……. (2)

Where: GM = Gross Margin (₦/ha); GFI = Gross Farm Income (₦/ha); TVC = Total Variable Cost (₦/ha); Q_y = output of crop (kg); P_y = unit price of output (₦); Q_yP_y = total revenue from the crop (₦/kg); X_i = quantity of the ith input used in kg per hectare; P_{xi} = price per kg of the ith (₦/kg); X_iP_{xi} = total cost associated with the ith input per hectare; and Σ = summation sign. The benefit-cost ratios (BCR) as well as the operating expense ratio (O.R) of cowpea production were also estimated.

RESULT AND DISCUSSIONS

Profitability analysis of cowpea production enterprise

Table 1: Gross margin analysis for cowpea production enterprise (₦/ha)

Variable	Amount(₦/ha)	Percentage (%)
(A) Farm Income		
i. Total output/ha	1,197kg	
ii. Unit price/bag (100kg)	13,500	
(B) Gross Farm Income (GFI)	179,550	
(C) Variable Cost		
i. Labour/Tractor services	27,000	45.8
ii. Seed	2,000	3.4
iii. Agrochemicals	9,000	15.2
iv. Fertilizer	17,000	28.8
v. Transportation	4,000	6.8
(D) Total variable cost (TVC)	59,000	100
(E)Gross margin (GFI-TVC)	120,550	
(F) Benefit cost ratio (E/ D)	2.04	
(G) Operating ratio (TVC/GM)	0.49	

Source: Field survey (2017)

The results of the gross margin analysis Table 1 reveal that the estimate of total variable cost was ₦59,000. The cost of labour and tractor services constituted (45.8%) of the total variable cost, fertilizer (28.8%), agrochemicals (15.2%), transportation cost (6.8%), and cost of planting material (seeds) (3.4%). The estimate of gross farm income per hectare was ₦179,550/ha. The estimate of gross margin per hectare was ₦120,550/ha. This therefore translates to the fact that cowpea production is profitable enterprise in the study area as further confirmed by the estimated benefit-cost and operating expense ratios. The estimated benefit-cost ratio gave 2.04, implying that for every ₦1 spent on cowpea production ₦2.04 would be derived as farm income. The operating ratio computed gave an index 0.49 which indicates the proportion of the gross farm income that goes into the payment of operating expenses (variable costs) (49%). This also implies that the enterprise is solvent; hence gross farm income can meet all financial obligations, especially expenses on

variable inputs. From the results shown, cowpea production in the study area is very profitable farm enterprise that has the capacity to improve the remunerative income of the farmers, reduce rural unemployment among youths as well as help in sustainable agricultural production through land improvement. This result corroborates with the findings of; Musa, *et al*., (2010) and Girei, *et al*., (2013).

Constraints associated with cowpea production enterprise

The result of Table 2 revealed that the constraints of cowpea production enterprise in the study area include; inadequate capital (97.1%), poor access to agricultural credit (94.3%), high cost of improved production inputs (91.4%), inadequate extension contact (84.3%), poor access to improved production technology (67.1%), pest and disease infestation (57.1%), climate change(variability) (51.4%) and market proximity (42.8%).All the constraints identified by the farmers significantly affected the productivity and profitability of cowpea production enterprise in the study area.

Table 2: Distribution based on the constraints associated with cowpea production enterprise

Constraints	Frequency*	Percentage (%)
Inadequate capital	68	97.1
Poor access to agricultural credit	66	94.3
High cost of improved production inputs	64	91.4
Inadequate extension contact	59	84.3
Poor access to improved production inputs	47	67.1
Pest and disease infestation	40	57.1
Climate change (variability)	36	51.4
Market proximity	30	42.8
Total		

* = Multiple response

Source: Field survey (2017)

CONCLUSION AND RECOMMENDATIONS

The study revealed that cowpea production in the study area is very profitable farm enterprise that has the capacity to improve the remunerative income of the farmers, reduce rural unemployment among youths as well as help in sustainable agricultural production through land improvement. Based on the findings of this study, the following recommendations are made:

i. Policies and interventions to improve farmer's access to funds or agricultural credit should be implemented.
ii. Production inputs such as improved seeds, agrochemicals, etc. should be adequately supplied and subsidized to smallholder cowpea farmers.
iii. Farmers should have improved access to extension contact.
iv. Policies that will enhance the technical efficiency and profitability of the farmers should be formulated.
v. Farmers should be encouraged to form cooperatives to enhance their access to improved production inputs and commodity markets.

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DETERMINANTS OF YOUTHS' INVOLVEMENT IN AGRICULTURAL VOCATIONAL TRAINING IN OYO STATE, NIGERIA

Yekinni, O. T., Ladigbolu, T. A., Adeniyi, R. T. and Bashiru, O. M.
Department of Agricultural Extension and Rural Development, University of Ibadan, Nigeria

ABSTRACT

This study focused on the determinants of youths' involvement in vocational training in Oyo State, Nigeria. A multistage sampling procedure was employed to select 120 respondents. Data were collected via structured questionnaire on respondents' socioeconomic characteristics, reasons for the choice of specific agricultural enterprise training, attitudes towards the trainings, involvement and constraints to the vocational training. Data were analysed using descriptive and inferential (Chi-square, PPMC, and linear regression) statistics. Results show that most of the respondents' mean age and monthly income of 22years and ₦27,665. Personal interest (55.8%) was the main reason for the choice of their enterprise while poultry (120.8) was the enterprise mostly involved. Fund (weighted mean=165.9) constrained them to get involved Respondents had unfavorable attitude (53.3%) and low level of involvement (62.5%) in the programme. Significant relationship existed between respondents' involvement and institutions attended ((χ^2=91.90, p= 0.000), age (r=-0.312, p=0.001) and monthly income (r=-0.215, p=0.019). Respondents' age (β=-0.297; p=0.006) and constraints faced (β=0.203; p=0.033) were major determinants of their involvement. Hence, the constraints faced by the respondents should be looked into for more youth participation in vocational training and to reduce youth unemployment.

Keywords: Youths' involvement, poultry enterprise, vocational training, attitudes and personal interest.

INTRODUCTION

Youth unemployment has become one of the developmental challenges in almost every developing country of the world in the 21st century as it grows annually at more than 15 percent rate in all the developing countries around the world. Nigeria's past record shows that about 80 million of the 140 million population are youths between the ages of 10 and 24 years (Nigeria Population Reference Bureau, 2007). However, the national joblessness rate in Nigeria was estimated to be 23.9 percent of which the youth proportions were up to 70 % (Small, 2018). Despite the fact that, agriculture accounts for more than 60 percent of the total labour force of Nigeria's working population for formal and informal sector of the economy. The situations of underemployment, poverty and unemployment faced by Nigerians' youths have negatively affected the economic, social and emotional aspects of their life; with dire consequences on youths' happiness, social discontent and disruption which deprives the nation a large chunk of revenue. Hence, the skill acquisition programmes (Vocational training) have been identified as panacea for the substantial youth unemployment, poverty and hunger in Nigeria; where about 70 percent of the unemployed population are unskilled (Ojei, 2010). In order to address the lack of employable skill among the Nigerians' youth, the Federal Government in collaboration with the NDE and Institute of Agricultural Research and Training (IARandT) (Moore plantation Ibadan), facilitated short term vocational training programmes for vocational skills acquisition in order to make youths to be self-employed, economically self –reliant, enhance their socioeconomic wellbeing, strengthens their agricultural skills, encourages youth involvement in the agricultural sector of the economy and even becomes employers of labour (Ojei 2010; and NDE, 2009). Nigerian youths have benefited from these schemes in some of the areas such as fishery, poultry, beekeeping, tree planting, and piggery among others. It is therefore important to evaluate the determinants of youths' involvement in agricultural vocational training in Oyo state, Nigeria which was the general objective of this study.

Therefore, this paper ascertained the socioeconomic characteristics of the respondents, attitudes of youths towards involvement in agricultural vocational trainings, the extent at which youths are involved in the agricultural vocational training programmes, the different reason(s) for the choice of their enterprise, the constraints to their involvements in the agricultural vocational training programmes (AVTP). It was hypothesised that no significant relationship existed between the socio-economic characteristics of the respondents and their involvement in the vocational training.

METHODOLOGY

The study was carried out in Oyo state, Nigeria. Multistage sampling procedure was used to select 120 respondents for the study. The study therefore used two sampling frames of former participants at the agricultural vocational training programme to select the respondents for the study. Data were collected via structured questionnaire on respondents' socioeconomic characteristics, reasons for the choice of specific agricultural enterprise training, attitudes towards the trainings, involvement and constraints to the vocational training. Data were analysed using descriptive and

inferential (Chi-square, PPMC, and linear regression) statistics.

RESULTS DISCUSSION

The results in Table 1 show that the mean age of the respondents was 32.2 years. The mean age implies that majority of the respondents were young and will be agile to practice the vocation they have chosen. This is similar to the work of Nwanko (2014) who reported that majority of the respondents belonged to young age group. However, majority of the respondents were married (84%) and male (74.2%). The result further reveals that majority (85.9%) of the respondents had tertiary education with various course of study ranging from agriculture (26.7%) to social studies (28.3%). As per employment status, the study shows that more (64.2%) of the respondents were entrepreneurs which implies that majority of the respondents were self- employed. Meanwhile, the result in Table 1 further reveals the monthly income of the respondents in which a little less than one-quarter (43.3%) of the respondents' earn below 20,000 naira while very few (2.3%) earn above 80,000 Naira monthly. The mean monthly income of 27,665 naira shows that majority of the respondents earn above the minimum monthly wage (18,000 naira) of Nigerian civil servants.

Table 1: Distribution of respondents by their socioeconomic characteristics

Variables	Frequency	Percentage	Mean
Age (years)			32.2
20 – 30	37	30.8	
31 – 40	83	69.17	
Sex			
Male	89	74.2	
Female	31	25.8	
Marital status			
Single	36	30	
Married	84	70	
Institution attended			
NCE	21	17.5	
OND	24	20.0	
B.Sc	41	34.2	
M.Sc	9	7.5	
HND	8	6.7	
Currently employed	10	8.3	
Previously employed	6	5.0	
Underemployed	12	10	
Entrepreneur	77	64.2	
Trainee	5	4.2	
Not employed	10	8.3	
Monthly Income(naira)			27,665
2000 – 20,000	52	43.3	
20,001 – 40,000	47	39.2	
40,001 – 60,000	15	12.5	
60,001 – 80,000	2	1.7	
80,001 – 100,000	2	1.6	

Source: Field survey (2014)

In the reporting of the responses to the attitude scale in Table 2, strongly agree and agree options as well as strongly disagree and disagree options were merged for ease of reporting. The results shows that 93.4% of the ex-trainees agreed that the outcome of AVTP could improve their overall welfare while 92.5% of them were of the opinion that AVTP will ensure their food security (Nwaogwugwu and Obele, 2017). Generally, 53.3% of the ex-trainees had unfavourable attitude to AVTP. This shows that youths' are yet to have a good disposition to AVTP in the study area. The result was in tandem with the result of Ovwigho and Ifie (2009) but in contrast with the findings of Thomas and Eforuoku (2016) in which most (68.0%) of the youth had a favourable disposition towards participation in youth-in-agricultural programme.

Table 2: Distribution of respondents by their attitude to vocational training

Perception statements	Strongly agree	Agree	Neutral	Disagree	Strongly disagree
Agricultural vocational training programmes have motivated me to take up agribusiness.	39.2	45.8	1.7	7.5	5.8
Agricultural vocational training programmes have helped me in introducing new techniques and practices in crop and animal production.	25	56.7	6.7	7.5	4.2
Agricultural vocational training programmes may help improve the income of youths	37.5	54.2	2.5	4.2	1.7
Agricultural vocational training programmes can help solve the production and agro-processing problems.	35.0	54.2	4.2	4.2	2.5
Agricultural vocational training programmes has enhanced my livelihood status.	23.3	51.7	12.5	8.3	4.2
Government is not committed to agricultural programmes.	12.5	24.2	31.7	24.2	7.5
Agricultural vocational training Programmes is not addressing the felt needs of the youth.	15.0	36.7	6.7	34.2	7.5
I have had no regret in participating in agricultural vocational training programmes	8.3	10.8	3.3	40.8	36.7
Agricultural vocational training programmes will ensure my food security.	35.0	57.5	3.3	3.3	0.8
Agricultural vocational training programmes implementation involves lots of physical activities which discourages me.	10.8	29.2	5.0	40.0	15.0

Source: Field survey (2014)

Table 2a Categorisation of respondents by the level of their attitude to agricultural vocational training programmes

Attitude categories	Frequency	Percentage
Unfavourable	64	53.3
Favourable	56	46.7
Total	120	100

Source: Field survey (2014)

The result in Table 3 shows that most of the respondents were involved in poultry (120.8), fishery (101.7) and beekeeping (98.4). This implies that the respondents were interested in the enterprises probably as a result of ease in starting up the enterprises. Result of the analysis on Table 3a shows that more (62.5%) of the respondents have low level of involvement in the vocational training programme. The low level of the respondents' involvement might be due to the constraints faced during the AVTP.

Table 3: Distribution of respondents by their involvement in vocational training

Agricultural enterprise	To a larger extent	To a lesser extent	Not at all	Weighted score	Rank
Poultry	53.3	14.2	32.5	120.8	1st
Fishery	45.0	11.7	43.3	101.7	2nd
Beekeeping	41.7	15.0	43.3	98.4	3rd
Cash crop Production	28.3	6.7	65.0	63.3	4th
Piggery	25.0	11.7	63.3	61.7	5th
Exotic vegetable production	25.8	9.2	65.0	60.8	6th
Tree planting/ crops	25.0	10.0	65.0	60.0	7th

Source: Field survey (2014)

Table 3a: Categorisation of respondents by their level of involvement in vocational training

Level of involvement	Frequency	Percentage
Low	75	62.5
High	45	37.5
Total	120	100

Source: Field survey (2014)

The result in Table 4 shows the respondents' motive(s) for the choice of agricultural vocational programme by weighted score, in which personal interest (186.6) was the highest motivating factor and this is followed by their peer influence (140). This implies that personal interest was the main motive for the respondents' choice of agricultural vocational training rather than profitability of the enterprise as opine by Ayinde and Latopa (2015).

Table 4: Distribution of respondents by their motive(s) for choice of agricultural vocational programme

Motive(s) for choice of vocational programme	To a large extent	To a lesser extent	Rarely	Not at all	Weighted score	Rank
Personal interest	59.2	1.7	5.8	33.3	186.8	1st
Peer influence	41.7	5.8	3.3	49.2	140	2nd
Family influence	44.2	0.8	5.0	50.0	139.2	3rd
Affordability	22.5	5.0	1.7	70.8	79.2	4th
Profitability	20.1	3.3	3.3	73.3	70.2	5th

Source: Field survey (2014)

Information (result) available in Table 5 reveals that the most severe constraint faced by the respondents by the weighted score was lack of finance (165.9) and this is closely followed by lack of land (104.2). This implies that lack of finance is the greatest hindrance of the respondents in creating their own enterprise(s) as asserted by Adekunle, Adefalu, Oladipo, Adisa and Fatoye (2009).

Table 5: Distribution of respondents by their constraints to their involvement in vocational training

Constraints	Serious constraints	Minor constraints	Not a constraint	Weighted score	Rank
Lack of finance	76.7	12.5	10.8	165.9	1st
Lack of land	47.5	9.2	43.3	104.2	2nd
Lack of incentives	25.8	11.7	62.5	63.3	3rd
Natural hazards	17.5	23.3	59.1	58.3	4th
Lack of access to market	13.3	13.3	73.3	39.9	5th
Inadequate training	12.5	6.7	81.6	31.7	6th
Parental influence	6.7	6.7	87.5	20.1	7th
Peer pressure	4.2	10.0	85.8	18.4	8th
Low self interest	5.0	7.5	87.5	17.5	9th

Source: Field survey (2014)

Results of chi-square and PPMC analyses (Table 6 and 6a) show that institutions attended (χ^2=91.90; p= 0.000), education qualification (χ^2=7.554; p=0.028), employment status (χ^2=13.69; p=0.018), age (r=-0.312; p=0.001) and monthly income (r=-0.215; p=0.019) of the respondents were significantly related to the respondents involvement in the AVTP. The result of this study is in contrast with the findings of Thomas and Eforuoku (2016) who affirms that household size and age were among the significant socioeconomic characteristics to youth participation in agricultural programme.

Table 6 Chi-square for test of relationship between socio-economic characteristics and involvement in vocational training programme (n=120)

Characteristics	χ^2	df	p-value	Decision
Institution attended	91.904	1	0.000	Significant
Sex	1.047	1	0.209	Not significant
Marital status	2.074	1	0.109	Not significant

Characteristics	χ^2	df	p-value	Decision
Educational qualification	7.554	6	0.028	Significant
Employment status	13.690	5	0.018	Significant

Source: Data analysis computation (2014)

Table 6a: PPMC for test of relationship between selected socioeconomic characteristics and involvement in vocational training programme (n=120)

Variable	r-value	p-value	Decision
Age	-0.321	0.001	Significant
Monthly income	-0.215	0.019	Significant

Source: Field survey (2014)

The results in Table 7 shows that age (β=-0.297; p=0.006) and constraints faced (β=0.203; p=0.033) significantly determined the respondents involvement in the vocational training programme. The coefficient of age was negative implying that with increase in age there is decrease in involvement of the respondents in the AVTP. The result is in contrast with the finding of Nnadi and Akwiwu (2008) who obtained a positive significant relationship between the respondents' age and their participation in rural agriculture.

Table 7: Regression Analysis of determinants of youths' involvement in agricultural vocational training

Variables	β-value	r-value	p-value	Decision
Age	-0.297	-2.793	0.006**	Significant
Monthly income	-0.162	-1.861	0.065	Not significant
Index of attitude to AVTP	0.058	0.647	0.519	Not significant
Constraints index	0.203	2.164	0.033**	Significant

Source: Field survey (2014)

RECOMMENDATION

The study recommends that more work should be done by government at all level and privately owned agricultural institutions to motivate the youths better on AVTP of their interest in Nigeria. Also, more institutions should organise agricultural vocational training programmes so as to absorb more teeming jobless youths in our society into such trainings. Hence, youths that have educational background from other fields aside agriculture should be made to aware that they can participate in agricultural vocational training programmes.

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REVIEW OF THE INFLUENCE OF FARM HOUSEHOLD, LIVELIHOOD ASSETS AND DIVERSIFICATION ON THE LIVELIHOOD STATUS OF FARMERS IN RURAL AREAS OF BORNO AND KEBBI STATE, NIGERIA

Mshelizah R. J., Ajayi, O. J., Tsado, H. J. and Ibrahim, M.
School of Agriculture and Agricultural Technology, Department of Agricultural Extension and Rural Development, Federal University of Technology, Minna, Niger State, Nigeria.

ABSTRACT
Rural agriculture is subjected to local variations in weather conditions, and thus expected variations in income levels and access to food. There is need to diversify sources of income into multiple agricultural and/or non-agricultural income-based livelihood systems. Livelihood systems encompass means, relations, and processes of production, as well as household management strategies. Livelihood strategies are actions taken and choices made to achieve livelihood goals, including production activities, investment strategies, and maternity arrangements. In general, the conditions and the nature of the livelihood assets owned by a family or individual are the basis for understanding choice opportunities, livelihood strategies, and the risk environment of the family or individual. People must own different types of livelihood assets to achieve positive livelihood results. The ways in which farmers try to improve their livelihoods is widely diverge. This heterogeneity results from household characteristics such as; differences in size or composition of households and their internal dynamics, the assets owned or the access to land or water and by land, but also by local land properties, climate and the history of management. In order to understand livelihoods it is not enough to consider only the household because many actions, choices and decisions are responses to external signals and constraints. In conclusion; Farmers' livelihoods are not only influenced by their household characteristics and attitudes, but also by broader structures and forces which on their turn are co-shaped by processes of globalization and liberalization.
Keywords: Internal dynamics, farmers, households, livelihood assets, diversification, livelihood status

INTRODUCTION

Rural Nigeria is characterized by agrarian livelihood as well as other primary production activities such as cereal crop farming, animal husbandry and fishery activities. Omonona (2010) in his study revealed that, agricultural-based livelihood in rural Nigeria has a higher level of poverty than other occupational groups. Rural agriculture is subjected to local variations in weather conditions, and thus expected variations in income levels and access to food. Livelihood systems are at the heart of poverty reduction and food security issues in different policy environments. According to Baro (2002), livelihood systems encompass means, relations, and processes of production, as well as household management strategies. Ayantoye*et al*., (2011) stated that, there is a nexus between poverty levels in rural Nigeria and the level of food security and the resources and values of specific physical and social environments determine the character of livelihood system components.

Concept of livelihood and livelihood status of rural farmers

Akinwale (2010) stated that, livelihood refers to the way people make a living, which is based on capacity, assets and activities. Livelihood assets refer to the natural and manpower resources essential for people to survive, and they can be stored, exchanged or allocated to generate revenue streams or other benefits. Livelihood strategies refer to actions taken and choices made to achieve livelihood goals, including production activities, investment strategies, and maternity arrangements(Hua, 2014). In general, the conditions and the nature of the livelihood assets owned by a family or individual are the basis for understanding choice opportunities, livelihood strategies, and the risk environment of the family or individual. People must own different types of livelihood assets to achieve positive livelihood results, and relying on one single type of livelihood asset, will not result in the diversified livelihood results that people seek(Shi *et al*., 2014).

Livelihood and co-production in agriculture

According to Scoones (1998) in Anne (2009), livelihoods are 'the capabilities, assets (including both material and social resources) and activities required for making a living'. Co-production refers to the process of creating a farming system, which implies an interaction between people and (living) nature. The assumption is that characteristics of both people (households) and nature are subject to change. In fact, it is assumed that resources (either natural or human) are improved over time in order to enlarge the autonomy of the farmers' household and in this way improve the basis of the farm (Hua, 2014). Commencing activities that deviate from traditional farming practice is referred to as livelihood diversification. Shi *et al*., (2014) defines this as the construction of an 'increasingly diverse portfolio of activities and assets in order to survive and improve standards of living'. Baro and Batterbury (2005) classify different diversifying activities according to the nature of the activity and the place where the activity takes place. This is a useful classification when trying to make visible in what

direction farmers seek opportunities to improve their livelihoods.

Other prototypes of livelihood strategies are intensification and intensification (Carswel, 2000). Extensification then is the extension of the area used for agriculture without increase in the ratio of inputs of labour or capital per unit of land in order to increase production. Intensification refers to any process in which output per hectare of land is increased through increased use of inputs of labour or capital per unit of land and improved efficiency. Furthermore, intensification makes it possible to cultivate land more frequently without losing production (Ramisch, 1998).

Determinants of nature livelihood

The ways in which farmers try to improve their livelihoods is widely diverge. This heterogeneity results from household characteristics such as; differences in size or composition of households and their internal dynamics, the assets owned or the access to land or water and by land but also by local land properties, climate and the history of management (Tittonell, 2008). Farming systems are also different, because farmers each make different choices in forming their farming system and follow different strategies in order to reach specific goals. Even when farmers face the same circumstances they may respond differently because of differences in attitude. Differences in household characteristics, experience and attitudes however are not the only determinants in creating specific livelihoods. Baro andBatterbury(2005) says that: 'Livelihoods are embedded within broader structures and forces, including political networks'

Famers' livelihood strategies

Zhifei*et al*., (2018), unveiled that, the livelihood strategies of farm households depend on the conditions of their assets, and farm households cope with risks and shocks through portfolios consisting of different types of assets. Thus, discussing the relationship between the livelihood assets and the livelihood strategies of farm households helps in understanding their livelihood conditions and in formulating reasonable poverty reduction policies.

Liu *et al*., (2018) defined Livelihood strategies to refer to actions taken and choices made to achieve livelihood goals, including Production activities, investment strategies and maternity arrangements. As the activities that farm Households engage in to achieve their livelihood goals, the livelihood strategies of farm households determine how they make use of natural resources and livelihood results within a certain context. A change in farm household livelihood strategies is highly important in regard to aspects such as changes in land use, ecological security, livelihood sustainability and the sustainable development of rural areas (Zhang*et al*., 2013). Farm household livelihood strategies mainly include livelihood diversification, agricultural intensification, and agricultural expansion Sustainability and population migration and among others.

Zhang*et al*., (2013) reported that, currently, international studies on the change of farm household livelihood strategies mainly focus on the livelihood diversification and livelihood alternative. The former refers to the process of livelihood activities turning from single to diversified, and the latter refers to the process of the old livelihood strategy being completely replaced by a new livelihood strategy, concentrating in poorer areas such as Latin America and Africa. Change in farm household livelihood strategies has a significant influence on land use, ecological safety and livelihood sustainability among others.

Shi *et al*., (2014) Farm household livelihood strategies are various behavioral strategies that are adopted by farm households according to their asset portfolio. Assuming that farm households are rational, farm households adopt livelihood strategy to gain the optimal balance between income and bearable risks. Change in quantity and structure of livelihood assets influences a farm households' decision regarding livelihood strategy which is based on the optimal balance. In other words, changes in livelihood assets determine changes in livelihood strategies. The function mechanism from livelihood assets to livelihood strategies.

Zhifei, *et al*., (2018), identified livelihood strategies on the basis of a specific and in-depth investigation of farm households in their study region and consultation with numerous experts and scholars in related areas, as well as a quantitative study on livelihood assets conducted by experts and scholars from both home and abroad, the author designed an evaluation index system for farm household livelihood assets according to the specific natural resources, cultural life customs, ecological environment, religious beliefs among others, in the study region. Abayneh and Beneberu (2014) revealed that, the measurement value of farm household livelihood assets at various levels is not the simple addition of the index values at each layer but the weighted sum, which results from the weighted calculation of the index values of the subordinate index layer.

Influence of farm household livelihood assets on livelihood strategies of farmers

Zhifei*et al*., (2018) revealed that, based on the specific situation in the study region, the livelihood strategies of farm households are classified into three types, namely, continuing to farm (rural households), conducting concurrent business (part-time households) and engaging in

non-agricultural occupations (non-farming households). According Hoa*et al*. (2010), farmers will prefer to choose k if their k choice makes them think that they can obtain the maximum benefit they require.

Mechanism of the influence of farm household livelihood assets on livelihood strategies

The specific conclusions on the influence of farm household are as follows:

1. Natural assets and material assets have a significant negative influence on farm households' choice of livelihood strategies. That is, the more natural assets and material assets that farm households own, the more likely they are to choose livelihood strategies that involve engaging in agricultural production (Xie*et al*., 2017).
2. Manpower assets and financial assets have a significant positive influence on farm households' choice of livelihood strategies. That is, the more manpower assets and financial assets that farm households possess, the more likely they are to choose livelihood strategies that involve engaging in non-agricultural production(Xie*et al*., 2018).
3. Social assets have no significant influence on farm households' choice of livelihood strategies(Zhang *et al*.,2013).

Natural assets and material assets are indispensable prerequisites for agricultural production, and their conditions will inevitably have an important influence on a farm household's livelihood strategy decision to engage in agricultural production.However, manpower assets and material assets are the main factors determining farm households' opportunity cost from engaging in agricultural production as well the amount of these assets will inevitably have an important influence on farm households' livelihood strategy decision, as this is based on income maximization and bearable risks(Zhang *et al*., (2013).

Strategies adopted by cargill to help farmers improve their livelihood

Cargill (2018) revealed that, they help farmers improve their livelihoods by:

1. Helping increase productivity and access to markets,
2. Promoting agricultural practices that support a more sustainable future,
3. Investing to strengthen agricultural commodities.

Cargill further revealed that, farmers around the world were adopting better technology at an accelerated rate, helping them increase yields, protect soil conditions and maximize profitability so they can thrive. Around the world, farmers are using tools that increase planting efficiency and allow more precise application of crop inputs, such as fertilizer, thereby, boosting yield, while reducing waste and environmental impact (Shi *et al*.,2014). According toSu *et al*. (2009), Cargill is helping farmers at all levels of mental impact. They are helping farmers at different levels of productivity to be equipped with the knowledge to improve yields sustainably, provide reliable markets for their crops and help them manage risk. These are all essential for these farmers to contribute more fully to helping achieve a more sustainable, food-secured future. Zhifei, *et al*. (2018) revealed that, to improve farmers' livelihood, Cargill established farmer field schools that teach thousands of smallholder farmers agricultural best practices, provide them access to inputs such as seed and fertilizer and assist them in forming cooperative organizations to build their collective capacity and strengthen their communities. Cargill trained thousands of farmers around the world to use sustainable farming practices so they can increase yields and profitability.

CONCLUSION

Based on this review's findings, it can be concluded that, a simple and functional micro credit delivery system that will enable rural farmers to access loans to improve on their livelihood should be introduced in order to increase and strengthen their economic activities. Moreover, business advisory services should be provided for the enterprise groups to help achieve their goals and ensure employment creation. Furthermore, all rural enterprise groups should be trained on importance of groups in business enterprises, enjoy economy of scale through joint venture participation, entrepreneurial skills and effective group management techniques. The training will improve group goal attainment and boost the gains accruable to the group members. Understanding livelihoods as well as understanding the livelihoods constraints associated with different strategies will contribute to potent planning, monitoring and evaluation made by planners, policy makers and voluntary organizations who are concerned with promoting rural welfare in the villages, while implementing local agricultural extension and rural development programs and policies. This will help farmers in the rural areas of Nigeria to diversify their sources of livelihood, thereby changing their livelihood status.

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BENEFITS DERIVED FROM MILLENNIUM DEVELOPMENT GOALS SUPPORTED BOREHOLES IN RURAL AREAS OF ONDO STATE, NIGERIA

Adejuwon, O. T. and Oyesola, O. B.
Department of Agricultural Extension and Rural Development, University of Ibadan, Ibadan, Nigeria

ABSTRACT

Rural infrastructural development has a crucial role to play in the development of any nation. Despite the efforts of the three tiers of governments in Nigeria and that of the international organizations to improve rural wellbeing, most of the infrastructural development efforts have not been sustainable. Therefore, the study assessed the benefits derived from Millennium Development Goals (MDGs) supported boreholes in rural areas of Ondo State, Nigeria. Three stage sampling procedure was used to obtain data from 152 beneficiaries in the study area. Information on socioeconomic characteristics, level of use of the infrastructure and the constraints to use of the infrastructure were obtained using both qualitative and quantitative methods of data collection; information obtained were analyzed using descriptive and inferential statistics. Majority (66.5%) of the respondents were between age range 31 and 60 with mean age of 44 ± 14.28, 55.3% had household size of between 1 and 5 people, 61.2% were female, 95.4% had formal education, 60.5% were Christians, and 59.9% were married. High percentage (98.6%) of the respondents stated that borehole was not in use always. The highest ranked constraints faced by the beneficiaries in the use of the borehole was lack of maintenance ($\bar{x}$=1.14). The major benefit derived was provision of drinkable water ($\bar{x}$=1.87). Significant relationship existed between level of use of the infrastructure (r= -0.358, p=0.002) and the benefits derived from the infrastructure. It was therefore concluded that the beneficiaries did not benefited from the infrastructure as expected due to low level of use.

Keywords: Benefits, Millennium Development Goals, Borehole

INTRODUCTION

Despite the provision of borehole in rural area of Nigeria, Olugbamila and Ogunyemi (2015) asserted that continued low level of access to portable water may not be unconnected to non-functional status of the public pipe borne or borehole water. However, the state of and hence the level of benefits derived from borehole water through MDGs has not been investigated to ascertain the extent to which this has contributed to alleviating stress associated with lack of water in rural communities. According to Omogbemi, Dogara and Olabode (2015), rural infrastructures are found today in many rural areas in Nigeria. However, the number of abandoned/unused or non-serviceable infrastructures spread all over the country despite the fact that the cost of their execution is quite alarming. Thus, there has been growing awareness on the need for stakeholders to execute only those infrastructures that can be operated and maintained at the village level with little or no institutional support. Furthermore, past experiences have shown that except the community is carried along from the time of planning to the time of completion, there is bound to be failure in its sustainability. So many researches has been done in the area of availability of intervention projects as well as accessibility of the projects in rural areas of Nigeria; but there is no adequate information on the benefits derived from the interventions, most especially the boreholes provided by foreign organization. Therefore, the study ascertains the benefits derived from MDGs supported boreholes in rural areas of Ondo State.

The specific objectives are to;

a) describe the socioeconomic characteristics of the beneficiaries.
b) ascertain the beneficiaries level of use of infrastructure;
c) identify the constraints to the use of the infrastructure in the study area.

Hypothesis of the study was stated as; There is no significant relationship between the level of use of the infrastructure and benefit derived from the infrastructure in the study area

METHODOLOGY

Study area - This study was carried out in Ondo State, popularly called the Sunshine State. The state was created on 3 February 1976 from the former Western State.

Population of the study - The population of this study consists of all household heads in local government areas that had benefited from MDGs supported boreholes in Ondo State, Nigeria.

Sampling procedure and sample size - Multi-stage sampling procedure was used to select respondents from the population of household heads in the selected Local Government Areas.In all, two hundred and twenty (152) respondents was selected for data collection

Measurement of variables: Independent variables

Socioeconomic characteristics

1. Age: Respondents were asked to state their actual age(s) in years.
2. Sex: Respondents were asked to indicate their sex (male or female).

3. Education: Respondents were asked to indicate their level of educational attainment.
4. Marital Status: Respondents were asked to indicate their marital status.
5. Household Size: Respondents were asked to indicate their household size.
6. Religion: Respondents were asked to indicate their religion.

Respondents level of use of the infrastructure

Respondents were asked to indicate the level of use of the borehole on a three point scale of not at all, occasionally and always with score of 0, 1 and 2 respectively. Minimum score was 0.00, maximum score was 2.00 and the mean was 0.47.

Constraints to the use of the infrastructure

Respondents were presented with list of constraints to state the constraints to the use of the boreholes on a three point scale of Very severe, Severe and not a constraint; with score of 2, 1, and 0 respectively. Minimum score was 0.00, maximum score was 5.19 and the mean was 1.98.

Dependent variable

Benefit derived from the intervention

Respondents were asked to tick Yes or No to indicate if they benefited from the infrastructure available in their area, Yes take a value of 1 while No takes a value of 0. They were also asked to indicate the level of benefit on a three point scale of High, Moderate and Low with score of 3, 2 and 1 respectively. Minimum score was 0.00, maximum score was 21.00 and the mean was 4.71.

RESULT AND DISCUSSIONS

Socioeconomic characteristics

Table 1 reveals that the mean age was 44 ± 14.28. The result shows that majority (53.1%) were below 50years of age. The mean household size was 5 ± 3.18**.**Majority (61.2%) were female, only 38.8% were male. The table reveals that 95.4% had one form of formal education or the other. The findings corroborates Adepoju and Obayelu(2013) who stated that most indigene of Ondo State have one form of formal education or the other. Majority (60.5%) of the respondents were Christians, Islam 38.8%, while only 0.7% was a traditional worshiper.

Table 1 also reveals that majority (59.9%) of the respondents were married. This implies that majority of the respondents were married and thus classified as being responsible as marriage is believe to confer responsibility on individual. As asserted by Jibowo (2000) that marriage is an important institution in any community for it is an important framework within which social role and status are prescribed.

Table 1: Distribution of respondents according to their socio-economic characteristics

Variable description	Frequency	Percentage	Mean / Std. deviation
Age (years)			
Less or equal to 30	16	10.3	
31-40	29	19.1	Mean = 44
41-50	36	23.7	
51-60	36	23.7	
Above 60	35	23.0	Std. Deviation = 13.18
Household size			
1-5	84	55.3	
6-10	58	38.2	Mean = 5
11-15	9	5.2	Std. Deviation = 3.18
Above 15	1	1.3	
Sex			
Male	59	38.8	
Female	93	61.2	
Highest level of education			
No formal education	7	4.6	
Primary education	16	10.5	
Secondary education	29	19.0	
Tertiary education	100	65.9	
Religion			
Christianity	92	60.5	
Islam	59	38.8	
Traditional	1	0.7	
Marital status			
Single	23	15.1	
Married	87	59.9	
Divorced	9	5.9	
Widowed (er)	27	17.8	

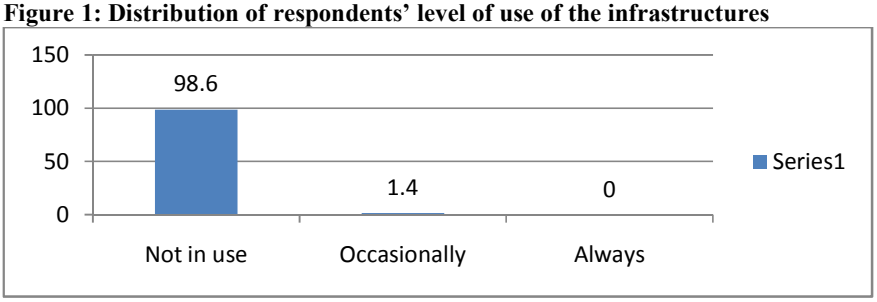
Separated	6	1.3

Source: Field survey, 2017

Level of use of the infrastructures

Result of analysis presented on Figure 1 on level of borehole, majority (98.6%) states that the borehole was not in use, while 1.4% said they use it occasionally,

Figure 1: Distribution of respondents' level of use of the infrastructures



Source: Field survey, 2017

Constraints to the use of borehole

Result of analysis on Table 2 shows that lack of maintenance ($\bar{x}$=1.14), small over-head tanks ($\bar{x}$=0.89) and lack of technical knowhow on maintenance ($\bar{x}$= 0.79) were the most severe constraints faced by the respondents in the use of the borehole provided by MDGs.

Table 2 Distribution of the constraints to the use of borehole

Constraints	Very severe		Severe		Not a constraint		Mean	Rank
	Freq	%	Freq	%	Freq	%		
Level charged before use	12	17.1	0	0.0	58	82.9	0.34	6th
Location of the borehole	3	4.3	1	1.4	66	94.3	0.10	8th
Technical know how	24	34.3	7	10.0	39	55.7	0.79	3rd
Lack of maintenance	34	48.6	12	17.1	24	34.3	1.14	1st
Small over-hand tank	24	34.3	14	20.0	32	45.7	0.89	2nd
Uncompleted project	21	30.0	0	0.0	49	70.0	0.60	5th
Bad road	15	21.4	21	30.0	34	48.6	0.73	4th
The project stopped Working	8	11.4	0	0.0	62	88.6	0.23	7th
Grand mean							**0.60**	

Source: Field survey, 2017

This corroborates the findings of Enefiok andEkong (2014) that lack of maintenance is the major problem with MDGs water projects in Nigeria.

Benefits derived from borehole by respondents

Result of analysis on Table 3 indicate that benefits derived through the provision of borehole in the study area through MDGs intervention were provision of drinkable water ($\bar{x}$=1.87), reduction in hours spent in search of water ($\bar{x}$=1.07) and improve unity in the community ($\bar{x}$=0.80). This implies that MDGs only succeeded in providing drinkable water.

Table 3: Distribution of the respondents' benefits derived from borehole

Level of benefit	High		Moderate		Low		Not beneficial		Mean	Rank
	Freq	%	Freq	%	Freq	%	Freq	%		
Drinkable water	35	50.0	11	15.7	3	4.3	21	30.0	1.87	1st
Reduce incidence of cholera	3	4.3	3	4.3	2	2.9	62	88.6	0.24	5th
Water for Irrigation	3	4.3	2	2.9	2	2.9	63	90.0	0.21	7th
Reduce hour spent in search of water	15	21.4	13	18.6	4	5.7	38	54.3	1.07	2nd
Reduces child mortality	3	4.3	3	4.3	2	2.9	62	88.6	0.24	5th
It improves sanitation of the environment	3	4.3	3	4.3	4	5.7	60	85.7	0.27	4th
It improves the unity in the	8	11.4	10	14.3	12	17.1	40	57.2	0.80	3rd

community	
Grand mean	**0.67**

Source: Field survey, 2017

Relationship between level of use and the benefit derived from the infrastructures

Result of analysis Table 5 shows that there is significant relationship between the level of use of borehole (r = -0.358, p = 0.0002), and the benefit derived from the infrastructure, hence, the null hypothesis is rejected. The boreholes were not in use, it influences affected the benefits.

Table 5: Relationship between level of use and the benefit derived from the infrastructure

Variable	R	P	Decision
Level of use	0.358	0.002	Significant

Source: Field survey, 2017

CONCLUSION AND RECOMMENDATION

The study concluded that the major benefit derived from the infrastructure was provision of drinkable water.

Based on the findings of the work, the following recommendations are hereby made:

- The communities should have maintenance committee that will saddle with the responsibility of making sure the infrastructure is in good state.
- The government should rehabilitate all abandoned borehole in the study area.

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GENDER ROLES IN LIVESTOCK PRODUCTION WITHIN AGRO-PASTORAL HOUSEHOLDS, IN IDO LOCAL GOVERNMENT AREA OF OYO STATE, NIGERIA

Epunam E. V., Adejuwon O. T. and Oyesola O. B.
Department of Agricultural Extension and Rural Development, University of Ibadan, Ibadan, Nigeria

ABSTRACT

This study examined gender roles in livestock production within agro-pastoral households in Ido Local Government Area of Oyo State, Nigeria. A multi-stage sampling procedure was used to select 120 respondents (60 male and 60 female). Data collected were on respondents' socioeconomic characteristics, activities engaged in and constraints faced and analyzed using frequency counts, mean, chi-square, PPMC and t test. The findings of the study reveal that majority of the respondents were married (98.3%), Muslims (99.2%), had household size of 6-10 (45.0%) and had no formal education (61.7%). Male agro-pastoralist engaged in rearing of cattle (76.7%) and goat (58.3%), while female pastoralists engaged in trading (70.0%) and milk processing (60.0%). The highest ranked constraint faced by male respondents was lack of contact with extension agents ($\bar{x}$=2.8) while lack of storage facilities ($\bar{x}$=2.9)was the major constraint faced by female respondents. Income from livestock production between male and female were found to be significantly different (t=3.16, p=0.00). Extension agents should be more readily available to assist male agro-pastoralist. Also, knowledge on both local and modern storage facilities should be promulgated among female agro-pastoralist.

Keywords: Gender roles, Livestock production, milk processing and Agro-pastoralist.

INTRODUCTION

Pastoralism as a mode of production has existed in Nigeria for hundreds of years under varying ecological conditions and it has proved to be an important economic and socio-cultural activity (Omotayo, 2002). Livestock industry is considered an important component of agricultural sector. The contribution of this sector has generally been very low in recent years owing to a number of factors such as low production of animal in relation to increasing population, poor husbandry and management, inaccessibility of roads and lack infrastructural facilities which result in poor marketing, preservation, packaging and transportation of livestock production. The utmost constraints is the effect of the gender imbalance to responsibilities usually shelved to be heavier for women especially in developing countries where there is no gender inequality in terms of roles and responsibilities in livestock production.

Agro-pastoral practice has made significant contribution to the nation of Nigeria. Two preconditions for pastoralism include the domestification of several animals' species by early farmers; and the appearance of more efficient ways of using these animals (Ayodapo, 2010). Despite the contribution of the agro-pastoralists to the nation's economy, they are among the neglected ethnic group in Nigeria and are able to perform their economic and political right (Omotayo, 2002). This study therefore accessed gender roles in livestock production among agro-pastoral households in Ido Local Government area of Oyo State.

The specific objectives are to:

a) describe the personal characteristics of the respondents in the agro-pastoral study area
b) identify activities engaged in by agro-pastoral households in the study area
c) ascertain the constraints faced by the agro-pastoral households in the study area.

METHODOLOGY

Study area - The study was carried out in Ido Local Government Area of Oyo State. It has its headquarters in Ido, a place situated along Ibadan-Eruwa road, and it covers a land area of 986km, population of 103,261 at the 2006 census.

Population of study - The target population included adult male and female within agro-pastoral households in Ido Local Government Area of Oyo State.

Sampling procedure and sample size - The study was carried out in Ido Local Government Area of Oyo State. Four (4) communities were purposively selected out of the nineteen (19) rural communities in the local government due to the concentration of agro pastoralist camps in the selected communities. 15 male and 15 female were selected in each of the selected community to give total of 120 respondents.

Variables measurement: Independent variables

Socioeconomic characteristics

Sex: The respondents were asked to indicate their sex.

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

Religion: Respondents were asked to indicate their religion.

Marital status: Respondents were asked to indicate their marital status.

Education status: Respondents were asked to indicate their level of education.

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

Number of years in livestock rearing: Respondents were asked to state their number of years in livestock rearing.
Livestock size: Respondents were asked to indicate the size of their livestock in number
Activities engaged in: Respondents were provided with a list of activities to indicate all the activities engaged in by ticking the ones they were engaged in. Percentage was used to determine the activities mostly engaged in by male and female agro-pastoral households
Constraints on livestock production: The respondents were asked to indicate the level of constraints they faced in livestock production in the study area. The level of severity was measured on a three point scale of very severe, severe and not a constraint; with score of 2, 1, and 0 respectively.
Dependent variable

The dependent variable is livestock production. Respondents were asked to indicate the livestock they rear as well as their herd size/livestock size. Percentage was used to determine the livestock mostly reared by male and female agro-pastoral households

RESULT AND DISCUSSIONS

Personal characteristics

Result of analysis of respondents reveals that mean age of male was 43.6, while female had mean age of 45.2. This implies that most of the respondents are within their active age. This finding is in conformity with reports of Ekong (2003) and Jibowo (2000) which stated that most Nigerian farmers are between the ages 41 – 50 years. The table also reveals that almost all (98.3%) of the male respondents were Muslims while only 1.7% were Muslims. For the female respondents, all of them were Muslims. This implies that majority of agro-pastoralists in the study area were Muslims.

Table 1 also reveals that majority (96.7% and 70.0%) of the male and female respondents respectively were married. This implies that majority of agro-pastoralists in the study area were married which could provide family labour for the households. Table 1 also reveals that more than half (51.0%) attended Koranic school, while the remaining 48.3% had no formal education. Majority (75.0%) had no formal education while the remaining 25.0% attended only Koranic education. Table 1 reveals that the mean years of experience of male respondents in livestock rearing was42.7, while female was 38.5. This implies that most have them started livestock farming as a child.

Table 1: Distribution of respondents' personal characteristics

	Male		Female	
Variable	**Freq**	**%**	**Freq**	**%**
Age				
20 – 40	18	30.0	19	31.7
41 – 50	25	41.7	21	35.0
51 – 60	11	18.3	15	25.0
Above 60	6	10.0	5	8.3
Mean	$\bar{x}$ = 43.6		$\bar{x}$ = 45.2	
Religion				
Christianity	1	1.7	0	0.0
Islam	59	98.3	60	100.0
Marital status				
Single	2	3.3	18	30.0
Married	58	96.7	42	70.0
Education attainment				
No formal education	29	48.3	45	75.0
Koranic	31	51.7	15	25.0
Years of experience				
1 – 20	8	13.3	5	8.3
21 – 40	22	36.7	26	43.3
41 – 60	30	50.0	29	48.4
Mean	$\bar{x}$ = 42.7		$\bar{x}$ = 38.5	

Source: Field survey, 2017

Activities engaged in by respondents

Result of analysis on Table 2 reveals that activities mostly engaged in by male respondents were cattle rearing (76.7%), goat rearing (58.3%) and trading (55.0%). In the case of female respondents, it was trading (70.0%), milk processing (60.0%) and rearing of chicken (55.0%).

This implies that male agro-pastoral households were mostly engaged in cattle and goat rearing, while the female were mostly engaged in trading and rearing of chicken.

Table 2: Distribution of activities engaged in by respondents

Activities	Male		Female	
	Freq.	%	Freq.	%
Trading	33	55.0	40	70.0
Rearing of chicken	13	21.7	33	55.0
Rearing of goat	35	58.3	20	33.3
Rearing of cattle	46	76.7	3	5.0
Rearing of ram/sheep	29	48.3	20	33.3
Milk processing	14	23.3	36	60.0

Source: Field survey, 2017

Constraints faced by the respondents

According to result of analysis on Table 3, the severe constraints faced by male respondents were lack of contact with extension agents ($\bar{x}$=2.8), lack of finance ($\bar{x}$=2.7) and unavailability of veterinary services ($\bar{x}$=2.5). Female were majorly constrained by lack of storage facilities ($\bar{x}$=2.9), lack of finance ($\bar{x}$=2.8) and inadequate transport system ($\bar{x}$=2.7).

This implies that lack of finance and unavailability of water were major challenge to both male and female agro-pastoral households in the study area.

Table 3: Distribution of constraints faced by the respondents

Constraints	Male				Female			
	N. S %	S %	V. S %	Mean	N. S %	S %	V. S %	Mean
Lack of storage facilities	49.2	37.5	5.8	1.4	4.2	3.3	92.5	2.9
Inadequate information	1.7	87.5	10.8	2.0	55.8	41.7	2.5	1.3
Inadequate transport system	84.2	13.3	2.5	2.1	70.0	23.3	5.9	2.7
Lack of contact with extension agents	7.5	6.7	85.9	2.8	7.5	60.0	32.5	2.2
Lack of finance	70.0	23.3	5.9	2.7	7.5	6.7	85.9	2.8
Unavailability of farm land	84.2	13.3	2.5	2.1	6.7	35.0	58.3	2.5
Unavailability of veterinary services	6.7	35.0	58.3	2.5	1.7	87.5	10.8	2.0
Unavailability of feed	84.2	13.3	2.5	2.1	49.2	37.5	5.8	1.4
Unavailability of water	7.5	60.0	32.5	2.2	6.7	35.0	58.3	2.5
Grand mean				**2.19**				**2.23**

Source: Field survey, 2017

Livestock reared

Result of analysis on Table 4 reveals that majority (75.0%) of the male respondents reared cattle, 46.7% reared goat, 41.7% reared sheep/ram, 31.7% reared guinea fowl, 20.0% reared local chicken, while only 15.0% were rearing improved breed of chicken. This shows that majority of the male agro-pastoral households in the study area were into cattle rearing.

In the case of the female, majority (81.7%) were rearing local chicken, 50.0% reared goat, 45.0% reared guinea fowl, 31.7% reared improved breed of chicken, 13.3% reared sheep/ram, while only 5.0% were rearing cattle. This implies that the female agro-pastoral households were majorly into local chicken.

Table 4: Distribution of livestock reared by respondents

Livestock	Male		Female	
	Freq.	%	Freq.	%
Cattle	45	75.0	3	5.0
Sheep/ram	25	41.7	8	13.3
Goat	28	46.7	30	50.0
Local chicken	12	20.0	49	81.7
Guinea fowl	19	31.7	27	45.0
Improved breed of chicken	9	15.0	19	31.7

Source: Field survey, 2017

CONCLUSION AND RECOMMENDATION

Based on the empirical findings of this work, I hereby conclude that male and female agro pastoral households in the study area engaged in different livestock production activities. Male and female agro-pastoral households faced difference constraints, while lack of finance was the only general severe constraint faced by both male and female.

Based on the findings of the work, the following recommendations are hereby made:

- Loans and grants should be made available to agro-pastoral households in the study area.
- Extension agents should be available in the study area to assist the agro-pastoral households.

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COMMUNITY POLICING IN NIGERIA: A TOOL FOR CRIME PREVENTION AND CONTROL IN RURAL AREA

Umar, F. K.
Department of sociology, Faculty of Social Science, Ahmadu Bello University, Zaria

ABSTRACT
The present security Challenges ravaging the country is unprecedented and worrisome. So many farms in Northern Nigeria today remain uncultivated due to fearof bandits holding farms and farmers at ransom.Community policing in Nigeria is a security strategy being adopted as an alternative or supplementary effort from the immediate community to buttress the efforts of police force in combating crime and criminal activities. As a matter of fact the police in Nigeria cannot sustain or maintain crime free communities without voluntary local efforts to complement theirs. It is also believed that the people residing in a particular community can easily identify those people perpetrating evils intheir immediate milieu and will be easy for them in tracking them down;they have adequate knowledge of settings of their areas. To this effect, this paper will discuss the importance of community policing in crime prevention and control as well as how community engagement can result to community development.
Keywords: Community, Nigeria Police, Policing, Development

INTRODUCTION

History of the Nigeria Police

The police organization is the main institution that provides regular direct contact with the public. This makes it unique among the other components of criminal justice system. The Nigeria police have been under intense public criticisms in the last three decades over its apparent inability to effectively prevent and control crime (Dambazau, 2007). Many Nigerians perceive the policeman as; a lazy, corrupt, inefficient, bribe taking, money extorting officer.

The need for social order, protection of lives and property alongside establishment of peaceful co-existence in the society gave birth to the development of police. According to Membere (1981), Sir Stan Hope Freeman, the governor of British West Africa is known with the initiation of forming the nucleus of what later became the Nigerian police force. In this account, Sir Freeman wrote a memo to the British office requesting authority to create a force different from the consular guard. His request was granted and the force which he formed, was used to quell protest by the citizens who were not contented with the British style of governance. The Epe uprising of 1863, the activities of the consular guard drew the attention of the government of Lagos colony. It was captain Cowers who requested and received the permission from London to increase the number of the force to one hundred shortly after the Hausa guard and the constabulary of the Lagos colony were established. A legal instrument backing the new force as an ordinance was enacted in 1879. This Law was however amended with another ordinance which created the Lagos police force as an investigative unit known as the criminal investigative department in 1896 (Membere, 1981)

The royal Niger constabulary played an important role in British government to proclaim the protectorate of the Northern and Southern Nigeria in 1900 following the transfer administration from the Royal Niger company. The royal Niger constabulary was split into Northern Nigeria police and Northern Nigeria regiment. In South, Lagos police force and part of the Niger coast constabulary became the Southern Nigerian police force in 1906 while the bulk of the Niger coast Constabulary formed the Southern Nigeria regiment. In addition to the Normal police duties the new police were responsible for dealing with internal disturbance and external aggression. After the amalgamation of the Northern and Southern Nigeria in 1914, both police force continue to operate separately until 1st April 1930, when they merged to form the present Nigerian police force with the headquarter in Lagos under the command of an inspector general. The title of the inspector general was replaced with commission, in 1937 out the original titled was reverted in 1951 after the introduction of a new constituency. The designated commission was assigned to the officer of the region (Membere, 1981), Nigeria assumed overall leadership of the force in 1963 when the late Mr. Louis Edet was appointed the first indigenous inspector general of police. Since then, other Nigerians like Mr. S.A. Adewusi had headed the police.

On the 27th May, 1967 simultaneous with the creation of twelve(12) states in the federation, twelve(12) police command were created to conform with the political structure of the country for purpose of effective administration in 1968, the federal government decided to merge the local government and the local authority police force in the country with the Nigeria police serving members of the force who were found suitable were induction course and later absorbed into the appropriate rank of the Nigeria police. In February 1976, seven (7) additional states were created thereby changing the federal structure to nineteen

(19) states and equally providing nineteen police commands in the country.

Communitypolicing in Nigeria

According to kasali, there is no doubt that community policing as security management approach has become a "buzz-word" in policing circle, replacing such terms as police-community relations, team policing, and problem oriented policing. However, to date, community policing is still an elusive term meaning different programs and approaches to different police departments. Despite the foregoing, many countries of the world have continued to adopt community policing to meeting their different security needs.

In recent times, many governments have realized that they can no longer monopolize the business of security in local domains as well as the world at large. This opinion has led to extending the security community to include private players (in security business), NGOs and above all, the civilians take the center stage in security management (Kasali, 2010). Since the 1990s, the attention of the world population has shifted to redefining security and looking for the best approach that could guarantee effective security management, different from the traditional ones that had failed to address the increasing security threats. The search for the best approach led to the emergence of the community policing approach.

Historically, community policing as a concept originated from the United States in the 1970s as a philosophy and tactic of policing to integrate the public into police institution, not as police personnel but as collaborators in the security affairs of the nation for optimal efficiency and responsiveness (Wong, 2009). Indeed, this approach advocates for a paradigm shift. Rather than leaving entirely the job of policing to state and police, people are more than ever tasked to play a lot of complementary roles in the security affairs of their communities. Therefore, it is not the function of the state (or government) to determine security imperatives for the people but it is the people who should have the final say in deciding their own security. It is against this background that many governments of the world have begun to adopt community policing for effective security management.

The influence of community-oriented policing training on police attitudes towards the people are yet to be noticed. The people are still confronted with unfriendly police officers who maltreat them daily in the streets and at the police stations. The young people who ought to form the back bone of this new police partnership are themselves the major victims of police brutality and harassment in the society. The inability of the police to translate training orientations to improved interactions with the people after training makes the adoption of community-oriented policing training fruitless and another waste of public resources in Nigeria.

Prospects of community police in the rural area

Like several other nations world over, Nigerian police force embraced the philosophy of community policing in 2004. Community policing is a paradigm shift that seeks to focus on constructive engagement with people who are the end users of the police service and re-negotiate the contract between the people and the police thereby making the community co-producers of justice and a quality police service (Okeshola and Mudiare, 2013).

An obvious prospect of community policing, according to Coquilhat (2008) is that, it offers the public a larger window into police activity and provides opportunities for 'grass roots' support for police, Especially in rural areas where the people of the community are conversant with the area and are able to patrol their area with ease. However, communities with existing capacity are more likely to participate in community policing, but are less likely to benefit from it because, in general, they are already proactively addressing issues to increase community safety. Okeshola and Mudiare (2012) also note that, community policing in Nigeria presumes that it demands better communication and understanding between police and public. It also encourages more liberal and tolerant attitude towards criminal. Thus, as a proactive policing, community has prospect in Nigeria as it is more effective both in preventing offending and in achieving offender detection and remedial action post offence.

The government must make effort to train more trainers to cover the entire policing commands within the federation; members of the public have to be carried along in Community-oriented policing training and implementation within their community.

Though the trainees were enthusiastic after the training, they were confronted with many challenges on the field. The new policing philosophy was not accepted by all the police officers and some members of the public were not aware of any positive change in policing due to community-oriented policing training programme. The community-oriented policing trainers were competent to teach others having undergone adequate training locally and internationally before. The training curriculum should reflect the current security challenges and realities in the community.

CONCLUSIONS AND RECOMMENDATIONS

The community-oriented policing trainees faced various post training challenges on field such as; Lack of logistics support, lack of equipment and

kits to work with and skeptical colleagues and members of the public. This new policing strategy is people cantered and facilitates accountability on the part of the police. It makes both the police and the people partners in problem solving and crime prevention in the community.

The curriculum contents of community-oriented policing training in Nigeria should include courses in moral instructions and policing skills.All personnel should come from the community they should be conversant with the area for effective monitoring and service.The trainees should be posted to beats that will enable them to practice what they were taught in the training sessions in their community.The community police should be supplied with adequate security Gadgets so that they can overpower any armed criminal or bandit.There should be a monitoring and evaluation unit in each police area commands to adequately assess the impact of communityoriented policing training on the trainees after training and to identify areas of improvement from the community members.Members of the public must be sensitized on the need to embrace the police as partners in crime prevention within the community to create more awareness about communityoriented policing among the public in Nigeria.

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EFFECT OF ANCHOR BORROWERS' PROGRAMME OF 2015 ON AGRICULTURAL YIELD IN NIGERIA

Rufai, K. A.
Department of local Government and Development Studies, Faculty of Administration, Ahmadu Bello University, Zaria

ABSTRACT
The study examined the central bank agricultural policy on Anchor Borrowers' Programme of 2015, and its effect on Agricultural Yield in Nigeria. The objective of the study is to assess the agricultural output in Nigeria. The study used quarterly time series data from 2010Q1 to 2018Q2 and the research regress agricultural output against the existence of the anchor borrowers programme proxy by a Dummy Variable (DV). The data is analyzed using descriptive statistics and regression test. The study find that the anchor borrowers programme contributes to the increase in output of the agricultural sector in Nigeria, and the result using dummy variable reveal that there is a positive and significant effect of the anchor borrowers programme. The study agrees with the findings of Grace O. E. and Lawrence U. O. (2017) and Saheed, Z. S.the study found that the period of the programme 2015-date has more significant effect on agricultural output then the period 2010-2014 when the programme was absence. The study recommended that, such programmes should be encouraged as it contributes positively to agricultural output and be more frequent, as it generate employment and increases food supply.
Keywords: Agricultural policy, Dummy Variable, Anchor Borrowers Programme and Finance

INTRODUCTION

The Central Bank of Nigeria (CBN) is the apex monetary authority of Nigeria established by the CBN Act of 1958 and commenced operations on July 1, 1959. The major regulatory objectives of the bank as stated in the CBN Act are to: maintain the external reserves of the country, promote monetary stability and a sound financial environment, and to act as a banker of last resort and financial adviser to the federal government. (www.cenbank.org).

Agriculture contributes immensely to the Nigerian economy in various ways, namely, in the provision of food for the increasing population; supply of adequate raw materials (and labour input) to a growing industrial sector; a major source of employment, generation of foreign exchange earnings, and, provision of a market for the products of the industrial sector (Okumadewa, 1997).

Nigerian agricultural policy through CBN provides, among others, for adequate financing of agriculture. The role of finance in agriculture, just like in the industrial and service sectors, cannot be over-emphasized, given that it is the oil that lubricates production. Public expenditure on agriculture has however been shown not to be substantial enough to meet the objective of the Government agricultural policies (IFPRI, 2008). For a developing country with a mono-product oil economy such as Nigeria's, inadequate financing of agriculture portends great danger.

However, the contribution of agricultural Policies in Nigeria has not met the expectations of Government and Nigerians as well. The emergence of oil as a major tax revenue is one of the means a country's government devises in solving the economic problems of the country and to enhance government expenditure which is expected to be beneficial to the citizens of such country through the provision of social and economic infrastructures (Adereti, 2011).

In Nigeria, tax revenue has accounted for a small proportion of total government revenue over the years. This is because the bulk of revenue needed for development purposes is derived from oil. Governments of developed Economy like United States, Canada, United Kingdom, who derive substantial revenue from Company Import Duties Income tax, Value Added Tax, have used same to create prosperity (Appah, 2004).

The gap of this study come in terms of the period covered and methodological approach factors to the disparity in terms of analyzing the effect of anchor borrowers programme on Agricultural Yield in Nigeria. Following the aforementioned gap created by the earlier researchers in the light of mixed views in findings and conclusion reached by various studies. However, this study aims at assessing the agricultural output in Nigeria with respect to the anchor borrowers programme, Therefore, the purpose of this study is to assess the effect and significant of the anchor borrowers on Nigerian economy.

Literature review and theoretical Framework

Varying opinions regarding the importance of the financial system for economic growth exist. Bagehot (1873) and Hicks (1969) argued that financial system facilitated the mobilization of capital for "immense works" in England's industrialization. Schumpeter (1912) posited that well-functioning banks spur technological innovation by identifying and funding entrepreneurs with the best chances of successfully implementing innovative products and

production processes. In contrast, some other economists do not believe the existence of relationship between credit and growth (Lucas, 1988). However, Levine (1997) opined that the level of financial development is a good predictor of future rates of economic growth, capital accumulation, and technological change. Theory proponents have also suggested that financial instruments, markets, and institutions arise to mitigate the effects of Information and transaction costs, while less developed theoretical literature showed that changes in economic activity could influence financial systems (Levine and Renelt, 1992). In the last few years, tremendous research studies using the concept of credit channel theory that policy variables have effects on both credit supply and demand in any economy abound in the literature. Dobrinsky and Markov (2003) in the recently proposed "credit channel view" suggested that shocks from monetary policy effects on real economic performance via the credit supply by commercial banks and other financial institutions owing to movements in their supply schedules.

Mishkin (2004) posited that an undeveloped financial system is one of the reasons why developing or transition countries have low rates of growth. This proposition is affirmed by Duican and Pop (2015) that the stability of financial sector plays an important role in Agricultural Yield of any country, with evidences in the literature that there is a correlation between economic growth and credit market. Korkmaz (2015) also opined that banks can ensure effective distribution of resources in economy by transferring resources that they have collected to certain regions and sectors. But when they contract credits that they let use, they can cause economic stagnation and for some sectors to go through a difficult period.

In general, most theoretical literature on financial development and economic growth supports the argument that credit market development has a positive influence on economic growth by enhancing capital accumulation and technological changes.

The law of returns to scale also provides the theoretical linkage between credit and agricultural output. In view of this, this work hinges on the law of returns to scale. This law in economic literature explains the proportional change in output with respect to proportional change in input variables. In other words, the law of returns to scale states that when there is a proportionate change in inputs, the behaviour of output Changes. For instance, an output may change by a large proportion, same proportion, or small proportion with respect to change in input.

Thus, this study is based on these theories underpinning the importance of credit market development for growth.

The Central Bank Agricultural Anchor Borrowers' Programme 2015

The Central Bank of Nigeria (CBN) in line with its developmental function established the Anchor Borrowers' Programme (ABP). The Programme was launched by President Muhammadu Buhari (GCFR) on November 17, 2015 and intends to create a linkage between anchor companies involved in the processing and small holder farmers (SHFs) of the required key agricultural commodities. The programme thrust of the ABP is provision of farm inputs in kind and cash (for farm labour) to small holder farmers to boost production of these commodities, stabilize inputs supply to agro processors and address the country's negative balance of payments on food. At harvest, the SHF supplies his/her produce to the Agro-processor (Anchor) who pays the cash equivalent to the farmer's account. (www.cenbank.org).

The broad objective of the ABP is to create economic linkage between smallholder farmers and reputable large-scale processors with a view to increasing agricultural output and significantly improving capacity utilization of processors. Other objectives include: Increase banks' financing to the agricultural sector Reduce agricultural commodity importation and conserve external reserves Increase capacity utilization of agricultural firms Create new generation of farmers/entrepreneurs and employment Deepen the cashless policy and financial inclusion, Reduce the level of poverty among smallholder farmers, assist rural smallholder farmers to grow from subsistence to commercial production levels.

The loan was targeted at smallholder farmers engaged in the production of identified commodities across the country. The Farmers should be in groups/cooperative(s) of between 5 and 20 for ease of administration. And the targeted commodities of comparative advantage to the State shall include but not limited to: Cereals (Rice, Maize, wheat etc.) Cotton Roots and Tubers (Cassava, Potatoes, Yam, Ginger etc.)

Sugarcane Tree crops (Oil palm, Cocoa, Rubber etc.) Legumes (Soybean, Sesame seed, Cowpea etc.) Tomato Livestock (Fish, Poultry, Ruminants etc.) Any other commodity that will be introduced by the CBN from time to time.

Loans granted to the SHFs is to be repaid with the harvested produce that shall be mandatorily delivered to the Anchor at designated collection centre in line with the provisions of the Agreement signed. The produce to be delivered

must cover the loan principal and interest. (www.cenbank.org).

METHODOLOGY

This study uses quarterly secondary data from CBN Database. the aimed at taking an in-depth analysis and contribution of the Central Bank Anchor Borrowers Programme to Nigerian economy from 2010Q1-2018Q2.

RESULTS DISCUSSION

The result of the descriptive statistics is presented in the Table 1. The table shows the statistical behaviour of agricultural output in Nigeria from the first quarter of 2010 to second quarter of 2018. As indicated by the table the average value is N3,763,382 Million and the result from Jarque-Bera Statistic test for normality shows the distribution is normal with the P-Value of 0.40 which is greater than 0.05. this leads to the acceptance of the null hypothesis which says the distribution is normal against the alternative hypothesis. This means outliers are not much and the median value (N3662593 Million) is close to the mean value.

Table 1: Descriptive Statistics for Agricultural Output from 2010Q1 to 2018Q2

Statistic	AGRICULTURE
Mean	3763382.
Median	3662593.
Maximum	5189366.
Minimum	2594760.
Std. Dev.	731237.4
Skewness	0.241262
Kurtosis	1.974165
Jarque-Bera	1.820654
Probability	0.402393

Source: E-view 10 Data from CBN Used for Derivation

In order to assess the significance and effect of the anchor borrowers programme on agricultural output in Nigeria, this research regress agricultural output against the existence of the anchor borrowers programme proxy by a Dummy Variable (DV). The Dummy Variable has a value of 1 for the period the programme was introduced and 0 indicating absence of the programme. As the result from table 2 above reveal without the programme the average performance of agriculture was about N3,583,037 Million. The Dummy Variable has positive and significant value of N557,428.7 Million. This is because the P value is 0.0354 which is less than 0.05 indicating the rejection of the null hypothesis that anchors borrowers programme has no significant effect in favour of the alternative which says anchor borrowers programme has a significant effect on agricultural output in Nigeria. This means the introduction of the programme has on average increase the agricultural out by N557,428.7 Million. Every quarter. However, result from the R-Square reveals that the programme only explains about 13.1% variation in the level of agricultural output in Nigeria while other factors not captured by the model explained about 87% variations.

The findings of this study shows that anchor borrowers programme has a significant effect on agricultural output in Nigeria. This agrees with the findings of Grace O. E. and Lawrence U. O. (2017) and Saheed, Z. S. Alexander, A.A. Isa, A. A. and Adeneye, O.A. (2018) that anchor borrowers programme has a significant effect on agricultural output in Nigeria. It's therefore, very possible for one to argue that for Nigeria to achieved its objective of agricultural output, it has to bring more of such policies and programme because of its high correlation.

Table 2: Effect and Significance of the Anchors Borrowers Programme on Agriculture

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	3583037.	144336.9	24.82412	0.0000
DV	557428.7	253758.5	2.196690	0.0354
R-squared	0.131036	Mean dependent var		3763382.
Adjusted R-squared	0.103881	S.D. dependent var		731237.4
S.E. of regression	692215.6	Akaike info criterion		29.79020
Sum squared resid	1.53E+13	Schwarz criterion		29.87999
Log likelihood	-504.4335	Hannan-Quinn criter.		29.82082
F-statistic	4.825446	Durbin-Watson stat		1.711288
Prob(F-statistic)	0.035403			

Source: E-view 10 Data from CBN Used for Derivation

CONCLUSION AND RECOMMENDATIONS

This study focuses on the anchor borrowers programme proxy by a Dummy Variable (DV). Using descriptive statistic, graphical presentation and regression test. the study found out that the period of the 2015-date anchor borrowers programme has more significant effect on agricultural output in Nigeria then the period 2010-2014 when the programme was not introduce. The major contribution made by this study is it showed that the anchor borrowers programme has significant effect on agriculture in Nigeria.

Based on the findings, the study therefore recommends that anchor borrower programme policy in Nigeria should be encouraged as the programme contributes positively to agricultural output.

It is also recommended that such programme should be frequent, as it will generate more employment, increases food supply and foreign exchange earnings. The positive outcomes of the programme will help the economy to achieve greater self-reliance.

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PERCEIVED CONSTRAINTS OF PUBLIC EXTENSION PERSONNEL IN DISSEMINATING ORGANIC FARMING PRACTICES TO FARMERS IN EKITI STATE

[1]Obabire, I. E. and [2]Ogunjimi, S. I.
[1]Department of Agricultural Technology, Federal Polytechnic, Ado-Ekiti, Ekiti State Nigeria
[2]Department of Agricultural Economics and Extension, Federal University Oye, Ekiti State

ABSTRACT

Organic farming activities have been mostly carried out by faith-based extension outreach in Ekiti State. Therefore, this study was carried out to assess the constraints perceived to be militating against dissemination of organic farming practices to farmers by public extension personnel in Ekiti State. A multi-stage random sampling procedure was used to select forty-two (42) respondents, and data was collected through the aid of a well-structured questionnaire. The data collected was analyzed using frequency counts, percentage, mean and standard deviation. Results obtained showed that respondents were mostly male (78.6%), married (73.8%) and within their active age range with the mean age of 41.08±10.46. The mean work experience was 12.24±10.87. The level of awareness of organic farming management practices was high among majority (83.3%). Lack of incentives (2.64±0.62) ranked first among the constraints perceived by the public extension personnel to militate against dissemination of organic farming practices. This was followed by shortage of extension personnel (2.48±0.74), inadequate funding (2.48±0.71), focus of Government on conventional farming (2.05±0.62) and inadequate access to organic input (1.95±0.76), among others. Most (59.5%) of the respondents perceived the constraints associated with dissemination of organic farming practices to be highly severe. The study therefore concludes that lack of incentives, shortage of extension personnel, inadequate funding, and focus of Government on conventional farming were the major constraints perceived to inhibit the dissemination of organic farming practices to farmers by public extension personnel in the study area. Public extension personnel could be of great help in promoting organic farming practices, if provided with enabling environment. Therefore, there is need for stakeholders in organic farming to address all identified constraints and explore the opportunities in public extension services, in order to promote organic farming in the study area.

Keywords: Organic farming, public extension personnel, perception, stakeholders

INTRODUCTION

International Federation of Organic Movement (IFOAM, 2004) describes organic agriculture as a holistic agricultural system that combines traditional knowledge, innovation and science to benefit the shared environment and promote fair relationship and good quality of life for all involved. According to Bello (2008), Organic farming could be defined as the agricultural production without the use of synthetic chemicals (fertilizers, pesticides, antibiotics, etc.). The relevance and need for an eco-friendly alternative farming system arose from the ill effects of the chemical farming practices adopted worldwide (Mustapha, Bzugu and Sanusi, 2012). There is no doubt that agriculture under the high off-farm input of agrochemicals has improved the lot of farmers through increased yield and income, but evidence abound all over the world that the cost to man and his environment, cannot be sustained (Odebiyi and Omoloye, 2006). Organic farming is one of the several approaches found to meet the objectives of sustainable agriculture, and different organizations have played important roles in promoting organic farming in Nigeria (Mustapha *et al.*, 2012). The report of Age *et al*. (2010) indicated an increase in organic farming due to the efforts of the Nigerian Organic Agriculture Network (NOAN) which is currently known as the Association of Organic Agriculture Practitioners of Nigeria.

However, in Ekiti State, the Justice Development and Peace Commission (JDPC) of the Ekiti State Catholic Diocese, which is faith-based, has been the major organization promoting organic farming in the State. There is dearth of information on the activities of public extension personnel (extension personnel of Ekiti State Agricultural Development Programme (EKSADP), in organic farming. It was against this backdrop that this study examined the constraints perceived to be militating against the dissemination of organic farming practices to farmers by public extension personnel in the State, with a view to addressing the constraints.

METHODOLOGY

The study was conducted in Ekiti-state, Nigeria. Multi-stage random sampling procedure was employed for the sample selection. At the first stage, two (2) zones (zone 1 and zone 2) were randomly selected from three zones in the State. Stage two involved random selection of 50% of public extension personnel in each of the selected zones (17 out of 33 in zone 1, and 25 out of 50 in zone 2) to make a total of 42 respondents which constituted the sample size for the study. A well-structured questionnaire was used to collect data on personal characteristics of the respondents, awareness of organic farming, perceived constraints and perception towards dissemination of organic farming practices to farmers in the study area.

The dependent variable which was perceived constraints was measured on a 3-point rating scale of not severe, severe and very severe which attracted the scores of 1, 2 and 3 respectively. The mean score was obtained and used to categorize the respondents on the severity of the constraints. Data obtained was analyzed using statistical tools such as frequency counts, percentage, mean and standard deviation.

RESULTS AND DISCUSSION

Personal characteristics

The results of analysis (Table 1) reveal that the mean age and length of service were 41.35±10.55 and 12.33±10.70, respectively. The mean age is in consonance with the findings of Salau and Saingbe (2008) which reported 41.06 years as the mean age of extension workers in their study. The mean age implies that the respondents were within their active age range which could afford them strength to discharge their duties effectively. The mean work experience corroborates the findings of Kolawole *et al*. (2016) which reported that the mean work experience of extension personnel was 14.7 years in the study area. This implies that they are experienced and can make their wealth of experience bear on the job. The table further shows that majority (78.6%) of the respondents were males, which means that males were more involved in extension services than females. This is in line with the findings of Adeola and Ayoade (2011) which stated that Agricultural Development Programme (ADP) service is dominated by male. This implies that technology dissemination may be gender skewed towards male farmers (Salau and Saingbe, 2008). The table also reveals that more than two third (73.8%) of the respondents were married. This implies that the respondents are better equipped experience wise in family affairs and will be in the best position to fulfill the obligation of not just disseminating improved agricultural practice (organic farming inclusive) to the farmers but offering robust and all-encompassing advisory service to the farm households (Kolawole *et al*., 2016).

Table 1: Distribution of respondents based on their personal characteristics

Personal characteristics	Frequency	Percentage	Mean
Age (years)			
21- 40	22	52.4	
41 – 60	19	45.2	41.05±10.46
Above 60	1	2.4	
Sex			
Male	33	78.6	
Female	9	21.4	
Marital status			
Single	10	23.8	
Married	31	73.8	
Divorced	1	2.4	
Length of service(years)			
1-10	21	50.0	
11-20	11	26.2	

Source: Field survey, 2018

Awareness of organic farming practices

Table 3 reveals that majority (83.3%) of the respondents had high awareness of organic farming practices some of which included: compost application, use of cured animal manure, use of green manure and biological pest control. This could be as a result of increased awareness creation by organic farming stakeholders in the country. The high awareness may afford them opportunity to understand the various constraints that could inhibit dissemination of organic farming practices to farmers in the study area.

Perceived constraints associated with dissemination of organic farming practices

Table 2 shows that lack of incentives (2.64±0.62) ranked highest among the constraints perceived by the public extension personnel to militate against dissemination of organic farming practices. This was followed by shortage of extension personnel (2.48±0.74), inadequate funding (2.48±0.71), focus of Government on conventional farming (2.05±0.62), inadequate access to organic input (1.95±0.76), lack/Inadequate training of extension personnel on organic farming (1.67±0.69), and inadequate awareness of the importance of organic farming (1.60±0.66). Inadequate contact with subject matter specialists on organic farming (1.50±0.67) ranked next while technical-know-how of organic manure application by extension workers in case of demonstration (1.40±0.63) ranked lowest among the identified constraints. This is in tandem with the findings of Mustapha *et al*. (2012) which assert

that the problems of extension of organic farming were enormous, some of which included lack of financial support, poor organic extension activities and lack of awareness among others.

Table 2: Distribution of respondents based on their perceived constraints to dissemination of organic farming practices/innovation

Perceived constraints to organic farming innovation dissemination by extension workers	Mean	Rank
Lack of incentives/rewards/motivation from appropriate authority	2.64±0.62	1st
Shortage of extension workers	2.48±0.74	2nd
Inadequate funding	2.48±0.71	3rd
Focus of government on conventional farming which is believed to improve agricultural production	2.05±0.62	4th
Inadequate access to organic input (seeds, seedlings, organic fertilizer)	1.95±0.76	5th
Lack/Inadequate training of extension workers on organic farming	1.67±0.69	6th
Inadequate awareness of the importance of organic farming	1.60±0.66	7th
Inadequate contact with subject matter specialists on organic farming	1.50±0.67	8th
Technical-know-how of organic manure application by extension workers in case of demonstration	1.40±0.63	9th

Mean categorization of perceived constraints as presented in Table 3 shows that most (59.5%) of the respondents perceived the constraints associated with dissemination of organic farming practices to be highly severe. The implication is that dissemination of organic farming practices to farmers by public extension personnel may be difficult, given the level of severity of the identified constraints perceived to be associated with dissemination of organic farming practices to farmers in the study area.

Table 3: Level of awareness of organic farming and perceived constraints militating against dissemination of organic farming practices to farmers n = 42

Awareness and constraints categories	Scores range	Frequency	Percentage	Mean
Awareness of organic farming				
Low awareness	≤ 8.70	7	16.7	
High awareness	≥8.71	35	83.3	8.71±0.74
Perceived Constraints				
Not severe	≤17.75	17	40.5	
Highly severe	≥17.76	25	59.5	17.76±3.07

Source: Field Survey, 2018

CONCLUSION

The awareness of organic farming management practices was high among public extension personnel. Lack of incentives, shortage of extension personnel, inadequate funding and focus of Government on conventional farming ranked high on the list of constraints perceived by the public extension personnel to be militating against dissemination of organic farming practices to farmers in the study area. Therefore, there is need for stakeholders in organic farming to urgently address all identified constraints and explore the opportunities in public extension services, in order to promote organic farming in the study area.

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