TRANSFORMING RURAL ENVIRONMENT: THE SOCIOLOGICAL PERSPECTIVE

PROCEEDINGS

of the

28th ANNUAL NATIONAL Congress

of the

RURAL SOCIOLOGICAL ASSOCIATION OF NIGERIA (RuSAN)

held at

OBAFEMI AWOLOWO UNIVERSITY, ILE-IFE

Between

7th – 11th October, 2019

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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 28th Annual National Congress held at Obafemi Awolowo University, Ile-Ife between 7th and 11th October 2019. 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.

The following represents the timeline of the conferences held in the recent past.

Year	Theme	Editor-in-Chief	Venue/Location
2019	Transforming Nigeria's Rural Environment: The Sociological Perspective	Prof. Kolawole Adebayo	Obafemi Awolowo University, Ile-Ife
2018	Rural Social Fortification and Development in Nigeria	Prof. Kolawole Adebayo	Ahmadu Bello University, Zaria
2017	Grassroots Development and Dividend of Democracy	Prof. Kolawole Adebayo	Michael Okpara University of Agriculture, Umudike
2016	Conflict, Peace Building and Rural Development	Prof. F. A. Kuponiyi	FUOYE, Oye-Ekiti
2015	Changing Social Values, Transparency and Sharp Practices – Impacts on Agricultural and Rural Development	Prof. F. A. Kuponiyi	LAUTECH, Ogbomoso
2014	Social Engineering on Sustainability of the Agricultural Transformation Agenda	Prof. F. A. Kuponiyi	University of Benin, Benin
2013	Perspectives on changing rural social organisations, structures and institutions and implications for agricultural development strategies in sub-Saharan Africa	Prof. F. A. Kuponiyi	University of Uyo, Uyo

Year	Theme	Editor-in-Chief	Venue/Location
2012	Challenges and Approaches to Sustainable Rural Development in sub-Saharan Africa	Prof. F. A. Kuponiyi	University of Ibadan, Ibadan
2011	Socioeconomic Analysis of Entrepreneurial Education Food security Poverty alleviation Linkages in Nigeria	Prof. F. A. Kuponiyi	Fed Coll of Agric Produce Tech, Hotoro, Kano
2010	Approaches towards the Transformation of Rural and Agricultural Economy in Nigeria	Prof. A. A. Ladele	University of Agriculture, Makurdi
2009	Globalization of the Socio-Political Economy of Rural Development	Dr. A. A. Ladele	Akure
2008	Policy Advocacy Role in Agricultural and Rural Transformation in Nigeria	Dr. A. A. Ladele	Umudike
2007	Powering Agricultural Rural Transformation Process in Nigeria.	Dr. A. A. Ladele	BOWEN, Iwo
2006	Unlocking the Agricultural and Rural Potentials of Nigeria	Dr. A. A. Ladele	UNAD, Ado-Ekiti
2005	Promoting Rural and National Economic Transformation through Agricultural Revolution	Prof. A. A. Jibowo	OOU, Ago-Iwoye

CONTENT

INVITED PAPERS

NATIONAL PRESIDENT OF RURAL SOCIOLOGICAL ASSOCIATION OF NIGERIA (RUSAN) AT THE OPENING CEREMONY OF THE 28TH ANNUAL CONGRESS, 8TH- 11TH OCTOBER, 2019, AT THE OBAFEMIAWOLOWO UNIVERSITY, ILE-IFE OSUN STATE, NIGERIA

Oyesola, O. B.
Professor of Rural Sociology at the Department of Agricultural Extension and Rural Development, University of Ibadan, Ibadan and the President of the Rural Sociological Association of Nigeria

PROTOCOL

It is my pleasure to welcome you all to the 28th Annual RuSAN Congress holding here at the great campus of ObafemiAwolowo University , Ile-Ife tagged "GREAT IFE 2019" with the theme "Transforming Rural Environment: The Sociological Perspective".

The 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, engineering, education, public health and environment. 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 three (3) years as the 6th National President of this association, building on solid foundation of our past National Executives. It is pertinent to state here that you all contributed significantly to the achievements recorded till date in the association. Thank you all.

The 2019 RuSAN Congress is to discuss Transforming Rural Environment: The Sociological Perspective. Rural environment has a pool of resources needed for sustainable development which has been neglected over the years. They are regarded as abode of superstition, lethargy, low income, low productivity and vulnerable. Notable national and international social investments programme are being implemented in Nigeria today, such as community and Social Development Project (CSDP), Youth Empowerment and Social Support Operations (YESSO), Rural Access and Mobility Project (RAMP), Community Based Agricultural and Rural Development Project (CBARDP), Fadama III, Agricultural Development Project (ADP), IFAD- Youth Values chain project, just to mention a few.

The Buhari administration's Social Investment Programmes is the largest social investment programme in Nigeria's history. The four broad programmes are N-Power, Conditional Cash Transfer, National Home-Grown School Feeding and Government Enterprise and Empowerment Programme; each of these uniquely targeting different sub-groups of Nigeria's for empowerment. It is imperative to have a sociological perspective of desirable rural transformation that has taken with respect to these programmes. Against this backdrop, this Congress focuses on the following sub-themes:

- Enhanced Livelihood;
- Politics, Democracy and Governance;
- Food Systems and Agro-value chain;
- Energy, Infrastructure and Environmental Sustainability;
- Conflict, Food Security and Poverty; and
- NGOs, CBOs and FBOs Activities in Policy and Advocacy

The 2019 Congress activities is not limited to lead and technical paper presentations, but also capacity building sessions on qualitative and quantitative data analysis (Atlas.ti and STATA) and contemporary private extension practice which will be facilitated by RuSAN members. Field trips to Department of Agricultural Extension and Rural Development villages are also one of the activities slated for the 3 days Congress. Today will only be opening ceremony and capacity building sessions, tomorrow 8 technical sessions will be running concurrently, gala night and the third day activities will be concluding technical sessions, Annual General Meeting and closing ceremony.

Conclusively, I want to appreciate the acceptance to host and warm welcome given to RuSAN by the Vice- Chancellor Prof EyitopeOgunbodede, thank you Sir, Dean Faculty of Agriculture, Head Department of Agricultural Extension and Rural Development, COC Chairman, Prof. A.O. Ajayi and all member of the COC, we are indeed grateful.

On behalf of the NEC members of RuSAN, I wish all participants a fruitful Congress and safe trip back to your respective destinations at the end of the Congress. Welcome to the cradle of Yoruba land. Thank you.

TRAINING WORKSHOP ON PRIVATE EXTENSION PRACTICE TOOLS (PEPTS)

Ladele, A. A.
A Professor of Agricultural Extension and Rural Development at the University of Ibadan, Nigeria and the immediate past president of the Rural Sociological Association of Nigeria

INTRODUCTION

Extension is an educational process, communication, technology transfer, discipline, science, profession, community intervention, advisory service and social service (note the take off-point may be agriculture, it may be unrealistic for this to delimit our content taking the value chain approach to private extension into consideration). From this viewpoint and for the purpose of this training, the definition of extension is given as 'professional intervention deployed to people along the value chains of food production system to assist them acquire necessary knowledge, skill and attitudes to attain increased productivity and remunerative income.

Diversity of programme goals and local context will determine extension approaches and tools.

Role of extension in innovation and development

The role is basically to bridge the gap between research attainment and the clientele's deliverability. (E.g. from research on cassava; adopting the appropriate varieties and recommended farm practices can attain 40 ton/ha. but most smallholders are only able to do 11ton/ha! Yet, farmers' problem is not ending here [may be it has just started with postharvest challenges, including marketing]. In a nutshell, bumper harvest does not translate to cool cash in the farmer's pocket!

The Extension practitioner

He is a professional, implicitly a social scientist or more realistically a rural sociologist by default. Beyond this, the new extensionist contributes to the agricultural innovation system; that must play many roles and use a wide variety of approaches and tools. Your work as the new extensionist is made more difficult in view of stifling milieu within which you are expected to deliver.

Please note that;

- Not all extension or advisory service providers are extensionists!
- input agencies, farmers' organisations, producers' cooperatives, agro-processors, NGOs, agri-business houses, progressive farmers, individual consultants and consultancy firms, financial institutions, agricultural insurance agencies and media and Internet services all have inputs to what the farmers are doing for diverse reasons. E.g. rural credit agency / cooperative societies

Private extension

There are also variants of private extension. The bottom line is they are non-public. Private extension is different from privatized extension

A quick check up...

a. NGO based extension intervention
b. Commodity based extension e.g. BATN
c. Private Extension consultancy firm
i. Consulting smallholder groups (specified crops/livestock).
ii. Consulting for medium and large scale
iii. Engagement as farm manager.

Historical antecedents

New challenges in the agricultural production and rural development landscape have also necessitated changes in methods, approaches and tools to embark upon.

The science and practice of extension has changed over the past few decades in response to new challenges. As a new extensionist who contributes to the agricultural innovation system, you must play many roles and use a wide variety of approaches and tools. Extension professionals have to make choices on which approaches and tools are most suitable for their needs (GFRAS, the New Extentionist, 2012).

We need not belabour ourselves in the basics of extension foundation – about university extension, extension education, land grant universities, cooperative extension system in the United States and the Ministry Based Extension that originated in the UK. I also believe we know enough the legion of several extension approaches crafted to deliver extension services.

The concept of 'extension alternatives' has changed over time from the perceptive of mere diversity of methods (mass media, group and individual approaches) to one on the many institutional options for agricultural extension (Moris, 1991). This brings up various extension models/systems including: conventional agricultural extension approach, training and visit extension system, farming systems research and extension, and commodity focused extension approach.

The concepts of private extension and privatisation appear to be similar but they are

different. Private extension is solely private individuals or organisations providing extension services to farmers, usually charging them for the services provided (NGOs are part of private extension but do not charge for services provided). Privatisation is a calculated decision of government to relieve itself of the cost of extension services through cost recovery or partnership with Private Extension Service Providers (PESPs).

Rationale

a. Weaknesses of public extension.
b. Unsustainable nature of oil-driven economy in Nigeria, diversification necessity and implicit agriculture gain of relevance.
c. Need for professionalism in extension also necessitates empowering professionals with right tools.
d. Upsurge of commercial private farms mostly by persons without degrees in agriculture.
e. The goal - to make agribusiness out of peasantry (smallholdings).
f. Promotion of crops with premium market value.

Principles and practice

a. Profit making with fairness
b. Professionalism is key, not mere paper qualifications (practice of extension, nature of a rural
c. sociologist and being grounded in agriculture).
d. Group dynamics
e. Partnership with public agency including ADPs.
f. Advocacy role
g. Entrepreneurial skills
h. Appropriate selection of clientele
i. Transparency and integrity
j. Sound communication skills
k. Round-out technical knowledge of commodity of interest and government policies on agriculture and development.
l. Sound team leader spirit as technical knowhow of experts may be required from time to time.
m. Good negotiation skills.
n. Sensitivity to legal implications

The Model

Agribusiness - Agriculture conducted on strictly commercial principles (i.e. market orientation) vs. farming as a tradition. It is the business of agricultural production. The term was coined in 1957 by Goldberg and Davis. Models and frameworks

Commodity Alliance Model

The out-growers' scheme concept provides a major foundation for the commodity alliance model which is an effective framework for private extension work in Nigeria.

The commodity alliance model (CAM) as packaged by FIF (Farm and Infrastructure Foundation) is also called 'business partnership model' (BPM). It has its roots in public-private-partnership [PPP] theories and draws lessons from several pilot studies, especially the MARKETS' works on commodity alliance strategy.

The key elements include:

- ***Backward integration programme:*** This involves the private sector operating strictly for business and profit. In order to ensure returns of its investment and remain in business, private sector organisations must look for means of enhancing their services by partnering with farmers, input suppliers and other farm services providers and adapting these to their clienteles' changing requirements and expectations.

The schematic process of the commodity alliance model is presented in Figure 1.

- ***The purpose of partnership:*** Its aim is to secure a raw materials supply to identified users and supply the commodity at a price remunerative to farmers and in the long run make agricultural inputs accessible and affordable to end-users. Otherwise, it may target crops with premium market value.
- ***Key stakeholders:***

The stakeholders in the standard FIF CAM for any commodity are: target farmers (in commodity group), users' company, partnership managers, farm input suppliers, other farm service providers such as research institutes, national agricultural insurance company, agricultural development projects, and Nigerian agricultural credit rural development bank, among others.

- If the partnerships plan is to deliver better quality services, they should be designed with a focus on outputs and performance. All the stakeholders or partners must be clear about what is expected of them and the implications, if they fail to deliver. The BPM entails proper role definition and assignments for all stakeholders in the partnership.
- ***Charter of partnership***

The charter of partnership among the stakeholders will specify the roles of all members based on their capabilities and needs. Issues involving technology to be extended, division of responsibilities and duration of partnership must be

discussed among stakeholders to develop a Memorandum of Understanding (MOU). The MOU is the legal framework for partnership which should be complemented with social safeguards and social capital development.

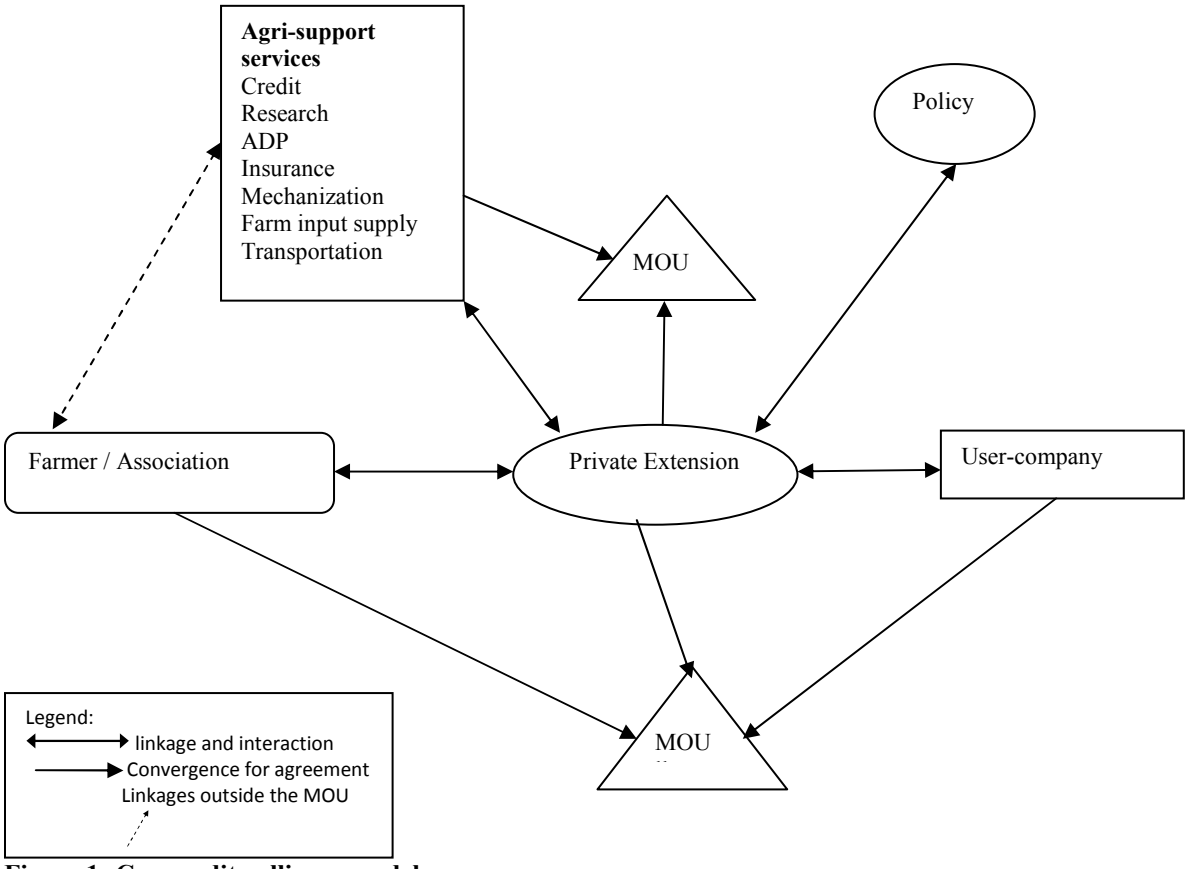

Figure 1: Commodity alliance model

CAM is associated with certain benefits: those which are mutual should be greater than those achieved through individual activities. Such benefits include: technology transfer, input and credit linkages, farmers mobilisation, technical empowerment, market linkages, quality control, lower production costs, risk-sharing, enhancement of income and improved level of services.

The effectiveness of the partnership manager depends on his/her professional competence, independence and regulations. Exploitation of farmers should be prevented by regulating the activities of private extension service providers through enforcement of legislation. As practice gets competitive, farmers become the ultimate winners as they can chose to engage services of PESP based on quality and service (Shekara, 2001).

The Practice

1. Choose your clientele/and your crop of interest

- Sensitization and dialogue
- Fact finding on your target groups (sociology of your potential group members) to discern tendencies, competencies and training needs, participation and performance evaluation in previous related interventions (Reports, ADP Extension personnel, key informants are your best bet).

2. Research on the commodities of interest (obviously crops with premium market value):

- Market
- Yield – Traditional / Improved
- Recommended agronomic practices (feasibility for your intended clientele)
- Economics of the crop
- Relevant agri-support service providers

3. Technical Operations

- Generation of MOUs (with farmer groups and with off-takers etc.)
- Training sessions for selected groups
- Monitoring of activities and Field visits / Setting up of Demo Plots
- Green Day and Brown Day Farm Visits

- Supervision of Harvesting, Processing and Storage
- Supervision of Delivery
- Paper works on payments etc
- Sideline activities
- Performance evaluation

Success stories

- BAT Extension services: Geared towards the production of tobacco leaf for the company's off take
- USAID MKTS II ext. service providers: Aimed at increasing productivity along the value chain of various agric commodities
- AgResults Aflasafe Maize implementers: Supports SHFs along maize value chain and promote adoption of Aflasafe Technology
- Babban Gona Agricultural Franchise model: Provides SHFs with comprehensive suite of agric & marketing services along the value chain
- Pricewell Agrext Consults Limited: Provides Farm management and agricultural extension consultancy services along the value chain of various agricultural commodities

Constraints and impediments

- Belief system of clientele
- Policy frame
- Climate change
- Insecurity - herdsman infringements, kidnapping, pilfering etc.
- Maturation challenge

CONCLUSION

Sufficient evidence is available to demonstrate the practicality of the private extension service delivery and it potential in transforming agriculture and the rural sector. The task is demanding, but with incisive determination, diligence and will power, increased private sector participation in extension service delivery will serve as the missing link to transform rural life in Africa.

It is recommended that governments should take more decisive steps toward promoting participation of the private sector in extension activities by creating appropriately enabling environments and partnering with the sector when necessary. Effort should also be made to identify critical areas along the various commodity chains where value can be added through increased participation of the private sector in extension and other related services provision.

It should be pointed out that desired change may never come unless concerted efforts including policy advocacy are mounted. All relevant stakeholders including the international development agencies must collaborate towards increased participation of the private sector in agricultural extension service delivery.

TRANSFORMING RURAL ENVIRONMENT THROUGH INNOVATIVE RURAL ENTREPRENEURSHIP

Abereijo, I. O.
Isaac Oluwajoba Abereijo (B.Sc.; MBA; PGD (Computer Sc.); M.Sc.; PhD), Professor of Entrepreneurship, Institute for Entrepreneurship and Development Studies, Obafemi Awolowo University, Ile Ife, Nigeria & Acting Director of the same Institute

INTRODUCTION

The need to improve rural life has been recognised as a worthwhile enterprise because of a mutual dependency between rural and urban places. This necessitates the importance of maintaining the essential contributions of rural people and places to the welfare of the country as a whole. Rural development is indeed inevitable for attaining Sustainable Development Goals (MDGs), especially Goals 2a[1] and 11a[2]. This is important in developing countries like Nigeria where more than half (51%) of its population live in rural areas (World Bank, 2015). Sustainable rural development in Nigeria is therefore vital to its economic, social and environmental viability, as well as being essential for poverty reduction and the ability to address socio-economic problems associated with poverty.

Rural development, however, goes beyond just agricultural development, which is one of the means of economic revitalisation for the rural dwellers. In addition, it should be targeted at people and institutions in the rural areas, as well as adopting a strategy that follows a continuous process to improve the economic and social life of rural people (Klaus, 2018). Rural development aims at reducing poverty, creation of rural employment opportunities, minimising inequalities, as well as ensuring adequate participation of the rural populace in the transformation process (Madu & Umebali, 1993). As noted by Deji (2005), rural development, therefore, requires national economy restructuring to bring about improvement in the standard of living of people in rural areas.

The critical areas requiring development are education, employment opportunities, agriculture and farming practices, administration and management, infrastructure, civic amenities, health care, and medical environmental conditions. The long-run effect of rural development is to reduce rural-urban migration which in turn will decrease excessive population influxes to cities and levels of poverty (JICA Research Institute, 2002). Realising the importance of rural development, different approaches have been adopted by different countries. These include community development (CD), integrated rural development (IRD) and basic needs (BN). Specifically in Nigeria, approaches such as agricultural development, infrastructural development, industrialisation, integrated rural development and community development (CD) have been used (Madu & Umebali, 1993). Each of these approaches, however, has its own challenges in terms of sustainability and inclusiveness.

With all these approaches and programmes at developing rural areas, pieces of evidence in many countries of the world still indicate that there is a high rate of rural-urban migration (Richard, 1983; FAO, 2016). The same experience is being witnessed in Nigeria (Nigerian Population Commission, 2010; Abbass, 2012; Kanu & Ukonze, 2018). Major reasons identified by these authors are lack of economic opportunities to earn minimal income for a meaningful livelihood, rural poverty, rural-urban income gaps, among others. Hence, not until the approach to rural development is poverty eradication-oriented, there can be no sustainable solution to this rural-urban migration.

Considering the level of human resources as well as economic opportunities in rural areas, attention is now on rural entrepreneurship as an innovative approach of optimally exploiting potentials of rural areas as well as addressing rural poverty. Evidence in the literature has also confirmed the potential of agripreneurship in addressing rural development and rural-urban migration (Ejiofor, 1989; Petrin, 1994; FAO, 1997; Tripathi & Singh, 2017; Atta-Krah, 2018). Therefore, policies and programmes that can encourage innovative entrepreneurship, resulting in

[1] Goal 2: End hunger, achieve food security and improved nutrition and promote sustainable agriculture.
2(a): Increase investment, including through enhanced international cooperation, in rural infrastructure, agricultural research and extension services, technology development and plant and livestock gene banks in order to enhance agricultural productive capacity in developing countries, in particular, least developed countries.

[2] Goal 11: Make cities and human settlements inclusive, safe, resilient and sustainable.
11(a): Support positive economic, social and environmental links between urban, peri-urban and rural areas by strengthening national and regional development planning.

value addition to agricultural products, can boost employment in rural areas.

This paper, therefore, is a modest contribution to the discourse on rural development with the view of making suggestions on how innovative rural entrepreneurship can be used for rural development and stemming rural-urban migration. The paper provides a theoretical and empirical background for the connection between rural entrepreneurship and rural development. The framework for promoting rural entrepreneurship that is related to farm and non-farm activities, within the rural development programme of the government is then explained.

Rural Development

Development is an economic concept which involves the application of certain economic and technical measures to utilise available resources to initiate economic growth and improve the quality of life of people (Rabie, 2016). Initially, the term was used for economic change, but its scope has been extended to include changes in the political, social, cultural, technological and psychological frame of society. The purpose is to develop human capacities with the view of reaping its physical and mental potentials.

When development efforts are targeted at rural society, it is referred to as rural development. Rural development, therefore, relates to policy and programmes directed at developing rural areas with a view to improving the quality of life of rural people. As noted by Mistry (2010), it must represent the entire gamut of change by which a social system moves away from a state of life perceived as unsatisfactory towards a better condition of life. Hence, for the purpose this paper, rural development is defined as a process of developing and utilising natural and human resources, technologies, infrastructural facilities, institutions and organisations, and government policies and programmes to encourage and speed up economic growth in rural areas, to provide jobs, and to improve the quality of rural life towards self sustenance (Meena, Meena, Nidhi & Sharma, 2019).

Approaches to rural development are initially based on traditional approaches to the development of agriculture. But considering the growing activities in non-agricultural occupations (non-farm businesses) in the rural areas, approaches have been broadened and become more specific. The development has moved from traditional to modern approaches. The traditional approaches which were developed before the emergence of rural development as a field of research and policy in the 1970s included classical, Marxist, populist and neoclassical. These approaches paid attention largely to the problem of the development of the industrial sector.

But with the emergent of rural development as a distinct field of policy and practice, as well as a focus of research, the attention is now on continuous and self-sustaining improvements in the standard of living of rural people together with decreasing inequality (Kocher, 1976). The broad issue of rural development, therefore, includes an increase in rural labour productivity, continuous increase in rural employment opportunities, reduction of poverty and inequality as well as an increase in productivity and income to make essential contributions to overall development. Therefore the various schools of thought on approaches to rural development are structural/historical views, decision-making models and system approaches.

Specifically in Nigeria, various approaches have been adopted for bringing about rural development. These are categorised into sectoral, structural, integrated rural development and humanistic approaches (Ering & Otu, 2014). A review of these policies and approaches to rural development in Nigeria, however, shows that they are based on a trickle-down theory which its effectiveness is questionable. This then necessitates an alternative approach which should be endogenous and participatory in nature.

Hence, efforts at developing rural areas must recognise that local people themselves are the main implementers of development projects. Consequent to this, rural development is linked to entrepreneurship. This is because entrepreneurship stands as a vehicle to improve the quality of life for individuals, families, and communities and to sustain a healthy economy and environment (Aggarwal, 2018).

Rural Entrepreneurship

Rural entrepreneurship is recognised as the first step towards a self-reliant economy that can generate internal self-sustaining economic growth and development (Ejiofor, 1989). This approach to rural development, which is bottom-up, is based on local entrepreneurial initiatives. The explicit goal of which is to ensure balanced technological development of rural areas which would offer adequate employment opportunities and quality of life comparable to urban areas (FAO, 1997). Hence, the concept of rural entrepreneurship is about using a market-driven business model to address key socio-economic issues pertaining to the rural economy under consideration (Aggarwal, 2018). This follows the process of rural business opportunity recognition and implementation.

The rural entrepreneurship approach is based on the endogenous development theory

which assumes that the development of rural areas is based on stimulating local entrepreneurial talent and subsequent growth of indigenous business enterprises. Rural development should, therefore, be induced mainly by local impulses and be grounded largely on local resources (Gülümser, Nijkamp, Baycan-Levent & Brons, 2009). This is important for the embeddedness of entrepreneurship in rural areas. The strong and closed social ties which have existed in rural areas for several decades can make integration of entrepreneur into rural areas a difficult task to achieve. Hence, using the potential of rural areas will both secure growth and turn local potential into strengths, as well as achieving expansion beyond rural areas.

The concept of rural entrepreneurship is, therefore, about using the process and methods of entrepreneurship to exploit untapped potential or rural areas so as to bring about growth and development (Nwankwo & Okeke, 2017). Phan (2008) defined it as the creation of business ventures that result from the unique endowments in rural regions. The business may involve any or a combination of agriculture, lifestyles, and extraction.

Development through Rural Entrepreneurship

Considering the strategic role rural entrepreneurship could play in rural development, development experts are now using it as development intervention. For example, the International Institute of Tropical Agriculture (IITA) has developed a youth-in-agribusiness model, known as the IITA Youth Agripreneur Initiative (IYA). The model is aimed at addressing the issue of unemployment and also provides a platform along the agricultural value chain for unemployed youth to generate wealth and create jobs (Atta-Krah, 2018). The model has been replicated in Nigeria (Kano, Abuja, Imo, Borno and River States) as well as Tanzania, Kenya, Democratic Republic of Congo, Zambia, and Uganda. The elements of the IYA model are mobilisation, mindset re-alignment, training, organisational development, mentorship, and coaching, as well as profitable venture development. The model includes focussing on graduate training to establish agricultural businesses in rural areas, engaging rural youth and training them to be able to establish their own businesses or engage in employment creation in existing agriculture-related enterprises (Atta-Krah, 2018).

Areas with business opportunity potential are:

1. Food processing: Farmers face huge losses every year due to post-harvest losses, hence food processing and value addition can be the source of a business opportunity that generates new and diversify job opportunities for rural people. The availability of raw material and human resources will reduce the total cost of production.
2. Tourism: Diversification into non-farm uses of resources such as tourism.
3. Waste-to-wealth: Transforming waste from key activities such as livestock, grain farming, forest management, and so on into the resources for another profitable activity.

It is important to note that in spite of the clamour for the promotion of rural entrepreneurship as an effective rural development channel, there are pieces of evidence that certain socioeconomic challenges could beset it. Among these challenges, as noted by Nwankwo & Okeke (2017), are:

(i) The remoteness of the rural business environment.
(ii) From the point of view of innovation, there is a low density of business population thereby resulting in a small number of potential collaborating firms locally.
(iii) Sparsely distributed research and development, educational institutions and business support providers.

Minimising the effects of these challenges will therefore require:

(i) Stimulating the creation of new enterprises by providing education and training people with business development skills.
(ii) Support for business start-ups through pre-startup advice, idea appraisal and start-up assistance.
(iii) Attract in-migrants who have entrepreneurial skills (lifestyle entrepreneurs, early retirees or returning ex-villagers) and encouraging youths to enter the self-employed workforce.
(iv) Supporting existing rural entrepreneurs with business advice, especially in the areas of business planning, marketing, exporting and information technology.
(v) Provision of specialised support such as helping farmers diversify into the new farm or non-farm activities.
(vi) Providing infrastructures such as incubators, transportation, information and communication.

POLICY IMPLICATIONS

Based on the above suggestions, the following in terms of policy, programme and institutional supports are important:

1) Promotion of enterprise culture in rural areas and encouraging farmers to diversify into non-farming activities such as organic production, unconventional livestock production, as well as into the formation of non-farm based enterprises.
2) Encourage both indigenous rural dwellers and youths from urban areas to develop their businesses in rural areas. The effort can start from favourable rural areas or peri-urban areas.
3) Making rural areas attractive in terms of infrastructure provisions such as access roads, communication facilities, electricity, and security.
4) Easy access to financial assistance at a concessionary rate from the government and its agencies.
5) Promote networking activities between existing, would-be entrepreneurs and assistance institutions to help them uptake their products by connecting them with national and international markets.
6) Establishment of entrepreneurial support organisations, which may be private sector driven, either as networks, intermediary organisations or sectoral clusters. The organisations can assist in the areas of:
    (i) mobilising local individuals and motivate them to create successful enterprises;
    (ii) facilitating support networks that include access to mentors and role models;
    (iii) facilitating access to capital (funds) to support different stages of business development;
    (iv) helping entrepreneurs access distant markets, such as through participation in trade shows;
    (v) providing access to the technical assistance of various types;
    (vi) engaging in some form of entrepreneurial facilitation, which goes beyond point-in-time training and skills development programmes towards developing long-term partnerships with entrepreneurs.
7) Innovation should be encouraged through training and extension services.

CONCLUSION

Considering the high unemployment rate and influx of rural dwellers to urban areas, there is the need to for a re-assessment of strategies for rural development. The focus is now on bottom-up approaches which emphasise the importance of community development based on local entrepreneurial initiatives, with the explicit goal of stimulating local entrepreneurial talent and subsequent growth of indigenous companies.

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PRESENTED PAPERS

INVOLVEMENT OF RURAL WOMEN IN ENTREPRENEURIAL ACTIVITIES IN ASA LOCAL GOVERNMENT AREA OF KWARA STATE, NIGERIA

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ABSTRACT
Entrepreneurship is key to economic transformation and societal renewal of the developing world, which women around the world are major contributors to the growing economy. Therefore, this study assessed the level of involvement of rural women in the various entrepreneurial activities in Asa Local Government Area of Kwara state, Nigeria. Data were collected from 126 respondents and analyzed with descriptive statistics and correlation. Data analyzes revealed that the mean age of the respondents is 39.4 years with a mean years of entrepreneurial experience to be 10.7 years. Categorization of farmers' level of involvement showed that respondents have low level of involvement in entrepreneurial activities with a mean of 1.59. Lack of capital (2.57) was identified as a major constraints in entrepreneurial activities Correlation analysis indicated that age (r = 0.246:p=0.06), Marital status(r = 0.176:p=0.002), Household size (r = 0.202:p=0.023), had a positive and significant effect on the level of involvement in entrepreneurial activities among the respondents, The study concluded that the level of involvement of entrepreneurial activities among women in the study area was low and therefore recommended, rural women should have access to the government intervention programmes such as N-power and Trader-moni in other to increase their entrepreneurship activities.
Keywords: Rural Women, Entrepreneurial, Levels, Activities, Involvement

INTRODUCTION

It is a common say that entrepreneurial people owns the world. Hence entrepreneurship is the dynamic process of creating incremental wealth. This wealth is created by individuals who take the major risks in terms of equity, time, and career commitment of providing value to some products or services, which itself may or may not be new or unique but value must somehow be infused by the entrepreneur by securing and allocating the necessary skill and resources (Kuratko and Richard, 2001).

Rural women are key agents for development; they play a catalytic role towards achievement of transformational economic, environmental and social changes required for sustainable development. Entrepreneurship is the only solution to the growing employment among rural youth. It helps to generate employment for a number of people within their own social system. This is more beneficial for women in rural areas as it enables them to add to the family income while taking care of their home and livestock centered task.Women play an essential role in poverty reduction of their family especially where the income of the husband or parents is very meager to cater for the family basic needs. They actually play a complementary responsibility in the fight against poverty through their entrepreneurial activities. Empowering them is essential, not only for the well-being of individuals, families, and rural communities but also for overall economic productivity, given women's large presence in the agricultural workforce worldwide.

Objectives of the study were to describe the socio-economic characteristics of rural women in the study areaidentify the entrepreneurial activities engaged in by the rural women. Ascertain the level of involvement of rural women in their various entrepreneurial activities. Examine the perceived benefits derived from entrepreneurial activities on the rural women livelihood. Identify the constraints of rural women involvement in entrepreneurial activities.

METHODOLOGY

This study was carried out in Asa Local Government Area of Kwara State, Nigeria. Kwara state was one of the seven states created on 27th of May, 1967. The population for the study comprised of all the rural women who are involved in entrepreneurial activities in Asa Local Government Area of Kwara State, NigeriaThree stage sampling procedure was employed for the study to select 126 respondents for the study

RESULTS AND DISCUSSION

The result in Table 1 shows that women in the study area have a mean age of 39.38 .60.3% of the respondents were married .with about 35.7% of the respondents had secondary education.The mean entrepreneurial experience is 11.27 years

Table 1: Distribution of respondents according to their socioeconomic characteristics

Variables	Frequency	Percentages	Mean	SD
Age (years)				
≤ 20	20	15.9	39.38	14.03
21-35	40	31.7		

Variables	Frequency	Percentages	Mean	SD
36-50	43	34.1		
> 50	23	18.3		
Marital status				
Single	22	17.5		
Married	76	60.3		
Divorced	10	7.9		
Widowed	18	14.3		
Level of Education				
No formal education	29	23.0		
Primary education	24	19.0		
Secondary education	45	35.7		
Tertiary education	28	22.2		
Entrepreneurial Experience (Years)				
≤ 5	34	27.0		
6-15	60	47.6	11.27	10.74
16-25	18	14.3		
26-35	10	7.9		
> 35	4	3.2		

Source: Field Survey, 2019

The result in Table 2 shows the rank order of level of involvement of the rural women in their various entrepreneurial activities. This implies that various entrepreneurial activities are practiced among the rural women.

Table 2: Distribution of Respondents Based on their Level of Involvement in Entrepreneurial Activities

Entrepreneurial Activities	Fully involved F(%)	Moderately involved F(%)	Less involved F(%)	Not involved F(%)	M.S	Rank
Trading	39 (31.0)	29 (23.0)	10 (7.9)	48 (38.1)	2.47	1st
Farming	38 (30.2)	24 (19)	17 (13.5)	47 (37.3)	2.42	2nd
Cassava processing	26 (20.6)	3 (2.4)	1 (0.8)	96 (76.2)	1.68	3rd
Sales of recharge cards	17 (13.5)	7 (5.6)	4 (3.2)	98 (77.8)	1.55	4th
Fashion designing	17 (13.5)	1 (0.8)	1 (0.8)	107 (84.9)	1.43	5th
Shea-butter processing	13 (10.3)	6 (4.8)	1 (0.8)	106 (84.1)	1.41	6th
Hair dressing	14 (11.1)	2 (1.6)	3 (2.4)	107 (84.9)	1.39	7th

Source: Field Survey, 2019(F= Frequency, M.S=Mean score)

This result in Table 3 shows about 92.1 percent had a low level of involvement, 7.9 percent had moderate level of involvement. This indicates that the level of involvement of the respondents in entrepreneurial activities is generally low. This implies that most of the respondents may likely be engaged in other occupation which does not create much time for them to involve in entrepreneurial activities or lack of capital as stated in Table 6.

Table 3: Categorization of Respondents based on their level of Involvement in Entrepreneurial Activities

Categorization of Respondents	Frequency	Percentage	Mean
Low (<2.00)	116	92.1	
Medium (2.00-2.99)	10	7.9	1.59
High (>2.99)	0	0	

Source: Field Survey, 2019

Table 4 shows that lack of capital ranked first with mean score of 2.57, unconducive business environment second, lack of family support ranked third, lack of resources fourth, lack of training and development ranked fifth, inadequate of labour sixth, poor planning ranked seventh, and eighth is the conflicting at home with mean score of 1.13.

Table 4: Distribution of respondents according to constraints in entrepreneurial activities

Constraints	V.S F (%)	S F (%)	NS F (%)	MS	Rank
Lack of capital	80 (63.5)	38 (30.2)	8 (6.3)	2.57	1st
Unconducive business environment	40 (31.7)	41 (32.5)	45 (35.7)	1.96	2nd
Lack of family support	24 (19)	41 (32.5)	61 (48.4)	1.71	3rd
Lack of resources	15 (11.9)	38 (30.2)	73 (57.9)	1.54	4th
Lack of adequate training	8 (6.3)	48 (38.1)	70 (55.6)	1.51	5th

Source: Field Survey, 2019. (VS=Very severe, S=Severe, NS=Not severe)

The result in Table 5 shows that a significant relationship exists between the socioeconomic characteristics of the respondents and their level of involvement in entrepreneurial activities. The significant variables were; age (r^2=0.246), marital status (r^2=0.176), household size (r^2=0.202), level of education (r^2=-0.417), years of entrepreneurial activities (r^2=0.190).

Table 5: Result of the Pearson's Product Moment Correlation analysis showing the relationship between socioeconomic characteristics and level of involvement in entrepreneurial activities

Socio-economic characteristics	r – value	p – value	Decision
Age	0.246***	0.06	Significant
Marital status	0.176**	0.002	Significant
Household size	0.202**	0.023	Significant
Level of education	-0.417***	0.001	Significant
Years of entrepreneurial activities	0.190**	0.033	Significant

Source: Field Survey, 2019

CONCLUSION AND RECOMMENDATIONS

The study concludes that lack of capital is a major constraint in entrepreneurial activities, and the level of involvement in entrepreneurial activities among respondents is low. Therefore recommends that rural women should also have access to loans and more awareness on government intervention programmes such as N-power and Trader-moni in other to increase their entrepreneurship development.

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DETERMINANTS OF INFORMATION AND COMMUNICATION TECHNOLOGIES TO RURAL DWELLERS' POVERTY STATUS IN NORTHERN PART OF NIGERIA

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ABSTRACT
Poverty is one of the greatest challenge facing rural dwellers of developing nations. However, Information and Communication Technologies (ICT) has potentials to enhance rural livelihood. The study investigated determinants of information and communication technologies to poverty status of rural dwellers in Northern Nigeria. A multistage sampling procedure was used to select 230 respondents. Data were collected via interview schedule on respondents' enterprise characteristics, frequency of ICT use, constraints to ICT use and poverty status. Data were analysed using descriptive (percentages, mean and weighted score) and inferential (Chi-square Pearson Product Moment Correlation and Linear regression) statistics at α0.05. Results showed that mean farm size and years of farming experience were 13.7 hectares and 13 years respectively. Paid (37.8%) and family (34.8%) were their sources of labour while most frequently ICT used were mobile phone (247.0), radio (240.4) and television (184.0). Constraints encountered using ICT were inconsistence supply of power (146.4), cost of recharge card (140.9) and fluctuating network service (138.3) while their poverty status was non-poor (47.0%). Significant relationship existed between respondents' year of experience (r=0.-02), sources of labour (χ2=174.92) and poverty status. Meanwhile, years of farming experience (β=0.-23) and constraints to ICT use (β=0.14) determined their poverty status. Therefore, developmental practitioners should continue to use mobile phone, radio and television for information propagation as these ICT increased rural dwellers' poverty status and have potentials to do more in poverty alleviation if constraints like inconsistence supply of power, cost of recharge card and fluctuating network service are checked.
Keywords: Rural dwellers, ICT, Poverty status, Mobile phone and Inconsistence supply of power.

INTRODUCTION
Poverty is one of the greatest challenge facing rural dwellers of developing nations of Sub-Haran African. This (Poverty) has been describe by developmental agencies as the inadequate and insufficiency possession of income that can secure basic needs, goods and services needed by an individual: These essentials of life include basic education, access to finance, infrastructure (electricity, good road, primary health centre), safe drinking water and information among others (Orokpo, Haruna, Asmau, and Mutong, 2018).

Globally, poverty has been a phenomenon that demands urgent attention of the government agencies, non-governmental Organisation and every stake holder involved in the sustainable developmental issues. Hence, rural poverty is a serious threat to sustainable development as food and nutrition security in Nigeria hinges on rural populace being predominantly agrarian society (Yomi, 2018 and Adeniyi and Yekinni, 2015).

However, Information and Communication Technologies (ICT) like mobile phone, radio and television has potentials to alleviate the effect of poverty due to its ability to enhance rural livelihood of the rural dwellers who needs developmental information that can let them out of the poverty net for better wellbeing (Oshewolo, 2010). Hence, it is pertinent to study the determinants of information and communication technologies to rural dwellers' poverty status in Northern part of Nigeria. Furthermore, the study ascertained the enterprise characteristics of the respondents, examined the frequency of use of ICT, constraints faced by the respondents to ICT use, poverty status, and the determinants of ICT use to poverty status. The study hypothesised that no significant relationship existed between enterprise characteristics and poverty status.

METHODOLOGY
The study was carried out in Northeastern zone of Nigeria. Multistage sampling procedure was used to select 230 respondents for the study. Data were collected using structured interview schedule. Data collected were analysed using percentage, mean and weighted score, Chi-square, Pearson Product Moment Correlation (PPMC) and linear regression at α 0.05.

RESULTS DISCUSSION
Enterprise characteristics
Table 1 reveals that the most prominent source of labour to the respondents were family (34.8%) and hired labour (37.8%). This implies that majority of the respondents depended on paid labour and family members to get their enterprise job done.

Table 1: Distribution of respondents by enterprise characteristics

Characteristics	Frequency	Percentage
Source of labour		
None	27	11.7
Family members	80	34.8
Paid labour	87	37.8
Friends	2	0.9
Associations members	6	2.6
Self	28	12.2
Source of finance		
None	49	21.3
Self	145	63.0
Family members	16	7.0
Friends	5	2.2
Association members	8	3.5
Banks	6	2.6
Other	1	0.4
Farm size		
Not indicated	55	23.9
1 – 10	158	68.7
11 – 20	11	4.8
21 – 30	2	0.9
Above 31		1.7

Source: Field survey, 2012

Frequency of use of ICTs

Result of the study (Table 2) found that mobile phone (247.0) and radio (240.4) were the most frequently used ICTs in respective order. This implies that mobile phones and radio are the most popular ICTs used as found in similar study by Yekinni, Ladigbolu, Adeniyi and Adebisi (2019).

Table 2: Distribution of respondents according to the frequency of use of ICTs

ICTs Tools	Always	Occasionally	Rarely	Never	Weighted scores	Rank
Mobile phone	78.3	5.2	1.7	14.8	247.0	1st
Radio	73.0	9.6	2.2	15.2	240.4	2nd
Television	40.0	28.3	7.4	24.3	184.0	3rd
Newspaper	25.7	18.3	10.9	45.2	124.6	4th

Constraints to the use of ICTs

Table 3 shows that the most severe constraint faced by the respondents to the use of ICTs was inconsistence supply of power (146.4) with the highest weighted score, this is followed by high cost of recharge card (140.9) and fluctuating service (138.3). This implies that inconsistence power supply is the major hindrance to the use of ICT by the respondents (Orokpo, 2018).

Table 3: Distribution of respondents according to constraints to the use of ICTs

Characteristics (constraints)	Serious constraint	Mild constraint	Not a constraint	Weighted score	Rank
Inconsistent supply of power	68.2	10.9	20.9	146.4	1st
Cost of recharge card	56.1	28.7	15.2	140.9	2nd
Fluctuating service	54.8	28.7	16.5	138.3	3rd
Poor network	58.2	20.9	20.9	137.3	4th
Inability to ask relevant question and get feedback quickly	56.5	18.7	24.8	132.7	5th

Source: Field survey, 2012

Poverty level of the respondents

The result in Table 4 shows that 25.2% of the respondents are categorised as core poor, 27.8% of them are classified as poor while 47.0% of respondents are non-poor using per capital expenditure approach with reference to poverty line as a basis for gauging poverty (2/3 of the average per capital expenditure).

Table 4: Distribution of respondents by their poverty level

Poverty level	Frequency	Percentage
Core poor	58	25.2
Poor	64	27.8
Non-poor	108	47.0
Total	230	100

Source: Field Survey, 2012

Determinants of ICT use to poverty status

Table 7 reveals that year of experience (β= -0.23; p=0.00) and constraints faced in the use of ICT (β=0.14; p=0.05) significantly determined the respondents' poverty status. Farm size contributed 20 percent although negative, meanwhile, constraints contributed 14 percent to the respondents' frequency of use of ICT to Poverty status.

Table 5: Regression analysis of determinants of ICT use to poverty status (n=230)

Variables	β-value	r-value	p-value	Decision
Years of experience	-0.23	-3.46	0.00	Significant
Poverty constraint index	0.14	1.99	0.05	Significant

Source: computation analysis (2012)

Relationship between enterprise characteristics and poverty status

Results of Chi-square and PPMC analyses (Table 6) show that sources of labour (χ2=174.92; p= 0.000), sources of finance (χ2=494.59; p=0.00) and years of experience (r=--0.22; p=0.00) of the respondents were significantly related to the respondents poverty status.

Table 6: Test of relationship between enterprise characteristics and poverty status (n=230)

Characteristics	χ^2	Df	p-value	Decision
Sources of labour	174.92	5	0.00	Significant
Sources of finance	494.59	6	0.00	Significant
Variable	**r-value**	**NA**	**p-value**	**Decision**
Years of enterprise experience	-0.22	-	0.00	Significant

Source: computation analysis (2014)

CONCLUSION AND RECOMMENDATION

Respondents were non-poor, self-finance and use the family members and hired labourers. Mobile phone and radio were the frequently used ICT tools with constraints of inconsistency supply of electricity and high cost of recharge card. Years of farming experience and constraints to ICT determines poverty status while labour and finance sources were significant to poverty status. Alternative power source and reduction in the call tariff will enhance ICT use of ICT for poverty alleviation.

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INVOLVEMENT OF WOMEN IN GOAT MARKETING IN OYO STATE, NIGERIA

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ABSTRACT

The study investigated the socioeconomic characteristics of women goat sellers in Oyo state, Nigeria. A multistage sampling procedure was used in selecting 120 respondents. Data were analyzed using descriptive and inferential statistics such as chi-square and Pearson product moment correlation was also used to test for the hypothesis stated for the study. Results reveals that women goat sellers mean age was 30 years, 45.0% were married and 48.3% had no formal education. Mean income was N14.600, 95.0% involved in goat trading while 85.8% had information about goat marketing from telephone calls and 53.3% had transportation problem in selling their goats. Age (0.032), capital (0.048), income (0.001), experience (0.045) and cooperative society (0.001) significantly influenced respondent's level of involvement in goat marketing. This study recommends that Nigeria government should establish women in various means of marketing channel and also help them to form cooperative society that will help them to get access to available loan opportunities that will increase their standard of living.

Keywords: Women, Goat marketing, Cooperative society, Income, Investment

INTRODUCTION

Rural women in particular are responsible for half of the world's food production and produce between 60% and 80% of the food in most developing countries (Adisa and okunola, 2005) and out of the 95% small scale farmers in Nigeria who actually feed the nation, 55% of them are women (Yishehak,2008). Women are known to contribute major proportion of family farm labour to the production of food crop as well as providing the major support for themselves and the children. The degree of women involvement in goat marketing decision varies according to region, but is almost always significant, especially in poor household.

A market is a medium that allows buyers and sellers of a specific good or service to interact in order to facilitate an exchange. The value, cost and prices of items traded are as per forces of supply and demand in a market. The market may be a physical entity, or may be virtual, it may be local or virtual (Fuller, 2006).

The overall feature of Nigeria women is characterized by that of marginalization restriction in access to credit and particularly collateral that they can offer banks and other credit institutions, limited access to modern inputs of production uneasy access to marketing activities. Despite the dominant and important role women play in agricultural production in the country, they are hardly any attention in the area of training or visitation by extension agent with improved variety.

The broad Objectives of the study is to identify the role of women in goats' production and marketing system.

Specific objectives are to:.

i. describe the socio-economic characteristics of women in the study area.
ii. identify the activities of women involvement in marketing activities in the study area.
iii. iii.identify the constraints faced by women involvement in marketing activities in the study area.

Hypotheses of the research of the study, stated in nul form, are;

$H_0$1**:** There is no significant relationship between the selected socio- economic characteristics of women and their level of involvement in goat marketing.

$H_0$2**:** There is no significant relationship between constraints faced in goat marketing and the level of women involvement in goat marketing.

METHODOLOGY

Sampling procedure and sample size

The study area was conducted in Oyo state generally known as "the pace setter'' with the capital known as Ibadan, which happens to be the most ancient and third(3) largest city in West Africa.. It was carried out in four agricultural zones of Oyo State also known as Agricultural Development Programmes Zones. The four agricultural zones are Saki, Oyo, Ogbomoso and Ibadan/ibarapa zones which consisting 8, 6, 5 and 4 Local government areas (LGA)/ Blocks respectively.Multistage sampling techniques were used for the study. Purposive sample were used for the study. There are 33 local Government in Oyo state. First stage involvedselection of 10% of the Local Government Area to give 3 Local Government Area selected in Oyo State for the study which include; Ido local government, Ibadan north east local government and Ibarapa central local government. The second stage involved thepurposively selection ofone (1) major market from each local governmentbecause of high predominance of women in the market of the study

area.TheThird stageinvolvedrandom selection of 120 respondentssampled for the study area. The population of the study constitute of goat seller in three major markets in Oyo state (Omi-adio, Oranyan and Igbo-ora).Data were analyzed using frequency counts, percentages, mean and Pearson-product correlation were used for the study.

RESULT DISCUSSION

Table1 showed the socio economic characteristics of the respondent. The result shows that 73.4% of the respondents were greater than 35 years with mean age of 35.5years. The result also shows that less than half (45.0 %) were married. This implies that women regardless of their marital status they join efforts with their husband in the family to generate income for the family. More than 40% of respondents had no formal education.

Table 1: Distribution of respondents'socioeconomic characteristics

Variables	Frequency	Percentage	Mean
Age (years)			
20-35	32	26.6	
>35	88	73.4	35.5
Marital status			
Single	17	14.2	
Married	54	45.0	
Divorced/Widowed	49	40.8	
Educational level			
Primary	33	27.5	
Secondary and above	29	24.1	
No formal education	58	48.3	

Sources: Field survey, 2017

Level of involvement in goat marketing

Table 2revealed that about half (55.0%) had market women meeting as their level of involvement, while (50.0%) had market visits. Table 4 stated further that majority (85.9%) had television advertisement as their partial involvement, (68.3%) had mass media activities in which adverts are placed for marketers to identify area where goats are being sold and 63.9% used individual meeting. This implies that level of involvement in marketing of goat is very important for the women.

Table 2: Distribution of their level of involvement in goat marketing

Level of involvement	Fully involved %	Partially involved%	No involvement%
Individual meeting	41 (34.2)	76 (63.9)	3 (2.5)
Market visit	60 (50.0)	60 (50.0)	-
Market women meeting	66 (55.0)	50 (41.7)	4(3.3)
Mass media activities	2 (1.7)	82 (68.3)	36 (30.0)
Extension leaflets	3 (2.5)	70 (58.3)	47 (39.2)
T v advertisement	9 (7.5)	103 (85.9)	8 (6.7)
Radio broadcast	47 (39.2)	68 (56.7)	5 (4.2)

Sources: Field survey, 2017

Test of hypotheses

Table 3 showed the relationship between the socio economic characteristics of respondents and their level of involvement in goat marketing is presented in table 4. The result in table 64significant was found between respondents age, capital, income, experience and cooperative society and their level of involvement in goat marketing, the null hypothesis was rejected, however table 4 also shows that respondents marital status, ethnicity, educational qualification, household size, credit accessibility, primary occupation, secondary occupation were not significantly related to their level of involvement in goat marketing. Thus, the null hypothesis was accepted.

Table 3:Correlation betweenrelationship socio economic characteristics of respondents and their level of involvement in goat marketing.

Variables	Df	x^2	p-value	Decision
Age	3	54.200	0.032	Significant
Household size	2	44.150	0.278	Not significant
Capital	3	1.343	0.048	Significant

Income	3	73.267	0.001	Significant
Experience	3	7.600	0.045	Significant
Cooperative society	1	30.000	0.001	Significant

Source: Field survey, 2017

CONCLUSION

Based on the findings, it is concluded that women involvement in goat marketing is greatly affected by lack of credit facilities and there exists communication problem that hinders them to participate in large scale marketing that will increase their standard of living.

RECOMMENDATION

Based on the findings in the study, the following are recommendations are made:

1. Since major occupation of women is goat marketing in the study area information on marketing such as price, loan flow among the goat sellers should be made available to the women.
2. There is need for strengthening the extension work by government and non-government organisation to ensure a continuous flow of information to the women to overcome the obstacle in goat marketing and to enhance their productivity.

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PARTICIPATION AND ACCESSIBILITY TO HEALTH CARE SERVICES BY RURAL DWELLERS OF ODEDA LOCAL GOVERNMENT OF OGUN STATE

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ABSTRACT

This study assessed accessibility of health care services through participatory development in rural communities of Odeda local government area of Ogun State, Nigeria. The study area was purposively selected, and 200 respondents were selected using multistage sampling. A structured questionnaire was used to elicit information from the respondents. Data collected were analysed using descriptive statistics and Chi-square to test the hypothesis. The result showed that 78.5% of the respondents were married, 24.5% fell between age 31-40years, and 39.5% fell between 41-50years while 51years and above took 25.5%. Also 23.5% do not have formal education. Also, 46.5% of the respondents were Christians and 48.5% were Muslims. Majority of the respondents (87.5%) were Yoruba and 98.0% had travelled out of their communities at on period or the other in their lifetime. The finding further revealed that all the respondents participated in participatory development in one way or the other as building of health centre ranking first at mean (0.88), drilling of boreholes (0.80) and grading of roads (0.78) ranked second and third respectively among other developmental activities they are involved in and 48.0% of the respondents confirmed that treatment of minor ailments as health care service was accessible. Also, 49.0% confirmed that emergency transportation in case of emergency was not accessible to them, 64.0% of the respondents confirmed that community members were manipulated to act against their wills. There was a significant relationship between age ($\chi 2$=33.680, p>0.05), occupation ($\chi 2$=88.060, p>0.05) and their accessibility to health care services through participatory development. The study concluded that involvement of rural people in their own development is pivoted on their full participation; this should be encouraged to bring about the expected rural development.

Keywords: Participation, Accessibility, Health care, Rural dwellers, Odeda local government.

INTRODUCTION

In rural areas in Nigeria, there has been a growing recognition of rural health challenges and the need for these to be addressed (Aliyu, A. A., andAmadu, L. (2017)). These challenges are premised on the attitude of health workers, insufficient health infrastructures, socio-economic, physical and cultural barriers, unaffordable health care services, etc. (Rickette,2009). These and some other factors make rural communities have reduced access to health care, putting them at a disadvantaged end. As a means of remedying and finding lasting solution to these short comings, rural dwellers have been engaged by various governmental and non-governmental organisations with the hope that their full participation would be a sure-fire recipe for preventing diseases; prolong their lives and promote their health. It is in this vein this paper research looked into the accessibility of health care services through participatory development in rural communities of Odeda Local Government Area, Ogun state.

In the light of this, the broad objective was to access health care services through participatory approach in Odeda local government area of Ogun State while the specific objectives were to:

i. To ascertain the kind or type of participation of the respondents in participatory development in health care services accessibility;
ii. To investigate the respondents' accessibility to health care services in the study area;
iii. there is no significant relationship between selected socio economic characteristics of rural dwellers and their accessibility to health care services through participatory development.

METHODOLOGY

The study was conducted in Odeda LGA of Ogun state, south west Nigeria. The LGA has an estimated population of 151,431 people (Odeda NPI, Unit 2018). Multi-stage sampling procedure was employed. First stage involved purposive selection of Odeda Local government, while the second and third stage involves random selection of four wards of ten and random selection of eight communities from the selected wards respectively. The last stage involves the selection of 25 community members randomly from their various Community development associations (CDA's) to give a total of 200 respondents. Descriptive statistics was used to achieve objectives I and ii while inferential statistics was used to test the stated hypothesis.

RESULTS AND DISCUSSION

The result in Table 1 shows that a large 24.0% and 39.5% within the age bracket of 21-50 years of the respondents arein the community development inclined groups who are ready to

serve for development. This is in congruence with the finding of Dias *et al* (2008) that age is related to the utilisation of health services. The result further reveals that 30.5% are engaged in farming as their major occupation while 25.0% were engaged in trading as their major occupation which implies that while collar job is not very prominent in the study area. The result in table 1 also shows that 64.0% of the respondents were male, while the rest 36.0% were female which clearly establish the male folks as prevalent in population compared with their female counterpart. Twenty six percent of respondentshad primary school education while 37.0% had secondary school education which is in consonance with Famuyiwa (2008) who reportedthat low level of education is a characteristic of an average rural Nigerian setting.

Table 1: Distribution of respondents' socio-demographic characteristics

Variable	Description	Frequency	Percentage
Age	18-30	21	10.5
	31-40	49	24.5
	41-50	79	39.5
	51-above	51	25.5
Occupation	Farming	61	30.5
	Trading	50	25.0
	Civil servant	35	17.5
	Self employed	46	23.0
	Others	8	4
Marital status	Married	157	78.5
	Single	21	10.5
	Widowed	8	4
	Divorced	8	4
	Separated	6	3
Sex	Male	128	64
	Female	72	36
Religion	Christianity	93	46.5
	Islam	97	48.5
	Traditional	10	5
Educational status	No formal education	47	23.5
	Primary school	52	26
	Secondary	74	37
	Tertiary	27	13.5
Ethnicity	Yoruba	175	87.5
	Others	25	12.5

Source: Field data, 2018

Respondent's participatory activities

Table 2 presents participatory activities respondents were involved in. Among the participatoryactivities' available to respondentsbuilding of health centres($\bar{x}$=0.88), drilling of boreholes($\bar{x}$=.80), grading of roads($\bar{x}$=0.78), mobile medical intervention scheme($\bar{x}$=0.78) and sensitization and training on right based approach to community development($\bar{x}$=0.68) among others. This implies that community members are oriented about the advantages of participation on community based project as being concluded by Rifkin, S. B. (2014) that community participation improves and increases the efficiencies of development programs especially as it related to their own health.

Table 2: Respondent's participatory activities

Participatory activities	Group	Individual	Mean
Building of health centres	177 (88.5%)	23 (11.5%)	0.88
Grading of rural roads	154 (77%)	45 (23%)	0.78
Community level intervention for pre-eclampsia	71 (35.5%)	129 (64%)	0.36
Sensitization and training on right based approach to development	137 (68.5%)	63 (31.5%)	0.68
House to house immunization campaign	42 (21%)	158 (79%)	0.21
Tuberculosis and leprosy awareness creation	55 (27.5%)	145 (72.5%)	0.28
Radio show – Iretieda – phone in programme on family health and good life	129 (64.5%)	71 (35.5%)	0.64

Participatory activities	Group	Individual	Mean
Drilling of boreholes	159 (79.5%)	41 (20.5%)	0.80
Free family planning services	59 (29.5%)	141 (70.5%)	0.30
Mobile medical intervention scheme	156 (78%)	44 (22%)	0.78

Respondent participation in health care accessibility

Result in Table 3 shows that respondents had access ($\bar{x}$=0.86) to immunization services against childhood killer diseases was most accessible to them of the available health care services. Also, awareness campaign on topical health issues ($\bar{x}$=0.77) and ($\bar{x}$=0.74) they were not accessible to the distribution of Long Lasting Insecticide Treated Net (LLINTs).

Table 3: Respondents' Accessibility to Health Care Services

Health Care Services	Very accessible	Accessible	Not Accessible	Mean
Immunization services against childhood killer diseases	171 (86%)	19 (9.0%)	10 (5.0%)	0.86
Treatment of minor ailments	96 (48.0%)	77 (38.5%)	27 (13.5%)	0.48
Family planning services	30 (15.0%)	128 (64.0%)	42 (21.0%)	0.64
Emergency transportation in case of emergency	23 (11.5%)	79 (39.0%)	98 (49.0%)	0.49
Public awareness campaign on topical health issues	155 (77.5%)	45 (22.5%)	0 (0.0)	0.77
Distribution of Long Lasting Insecticide Treated Net (LLINTs)	149 (74.5%)	43 (21.5%)	8 (4.0%)	0.74
Voluntary Counselling and Testing (CT) against HIV/AIDs	56 (28.1%)	122 (61.0%)	22 (11.0%)	0.61

Source: Field data, 2018

TEST OF HYPOTHESIS

Table 4, Chi-square reveals that there is a significant relationship between the age, occupation, sex and educational status of respondents with the type of participation in health care services they are involved in.

Table 4: Relationship between some selected socio-economic characteristics of rural dweller and type of participation in participatory development

Demographic characteristic	χ^2	d.f	P-value	Decision
Age	33.680	3	.001	Significant
Occupation	88.060	5	.001	Significant
Sex	15.680	1	.001	Significant
Education status	22.360	3	.003	Significant

Source: Field data, 2018

CONCLUSION AND RECOMMENDATION

This study therefore concluded that age, occupation, sex, and household size, play a relevant role in participatory development in health care accessibility and improvement to rural communities.The study recommends that rural communities should generate programmes that will motivate their population to achieve and maintain optimum health status.

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INSURGENCY AND THE QUEST FOR RURAL DEVELOPMENT: A CASE OF NORTH EASTERN REGION OF NIGERIA

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ABSTRACT
Although there seems to be no consensus among scholars with regard to a single definition of rural development, however, certain processes must be deeply involved in considering the phenomenon of rural development. These processes increase agricultural productivity, provision of health facilities and health care, provision of water supply, markets, access roads, education, environmental sanitation and equal access to facilities and programs of government designed to benefit the population, particularly in the rural sector. This study reviews the phenomenon of rural development with a special focus on north eastern Nigeria considering the fact that the area has been under Boko Haram insurgency for a considerable period. What kind of rural development looks possible under the situation? A substantial number of rural areas in the region which is deeply saturated in the crisis have almost diminished while part of the remaining population migrated to other places mostly in metropolitan and urban centres. As they move to urban areas mostly they stay among the urban poor where they overstretch the resources which generally were not adequate in such areas. In this connection, therefore, rural development should follow such population having the characteristics of rural dwellers rather than focusing only on the area. Government institutions and projects in the rural areas have become subjects of attacks in such volatile areas. The government thus needed to redirect its rural development policies to follow the characteristics since their conditions appear more deplorable than in their original homes.
Keywords: Rural development, Insurgency, Agriculture, Rural areas, Migration

INTRODUCTION
Rural development is one major issue of concern to both developed and developing countries because it holds premium position in ensuring sustainable livelihood for both rural and urban dwellers .As custodians of nation's resources, there is need for government attention in order to arrest any likely problem that may arise due to lack of development in rural areas. However, rural development needs an enabling environment such as government commitment, funding and resources security, which is particularly lacking in the north eastern region (specifically Adamawa, Borno and Yobe). Bariagaber (2006) stated that conflict within or among nations have caused serious migration of population where huge number suffers dislocation. North eastern Nigeria has been deeply saturated in insurgency since 2009 with its serious humanitarian crisis attaining its peak in 2014. The violence went beyond the countries boundary spreading to some of the countries of the lake chard region (Chard, Niger and Cameroon).

Between June 2011 and June 2018 ACED (Armed Conflict and Location Event Data) identified 3,346 incidents which also culminated to the dearth of 43,261 persons. However, there were so many unrecorded incidents and dearth which the report could not capture. The areas affected by violence in the region housed an estimated population of 17 million people and almost 4.5 million people were displaced (Displacement Tracking Matrix, 2018). This is not however the complete incidents as many have gone unrecorded. Nigeria host the majority of the displaced population estimated at (82%) as a result of existence of active non-state armed group called Boko Haram in the north eastern region. As such Nigeria more than other countries of the lake chard region experienced the worst displacement with over 2 million persons displaced in the northeast having the highest in Borno, Yobe and Adamawa (IOM, DTM Round 25 Nigeria). The level of displacement witnessed, no longer guarantees rural development in the area as many rural areas were destroyed completely, left empty or near empty affecting the agricultural production in the areas and consequently the nation's food security.

Rural development
The purpose of rural development anywhere in the world is to specifically improve the quality of life of the rural people through reduction of poverty. According to Ezeah, (2005) rural development refers to the practice that seeks to enhance the quality of life in the rural areas by providing basic infrastructural facilities. Rural development is "a strategy to enable a specific group of people, poor rural women and men, to gain for themselves and their children more of what they want and need. It involves helping the poorest among those who seek a livelihood in the rural areas to demand and control more of the benefits of rural development. Such categories include small scale farmers, tenants and the landless (Chambers, 1983). For Singh (2009) rural development can be conceptualized as a process, as a phenomenon, a strategy and also as a discipline.

What should be the targets of rural development?

a) **Rural peasants:** Traditionally and historically peasant farmers relying on agriculture (Brass 2003; Kay 2000; Moyo and Yeros 2005).
b) **Rural semi-proletariat class: Worldwide** today there is growing trend in rural livelihood with the development of mining rural communities whose main source of livelihood is still agriculture despite the cash flow from mining, such areas should also be among the targets.
c) **Rural displaced:** Like the situation in the north east, where majority of the rural population have been displaced but currently resident in urban areas as IDPs should be supported.
d) **Urban slums** : The displaced are found mostly in the urban slums particularly in the northeast who were forced out less as a function of economic opportunities in urban areas and more as a function associated with the untenable bleakness of rural areas (Davis, 2006). In this regards the urban corridors become chocked up with informal slums, unemployed capable persons and seriously depressed population which worsen the capacity of urban government to plan, accommodate and integrate the slums that housed the rural migrants.
e) **Characteristics of rural livelihood**: Currently, rural development targets exist in both rural and urban areas particularly considering the scenario of the north eastern states of Adamawa, Borno, and Yobe. Many rural communities have gone in to extinction as everything that will guarantee return has been destroyed completely. The characteristics should therefore be identified and be part of the targets anywhere they happens to be and then the human capital development should be of priority in order to ensure they are rehabilitated and supported. **Rural population coping with displacement**

Rural areas have been acutely vulnerable to internal conflicts and have been the major sector that suffers serious consequences in terms of the impact of such devastation. This is true because most insurgency movements tend to establish their bases outside major towns (Ahmed, 1994). In a situation of prolonged insurgency, rural livelihood use to be devastated seriously culminating in to the destruction of crops, killings of livestock, damaging irrigation facilities, dislocating markets and forcing farmers to abandon their farms due to insecurity or landmines as it happened to rural communities in the north eastern.

According to Lopez (2003), rural communities usually suffers in various ways due to insurgency leading to the destruction of homes, roads, and bridges rendering the areas impenetrable, water supplies cut off or are polluted and residents forced to abandon their homes due to constant attacks. Production in such areas tends to decline sharply as a result of displacements and migration to places that are considered relatively secure. This has a significant impact on labour lose particularly in places occupied by conflicts where young persons are conscripted into government security agencies, vigilantes or armed insurgency groups. Isolation from the markets due to insecurity makes it impossible for farmers to sell their crops or even obtain farm inputs (Gondie and Neyan 1999). Roads were either closed or abandoned due to its unsecured nature e.g. Maiduguri – Damboa road, Maiduguri – Bama – Gwoza - Banki road and Maiduguri – northern Borno area roads among others. This has been the situation with Boko Haram after taking over some territories in north eastern Nigeria by declaring a caliphate where residents have to smuggle themselves out at the great risk of losing their lives.

In trying to cope with life as a result of displacement propelled by Boko Haram, the rural migrants adopts various coping strategies in the new environments they found themselves such as providing a cheap source of labour to the urbanites, petty trading, selling of vegetable and fruits, children and women becoming house helpers who received monthly payment of between two and five thousand Naira only. In this regards it is expected that consideration be given to the aftermath of the shocks encountered such that the vulnerable population that had been displaced should have interventions beyond lifesaving assistance by ensuring reduction of harmful livelihood strategies such as distress selling of their livestock, food, land, and properties which may certainly increase the level of vulnerabilities and consequently depleting their remaining resources and assets. Thus, Internal Food Policy Research Institute (2011) states that under such situation, maintaining food production and rebuilding agricultural sector is fundamental to reducing the long-term consequences borne by the people living in and moving away from the fragile context through laying the groundwork for stabilization.

Effects of the Insurgency on Rural Development

a) **Threat to security**: Conflicts around the world have been among the major cause of lost of life and properties which is apparently noticeable in the North Eastern Region of Nigeria.
b) **Displacements** :Insurgency is among the drivers of major displacements which has forcibly displaced a population from 40 million in 2011 to about 66 million in 2016 (United Nations High Commission for Refugees, 2017; World Bank, 2017). This happens as a result of the facts that in rural areas the security apparatus required for

ensuring adequate security are lacking, therefore rendering such area less secure and highly vulnerable to insurgents' attacks.

c) **Threat to food security:** Insurgency is generally one of the major factors which limit the level of food security and livelihood options specifically for the rural population and increase the chance of outmigration from the rural areas to urban areas or more secured areas (Breisinger, etal, 2010).

d) **Affects development:** In this regards apart from frustrating developmental efforts and destroying the existing developments, insurgency also forced out the inhabitants of rural communities to abandon their lands and sometimes most or all of what they owned.

CONCLUSION AND RECOMMENDATIONS

Since rural development is designed to improve the condition of the rural people wherever they are and thus, if insurgency can force people out of rural areas to urban areas such as the state capitals. A strategy that warrants identifying the vulnerable population at their new destination should be devised. The urban facilities were not provided in anticipation of their arrival and generally, their new environments in the urban centers are mostly unacceptable as a human habitation. The policy should mainly include providing sustainable support for the migrant population through scaling up of service delivery to facilitate transition from relying on humanitarian assistance and be able to adjust and stay with comfort. Hosts communities need to be supported in terms of long-term development.

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FACTORS AFFECTING THE ACTIVITIES OF WOMEN AGRICULTURAL COOPERATIVE SOCIETIES IN EMURE LOCAL GOVERNMENT AREA OF EKITI STATE

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ABSTRACT
This study examined the Factors affecting the Activities of Women Agricultural Cooperative Societies in Emure Local Government Area of Ekiti State. A total of 110 Women in Agricultural Cooperative Societies were randomly selected from six Women Cooperative Societies. Data were collected using well-structured interview schedules and analysed by means of descriptive statistics (frequency, distribution, percentages and means) and Pearson correlation. The results indicated that the mean age of women farmers as 45 years, with average level of education (42.7%). Major source of information were from members of cooperative societies (78.2%) but have inadequate extension contact. Constraints faced by the cooperative group include inadequate access to credit facilities (73.6%), high interest (72.7%), mismanagement of fund (67.3%), leadership problem (64.6%) and gender discrimination (60.0%). There is significant relationship between age, duration of farming, monthly income and access to credit facilities from government with r-value (0.153, 0.148 and 0.199). Therefore there is need for government to involve cooperative societies in anchor borrowers programme and the extension agent should be involve in training of farmers in organisation/ societies.
Keywords: Women Farmers, Agricultural Cooperative Societies, Credit facilities

INTRODUCTION

Women grow 70% of Africa's food on smallholder farms, a task anchored by physical labour (AfricaRenewal, 2019). Findings from a study financed by the United Nations Development Programme (UNDP) revealed that women make up some 60-80% of agricultural labour force in Nigeria (World Bank, 2003). Women form cooperatives societies in order to promote their economic and social development. Women agricultural cooperatives have played an important role in rural development in mobilizing limited resources for women farmers and producers. It bring in more agricultural inputs, fairness by ensuring equal access to markets and services for the membership, savings, credit services, ways to meet some service needs of members, provide an avenue to articulate members needs and views to political decisions and self-sufficiency in basic food commodities.

But women, who are often a crucial resource in agriculture and the rural economy, face constraints that reduce their productivity (Sofa and Cheryl, 2011); like land ownership and head of the household, Lack the time for participation due to multiple work demands, Poor input delivery and support services.

The general objective of the study is to examine the Factor Affecting the Activities of Women Agricultural Cooperative Societies in Emure Local Government Area in Ekiti State. The specific objectives are to:

1) Describe the socio-economic characteristics of women farmers in the study area
2) Identify the source of information
3) Identify the constraints hindering the optimum performance of women Agricultural cooperative society

Hypotheses: There is no significant relationship between some selected socio-economic characteristic (age, duration of farming, monthly income) of Women Agricultural Cooperative Societies and access to credit facilities by government.

METHODOLOGY

The study area is Emure Local Government Area of Ekiti State. The population of this survey consists of the women in Agricultural Cooperative Societies in Emure Local Government Area, 110 women of the population were randomly selected from six Agricultural cooperative societies which served as the sample size.The interview schedule was used to elicit information from the respondents and data was analyzed using descriptive statistics such as frequency, percentage, mean and standard deviation. Also, the Pearson Correlation coefficient (r) was used for data analysis.

RESULTS AND DISCUSSION

Socioeconomic characteristics of the women Agricultural Cooperative Societies

The mean age of the women who are in Agricultural Cooperative Societies was 45years, this showed that they are matured women and mostly within the same age group. The level of education was average unlike before that the level of women education was considerably low. The study also showed that half of the respondents have above 9 years of farming experience. This is because of their level of exposure to agriculture at early stage or interest in practicing farming activities. Also, majority of the women farmers

have low income from their farming activities and it affects their standard of living.

Table 1: List of Women Agricultural Cooperative Societies

Cooperative Societies	Ifelere Cassava Group	Temidayo Palm Oil Association	Egbe Olobi	Ifedayo Maize and Cassava	Agbeyewa Garri Processing	Agbeloba Yam Association	Total
Frequency	31	19	11	16	26	7	110
Percentage	28.2	17.3	10.0	14.5	23.6	6.4	100

Field survey, 2011

Evaluate the source of information

Majority of the respondents (78.2%) have easy access to information from members of their cooperative societies. The women agricultural cooperative societies rarely got information from extension agent. Through the interview, the women also got fast flow of information and the rate of adoption of information disseminated is high.

Table 2: Socioeconomic characteristics of the women farmers' agricultural cooperative societies

Variable	Frequency	Percentage	Mean
Age in years			
40-50	64	58.2	45
Above 50	46	41.8	
Educational Level			
No formal Education	18	16.4	
primary	47	42.7	
secondary	33	30.0	
tertiary	12	10.9	
Marital Status			
Single	17	15.5	
Married	66	60.0	
Divorced	4	3.6	
Widow	23	20.9	
Farming experience			
Below 2yrs	6	5.5	
2-5yrs	18	16.4	
6-9yrs	31	28.1	
Above 9yrs	55	50	
Weekly Income			
Below #1000	18	16.4	
#1,000-#2,000	30	27.3	
#2000-#3,000	29	26.4	
#3,000-#5,000	27	24.4	
Above #5,000	6	5.5	
Extension contact			
Frequently	28	25.5	
Not frequent	82	74.5	
Total	110	100	

Source; Field data, 2011

Table 3: Evaluate the source and the level of information availability

Variables	Percentage
Easy access to information from member	78.2
Information from other farmers	74.5
Information by E.A	38.2
NGOSs usually disseminate information	29.5

Source; Field data, 2011

Constraints hindering the optimum performance of women Agricultural cooperative society

These constraints include inadequate access to credit facilities (73.6%), high interest (72.7%), mismanagement of fund (67.3%), leadership problem (64.6%), Combination of farm

with household work (60%) and Gender discrimination (60%). This implies that credit facilities are not readily accessible to the women Agricultural Cooperative Societies; all these limit their agricultural production.

Table 4: Constraints hindering the optimum performance of women Agricultural Cooperative Society

Variables	Percentage
Inadequate access to credit facilities	73.6
High interest	72.7
Mismanagement of fund	67.3
Leadership problem	64.6
Gender discrimination	60.0
Combination of farm with household work	60.0
Inability to read and write	57.3
Refusal to educate female children	54.5
Laziness on members part	53.7
Marketing of agricultural produce	48.2
Lack of interest among members	38.3
Lack of technology improvement	37.3

Source; Field data, 2011

Testing of hypotheses

There is significant relationship between age, duration of farming, monthly income and access to credit facilities by government with r-value (0.153, 0.148 and 0.199).

Table 7: Testing of hypothesis 1

Source of variation	N	$\bar{x}$	S.D	D.F	r-value	Critical value	Decision
Age	110	3.4182	1.10364	108	0.153	0.195	Significant
Ext of credit by govt		1.7818	0.95189				
Duration of farming	110	1.7781	0.91530	108	0.148	0.195	Significant
Ext of credit by govt		1.7818	0.95189				
Monthly income	110	2.32212	0.98191	108	0.199	0.195	Significant
Ext of credit by govt		1.7818	0.95189				

Field survey, 2011
Level of significance =0.05

CONCLUSION AND RECOMMENDATION

Women Farmers' Cooperative Societies have limiting factors that affects their activities have been indicated, but mostly the access to credit facilities which limit their agricultural production.To minimize these, the following recommendations were suggested:

1. Anchor Borrowers Programme: The government and relevant agencies should involve cooperative societies in anchor borrowers programmeto assist the women in obtaining loans from community banks very close to them in order to provide available, accessible and affordable farm inputs.
2. Also, extension agents should render services to address specific needs of women. relevant programmes scheduled for them that will improve and better the life of the women.They should be involve in training of farmers in organisation/ societies.

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ROLES OF COOPERATIVE TO REDUCE CONSTRAINTS OF LIVELIHOOD IN RICE FARMING IN NIGER STATE NIGERIA

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ABSTRACT
This study compared the constraints faced by co-operators and non-cooperators farmers in their rice production activities in Niger state of Nigeria. Three-stage sampling procedure was employed to select 80 cooperators and 80 non co-operators rice farmers. A validated questionnaire was used to collect data for the study. Frequency count, percentage and Chi-Square were statistical tools used for data analysis. Findings showed that the average age of cooperators and non-cooperators farmers were mean=43.4years and 47.2 years respectively. The average crop size cultivated by co-operators was 3.5hectares while non-cooperators cultivated 1.92hectares.Cooperators (100%) and non-cooperators (98.8%) farmers have access to information on rice production from extension agents. The leading challenge faced by cooperators were high cost of inputs like fertilizers (mean=4.56), non-availability of institutional loan(mean=4.15), and encroachment by grazing cattle (mean=4.12) while non-cooperators farmers were mostly constrained by high cost of inputs like fertilizers (mean=4.56), inadequate processing facilities (mean=4.52) and encroachment by grazing cattle (mean=4.48). Results further showed that constraints faced by cooperator and non-cooperators were statistically different (t=8.44; p=0.000) indicating that non-cooperator rice farmers were more constrained (mean=4.02) than their cooperator counterparts (mean=3.45). Chi-square test showed that access to loan and financial support (X2= - 17.640; p=0.000) was found to have inverse associated with constrained faced by co-operators and farm size (X^2=162.468; p=0.001) of non-cooperators has positive association with number of constraints that faced them. The study concluded that constraints faced by cooperators and non-cooperators were statistically different as non-cooperator rice farmers were found to be more constrained than their cooperator counterparts in Niger state. Hence,farmers are encouraged to be involved in cooperative societies because of the associated benefits to their enterprise. Extension services to rice farmers in the study area should focus how to reduce high cost of inputs like fertilizers, non-availability of institutional loan, encroachment by grazing cattle and inadequate processing facilities.
Keywords: Constraints, cooperators, non-cooperators, rice livelihood, extension services

INTRODUCTION

Rice production is the major means of livelihood of the people in the Niger state of Nigeria. This is as a result of the naturally fertile land on the flood plains of River Niger and its tributaries (FAO, 3003).Rice production in Nigeria is capable to promote food and livelihood security in Nigeria. FAO (2009) noted in a study on rural livelihoods that current convectional agricultural strategies of production, in most cases, resulted into economic problems, environmental degradation and even social problems.

Rice farmers face several challenges in the production of the crop to commercial and other socio-economic factors. These hindrances could be attributed to absence of information or access to credit facilities, modern inputs, extension services regarding improved seeds, etc (Rahji and Adewumi, 2008; Jongur, 2008).

Consequently, rice farmers in Niger State can mostly be identified from their farmer cooperative societies, this cooperation further enhance their productivity to reduce consraints of the farmers. Membership is expected to enhance capacity overcome many challenges to produce more(Kohansal and Mansoori, 2009). It is against this background that this study seeks to compare the constraints faced by co-operators and non-cooperators rice farmers in Niger state Nigeria. The study specifically:

i. identify the sources of information among rice farmers' cooperators and non-cooperators in the study area, and
ii. investigate the differences in constraints faced by rice farmers cooperators and non-cooperators in the study area.

METHODOLOGY

This study will be conducted in Niger States, Nigeria. Niger State is the acclaimed "Power State" of the nation. Niger State lies between the latitude of 3.20' east and longitude 8 and 11.3' North. Niger State is zoned into three Zones A, B and C. Zone A isknown for cereal production (rice included) while Zone B and C is known for tuber production.

Three stage sampling procedure was employed to select respondents for this study. ***Selection of Cooperators:*** First Stage involved a purposive selection of Zone A being a predominant zone for rice production in Niger State. Second Stage involved a random selection of eight (8) Rice Cooperative Societies from the list of cooperatives societies that were gotten from Niger State Agricultural and Mechanization Authority (NAMDA/ADP). The third stage involved a

random selection of ten (10) members of the selected cooperative societies. A total of eighty (80) cooperators were selected for the study. ***Selection of non-cooperators***: Respondents were also selected in zone A purposively. Stage two involved a random selection of eight (8) communities. Stage three involved a random selection of ten (10) non-cooperator in each community selected to give a total eighty (80) non-cooperators. A total of one hundred and sixty (160) respondents comprising of eighty (80) cooperators and eighty (80) non-cooperators were selected.

A questionnaire was designed and validated for data collection. Frequency counts, percentage, mean, t-test were used to analyse data collected.

RESULTS AND DISCUSSION

As illustrated in Table 1, it can be seen that the average age of cooperatorsand non-cooperators farmers were mean=43.4years and 47.2 yearsrespectively. The average age of rice farmers indicated that they were still in their active and productive age. Also, appreciable percentage of co-operators (37.5%) and non-cooperators (46.3%) had no formal education. This level of education may deprive this category to ultimately utilise cooperative benefits (etonihu*et al.* 2013).

Table 1 indicated that the average crop size cultivated by co-operators was 3.5hectares while non-cooperators cultivated 1.92hectares. This finding indicated that co-operators farmers cultivate more crops on largers size of land than their non-cooperators counterparts. The cooperators farmers have the higher percentage of information from various sources including information from extension agents (98.8%) as compared to the non-cooperators.

Table 1: Socio-economic Characteristics of Rice farmers

Variables	Co-operators (n=80)		Non co-operators (n=80)	
	Frequency	Percentage	Frequency	Percentage
Age (years)				
Mean	***43.4***		***47.2***	
Crop farm size (hectares)				
Mean	***3.5***		***1.92***	
Educational background				
No formal education	30	37.5	37	46.3
Primary education	22	27.5	15	18.8
Secondary education	23	28.8	19	23.8
Tertiary education	5	6.3	9	11.3
Information sources				
Cooperative Meetings	80	100.0	3	3.8
Extension Agents	80	100.0	79	98.8
Fellow-Farmer	78	97.5	76	95.0
Religious group	62	77.5	50	62.5
Neighbor	74	92.5	49	61.3
Radio/Television	75	92.5	27	33.8

Sources: Field survey, 2019

As illustrated in Table 2, the leading challenges faced by cooperators were high cost of inputs like fertilizersand non-availability of institutional loan(mean=4.15), and encroachment by grazing cattle (mean=4.12) while non-cooperators farmers were mostly constrained by high cost of inputs like fertilizers (mean=4.56), inadequate processing facilities (mean=4.52) and encroachment by grazing cattle (mean=4.48). The table further showed that constraints faced by cooperator and non-cooperators were statistically different (t=8.44; p=0.000) indicating thatnon-cooperative farmers were more constrained (mean=4.02) than their cooperator rice farmers counterparts (mean=3.45).

Table 2: Differences in constraints among co-operators and non co-operators rice farmers

Constraints	**Cooperators**		**Non-cooperators**		**Test of difference**		
	Mean	**Rank**	**Mean**	**Rank**	**Mean diff.**	**t-value**	**Sig.**
Lack of availability of improved seeds/seedlings	2.22	18	3.62	15	1.40	7.05	0.000**
Low productivity of existing	3.36	12	3.47	16	0.11	0.60	0.548

Constraints	Cooperators		Non-cooperators		Test of difference		
	Mean	Rank	Mean	Rank	Mean diff.	t-value	Sig.
plantations							
Insufficient land for rice farming	3.66	9	4.18	10	0.52	3.50	0.001**
Farmers in need of best practices training	4.02	7	4.26	8	0.23	2.60	0.011*
Inadequate extension services supporting the rice farmers	3.56	10	3.65	14	0.08	0.64	0.521
High cost of inputs like fertilizers	4.15	2	4.56	1	0.41	4.25	0.000**
Lack of knowledge on fertilizer management	2.40	16	2.83	18	0.43	3.10	0.003**
Theft	3.55	11	3.93	13	0.38	2.65	0.010*
Lack of knowledge on rice protection management	2.46	15	3.10	17	0.63	3.35	0.001**
Non-availability of institutional loan	4.15	2	3.97	12	-0.17	-0.99	0.325
High cost of labour	4.07	5	4.37	5	0.30	4.16	0.000**
Challenges of farm encroachment by grazing cattle	4.12	3	4.48	3	0.36	4.22	0.000**
Threat of bush fires	3.67	8	4.33	6	0.66	5.82	0.000**
Lack of storage and drying facilities at the farm level	3.12	13	4.27	7	1.15	8.27	0.000**
Insufficient and expensive transportation from rural farming areas to market place.	3.02	14	4.26	8	1.23	9.03	0.000**
Inadequate processing facilities	4.06	6	4.52	2	0.46	5.55	0.000**
Lack of infrastructure facilities for value addition	4.08	4	4.40	4	0.31	4.44	0.000**
Lack of valid and reliable market information	2.40	17	4.17	11	1.77	10.03	0.000**
Overall constraint	**3.45**		**4.02**		**0.59**	**8.44**	**0.000****

Note: *significant at 5%, **Significant at 1% 2-tailed.
Scale used: Strongly Agree=5, Agree=4, Undecided =3, Disagree=2, Strongly disagree=1

CONCLUSION AND RECOMMENDATIONS

Based on findings the study concluded that (i) constraints faced by cooperators and non-cooperators were statistically different as non-cooperative farmers were found to be more constrained than their cooperator rice farmers counterparts in Niger state, and (ii) high cost of inputs like fertilizers, non-availability of institutional loan, and encroachment by grazing cattle were the leading constraints of rice co-operators farmers while non-cooperators farmers were mostly constrained by high cost of inputs like fertilizers, inadequate processing facilities and encroachment by grazing cattle.

To reduce the challenges limiting rice production capacity in Niger state,

(i) extension services to rice farmers in the study area should focus how to reduce high cost of inputs like fertilizers, non-availability of institutional loan, encroachment by grazing cattle and inadequate processing facilities,
(ii) government and other concern institutions should work together to ensure loan and financial support are easily available to rice farmers in groups,
(iii) Extension agents should also encourage farmers most especially non co-operators to cultivated land area they can effectively manage.

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"VICTIMS OF UNCHECKED ASSAULTS": INTERCULTURAL COMMUNICATION AND FARMERS' NARRATIVE OF HERDERS' INVASION IN OKE-OGUN AREA OF OYO STATE

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ABSTRACT
Cultural tolerance and mutual coexistence are essential for human survival and other aspects of sustainable development. These indicators, among others, have implications for the level of food security in a nation. Over some decades, food security in Nigeria has been threatened by insecurity arising from clashes between farmers and the herders, who are culturally heterogeneous. This phenomenon has continued to take its toll on the food production and threatened sustainable development in the country. Existing studies have listed inconsistent government policies, infrastructural deficits, lack of improved seedlings, lack of access to (modern) farm implements and natural disasters as factors that undermine food security, especially in developing countries. Almost all these studies have failed to identify cross-cultural communication as a contributing factor to the incessant and often unresolved clashes between farmers and herders that exacerbates food insecurity. Therefore, this study was designed to investigate the role of cross-cultural communication in the (de)escalation of herders-farmers crises in OkeOgun area of Oyo state. This is with a view to highlighting the implications of the crises for farmers' welfare and agricultural production value chain in the area. The study sites are three randomly selected Local Governments in Oke-Ogun Area viz. Iseyin and Saki West. We chose in-depth interview and focus group discussion (FGD) to collect data from farmers from the selected local governments. Findings of this study revealed that the inter-cultural communication and relational issues between the farmers and the herdsmen in Oke-Ogunare caused by cultural intolerance/invasion by the foreign herdsmen who share language difference with the farmers. The study also revealed the extent to which the government's intervention to dialogue with farmers and herders have helped to mitigate or escalate the invasion of herders on the farmlands. We therefore, state that government and other relevant stakeholders should work in collabouration with the farmers and pastoralists (herdsmen) to help restore good communal relationship in the area towards ensuring peaceful cross-cultural environment in order to return the region to its known status of the food basket of Oyo State.
Keywords: Farmers-Herdsmen, Oke-Ogun area of Oyo State, intercultural communication, cultural dominance, conflict, food security

INTRODUCTION

Human society could be chaotic and violent-laden consequent upon the conflict that is characteristically of human society. In a plural society like Nigeria, violent—often communal—conflict is inevitable especially with respect to the use of resources (Yekinni, Adeniyi and Adebisi, 2017). Alhough conflict is a global phenomenon with Nigeria's own getting widespread (Abbass, 2014)as a result of clashes between farmers and herders which are increasing (Olaniyi, 2005). Failure of Nigerians to respect each other's diversity pastoralists is responsible for invasion of farmlands by the herdsmen while attempts to checkmate the illegal activities are meted with violent attacks. This closes the gateway to national integration and cohesion (Aliyu, Ikedinma and Akinwande, 2018). This is the story in many rural Nigerian societies. Many a time the farmers are attacked and their farmlands invaded by the pastoralists, the government's response to the problem are ineffective (Oke, Adebayo and Ishaku, 2017). All these unchecked assaultshave negative effects on much-campaigned diversification towards agriculture and specifically, food production and security. In Oyo State, the government, in its bid to check the pervasive face-off between crop farmers and the herders, made law through its legislative arm to ban open grazingof cattle and criminalising anyone moving cattle outside the ranches to be procured by the cattle breeders(Adebayo, 2019).Existing studies have identified some factors responsible for food insecurities and these include:government (inconsistent) policies (Fawole, Ilbamis and Ozkhan, 2017), infrastructural deficits (Amaka, Metu, Kenuchukwu,Okeyika and Maduka, 2016), gender inequality, obsolete farm inputs (FAO) and lack of improved seedlings, and natural disasters (Ilaboya; Atkpo; Omofuma; Asekhame, and Umukoro, 2012 and Otaha, 2013).These and other existing studies are, however,silent on cross-cultural factor as an issue to consider in the waning food security in Nigeria. This study, therefore, focuses on cross-cultural communication as it affects food production in Oke-Ogunarea of Oyo State. The study aims to: a. evaluate the farmers' assessment of relational issue between the crop farmers and the herders in Oke-Ogun Area. b. Examine the level of damage the cross-cultural factors have caused on the farming in Oke-Ogun area of Oyo State. c. Establish the influence of cultural issues (Language, etc.) on the co-existence of both the crop farmers and the herdsmen.

METHODOLOGY

The study was carried out in OkeOgun (otherwise referred to as Upper Ogun River) area of

Oyo State, southwest Nigeriabecause of prevailing invasion of farmlands in the local governmentsby the herders. The researchers adopted multi-stage sampling technique. First, we purposivelyselected three local governments namely, Iseyin, Itesiwaju and Saki West. The three Local Governments from OkeOgun were seleceted.The second stage involved a random selection of farming areas from the selected Local Governments.These are Iseyin: Aba Serafu, Alayin and Ikere;Saki West: Palapala, BudoOgbomoso and Itesiwaju: Alakala, Alubata and Oseyawo.We adopted qualitative research design for the study using in-depth interviewand key informant interviewas methods. Our population consists of farmers in the communities chosen from the three Local Governments. In this study, those who are both direct and indirect victims of invasion as well as security agent wereselected for the study.

For each LGA, six respondents (two from each farming community)were selected. We also selectedthree opinion leaders and one security agency sourcefor Key Informant Interview (KII). The data collected through the interview guides with the farmers and Key Informants were analysed using Critical Discourse Analysis. The emerging themes from the interviews were, thereafter,subjected to discourse analysis.

RESULTS AND DISCUSSIONS

As a qualitative study, we discuss our findings alongside the themes, which emerged from the data collected onhow cross-cultural factors are responsible for the unending face-off between the farmers and the herdsmen as evolvedfrom the farming communities' perspective. The themes are:

Cultural dominance

Our major finding shows that continued assault or invasion of farmlands in OkeOgun area of Oyo State is essentially caused by cultural dominance and territorial expansionist drive of the pastoralists.Intercultural communication is only partially responsible for the persistent unchecked assault on farmers and invasion of their farmlands in Oke-Ogun area of Oyo State

'Language as obstacle'versus 'language as not a barrier'

Findings revealed this variationsin Shaki, Itesiwajuand Iseyin farming communities as narrated by the farmers. One of the farmers recounted his ordeal:

When you encounter these herdsmen grazing their cows on your farms. The first problem is how to tell them to leave in the language they understand**(47 years, Male/IDI/Married/Palapala Village, Shaki West local government).**

However, some of the participants and the interviewees explained that they spoke to the herders' in their language but that does not prevent them from invading their farmlands.

Insensitivity of the security agentsand Complicity of the traditional rulers

Our respondents revealed that the attitudes of thesecurity agents and some traditional rulers are "very detrimental" to the survival of the farmers.

These herdsmen…On January 23, 1999, there was face-off between the Bororo and Shaki people. The Bororo killed 33 people. We complained many times to the police, they refused to listen to us; the police claimed that the issue of *Bororo*was difficult to handle.Our leaderstoo are not doing enoughto protect us ***(Male 73 years/Married/KII/Oge, Shaki Westchairman of the farmers' association).***

This argument was supported by another Key Informant:

They allow their cows to feed on your cassava, yam and maize. They even tear bans and bring out the farm produce for the cows to eat. Unfortunately, these farmers are helpless, they can't get justice. Many of these farmers borrow money from cooperative to farm.The farmers have all left***(72 years,Male/KII/Married/Shaki town, Shaki West Local Government*).**

Another respondentnarrated the story:

The security agencies always take side with the Fulani herdsmen simply because they have enough money to influence any case to their favour. Our king will ask if we are blind when they invade your farm?' Our traditional rulers do get gifts from our invaders ***(38years/Male/Married/IDI/Alayin,IseyinLocal Government).***

Victimisation of women and girl children

A major important finding in the farmer-herder issue in OkeOgun is victimisation of the women and girl children. An informant revealed that:

When bororo people invade communities, theyrape the women of the natives. They also take away their dresses. I don't know why they do such things ***(72 years,Male/KII/Married/Shakitown, Shaki West Local Government).***

Lack of respect for others' dignity of labour

Farmers' complaints about their crop been grazed upon their own principle of dignity of labour was not respected. However, the *bororo herdsmen* are only concerned with the survival of their own cows.

These Fulani bring their cows into our farms to feed when they realise we are not on the farm. I was unable to go to my maize farm at BudoOgbomoso, because I had accident this year. I expected to get there and just harvest. But they had grazed on the farm. I didn't harvest a grainfrom that farm. They also grazed my six acres cassava farm ***(46 years, Male/IDI/Married/BudoOgbomoso Village, Shaki West Local Government).***

Displacement of farmers

Many farmers have been forced out of the farming business in the affected three local governments. Our informants told us that many farmers had been discouraged from cultivating large scale farming while some have left farming communities.

CONCLUSION AND RECOMMENDATIONS

Contrary to the expectations, intercultural communication is not responsible to the conflict between the farmers and herdsmen in OkeOgun Area of Oyo State, Nigeria. Cultural dominance and "territorial expansion"motive of the herdsmenwere reportedly responsible. We, therefore,recommendintercultural re-orientation and*dialogic* approach andgovernment-stakeholders collabouration through extant laws that will help restore good communal relationship in the area

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EFFECT OF RURAL-URBAN INTERACTION ON THE LIVELIHOOD OF RURAL DWELLERS IN OSUN STATE, NIGERIA

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ABSTRACT
This study examined the effect of rural-urban interaction on the livelihood of rural dwellers in Osun State. Multi-stage sampling procedure was used to select 302 respondents for the study. Data were collected with structured interview schedule. Data were analyzed using descriptive and inferential statistics. Results of descriptive analysis revealed that majority of the rural dwellers are middle-aged, with low level of formal education and large household size. The difference in means of income before and after rural-urban interaction is ₦119429.80. Results of regression analysis revealed that age and frequency of visits to urban areas positively affect rural-urban interaction on livelihood activities of rural dwellers. The study concluded based on the findings that rural-urban interaction has significant effect on livelihood of the rural dwellers
Keywords: Rural, Urban, Rural-urban interaction, Livelihood activities

INTRODUCTION
Rural–urban interaction is the complementary functions and flows of people, capital, goods, employment, information and technology between rural and urban areas. It is the linkage across space and sector, involving rural and urban areas in terms of flow of people, goods, money, information and participation in activities that saddle the two areas(UNCHS, 2004).

Rural-urban interaction is also facilitated by the strong social support network transcending rural and urban areas. Members of the extended family living in both localities provide a base from which their relatives can move back and forth. Increasing transportation costs in recent years, however, have reduced the frequency of home visits for many people, particularly the poor. Social group, such as development union, which enable individuals to be brought to the city for apprenticeships or as house helps, are an important avenue through which rural communities can be improved by the contributions and assistance of the urban-based indigenes (Okali *et al* 2001).

Oyesola and Kadiri, (2010) confirms that the interactions have proven beneficial for poverty alleviation as well as national economic growth. According to Tacoli, (2003), domestic trade, adequacy and efficiency of infrastructure are the backbone of mutually beneficial rural-urban relationships and of the success of the relationship between urban and rural areas.

Despite the fact that studies abound on rural-urban interaction, this study is aimed at providing more empirical information on the effect of rural-urban interaction on the livelihood of rural dwellers in Osun State.

METHODOLOGY
This study was carried out in Osun State, Nigeria. There are three Agricultural Development Programme (ADP) zones, namely, Ife/Ijesha, Iwo, and Osogbo.

Data were collected with the aid of structured interview schedule. Multi stage sampling technique was employed for the selection of the sample size for the study. The first stage involves random selection of thirty percent (30%) of the total number of blocks (30) in Osun state, hence 10 blocks were selected. The second stage involved stratified sampling technique for the selection of two villages from each of the selected blocks based on their rural nature. The third stage involved random selection of sixty percent (60%) of the total households in each of the selected villages. This implies that three hundred and two (302) rural households were considered out of 504 rural households in the selected villages. The livelihood index was estimated as the difference between income from livelihood activities before and after interaction with urban areas. Data were analyzed using descriptive and inferential statistics. Descriptive tools that were used for data analysis are frequencies, percentages and means while inferential statistical tool used is regression analysis. The implicit empirical model used in the study is stated as:

RESULTS AND DISCUSSION
Socioeconomic and related characteristics of the rural dwellers
Table 1 presents the socio-economic and related characteristics of the rural dwellers. The table reveals that most (32.10%) of them falls in the age range of 41-50 years, with a mean age of 52 years. This shows that rural areas are populated with aged people. This finding is in line with findings of Jibowo (2003) that vast majority of people in the rural areas are aged. Table 1 shows that majority (57.60%) of rural dwellers were male, while 42.40% of them were female. This reveals that rural areas are dominated by the male gender.

The implication of this is that there is likelihood of the male gender dominating the livelihood activities in the rural areas.

The household size of the rural dwellers is presented in Table 1. The table shows that majority (91.80%) of them had between 1 and 10 persons in their households, with a mean of 7 persons per household. The large family size is very much likely to be an inducement for interacting with urban areas in order to generate more income to improve the household welfare. The distribution of the rural dwellers according to their years of formal education is presented in Table 1. Data in the table reveals that majority (64.50%) of them had between 1 to 12 years of formal education, with a mean of 6 years. This implies that there is low level of formal education in rural area. This is likely a contributing factor to low standard of living in the rural areas.

Table 1 presents the distribution of income generated from livelihood activities before and after interacting with urban areas. The table shows that majority (61.92%) of the rural dwellers earned income from their livelihood activities in the range of ₦55000-₦290000, with a mean of ₦31167.20 before interaction with urban centres. Similarly, majority (57.29%) of the rural dwellers earned income in the range of ₦19800 - ₦360000 from their livelihood activities after interaction with urban centres. The mean income from livelihood activities after interaction is ₦431102.00. The difference in means of income before and after interaction is ₦119429.80. This result shows that rural-urban interaction impacted positively on the livelihood of rural dwellers.

The distribution of the rural dwellers according to their years of residency is shown in Table 1. The table shows that majority (64.90%) of them had been residing in the rural communities between 18 to 49 years. The mean year of residency is 34 years.

Table 1: **Socio-economic and related characteristics of the rural dwellers (n = 302)**

Variable	Frequency	Percentage
Age		
≤ 30	12	4.00
31-40	38	12.60
41-50	97	32.10
51-60	93	30.89
>60	60	20.50
Mean age = 52 years		
Gender	**Frequency**	**Percentage**
Male	174	57.60
Female	128	42.40
Household size		
1-5	58	45.40
6-10	56	46.40
11-15	6	6.20
>16	5	2.00
Household size mean = 7 persons		
Years of formal education		
0	89	29.50
1-6	117	38.70
6-12	78	25.80
12-18	18	6.00
Mean years of formal education = 6 years		
Income before interaction ('000₦)		
55000-185000	86	28.48
190000-298000	101	33.44
300000-460000	76	24.83
480000-2500000	40	13.25
Mean income before interaction = ₦311672.20		
Income after interaction ('000₦)		
19800-240000	70	23.18
248000-360000	103	34.11
370000-630000	80	26.49
650000-4200000	49	16.23
Mean income after interaction = ₦431102.00		

Variable	Frequency	Percentage
Years of residency		
3-15	47	15.56
18-32	88	27.48
33-49	113	37.42
50-80	59	19.54
Mean years of residency= 34 years		

Source: Field Survey, 2017

Rural-urban interaction factors

The distribution of the rural communities based on the rural-urban interaction factors (distance from urban centre, frequency of visits to urban centres and number of urban centres visited) are presented in Table 2. The table shows that majority (89.10%) of the rural communities are about 1 to 10 kilometre away from the nearest urban centre. The mean distance of the rural communities from the nearest urban centre is 6 kilometre. Nearness of rural communities to urban centre is expected to enhance rural-urban interaction. Table 2 further revealed that majority (75.50%) of the rural dwellers visited the urban centre between 1-3 times per week. On average, a rural dweller is expected to visit the urban centre 2 times per week. A frequent visit to urban centres is expected to positively affect rural urban interaction. The number of urban centres visited by the rural dwellers is shown in Table 2. From the table, majority (63.20%) of the rural dwellers had visited 1 to 4 urban centres. On average, rural dwellers had visited 4 urban centres. The more urban centres visited, the more the rural-urban interaction.

Table 2: Rural-urban interaction factors n = 302

Factors	Frequency	Percentage
Distance from the rural to urban (km)		
1 – 5	147	48.70
6 – 10	122	40.40
11 – 15	12	4.00
Above 15	21	7.00
Mean distance = 6 km		
Frequency of visitation per week		
1 – 3	228	75.50
4 – 6	66	21.90
7-10	8	2.60
Mean frequency of visitation = 2 times per week		
Number of Urban centres visited		
1-2	84	27.80
3-4	104	34.40
5-6	89	29.50
Above 6	25	8.30
Mean number of urban centres visited = 4 places		

Source: Field Survey, 2017

Results of regression analysis

The result of regression analysis is presented in Table 3. The Adjusted R^2 is 0.68 and the F value is 5.59 and significant at 5% level, showing that the model has a good fit. From the Table, the coefficient of age is positive and significant at 1% level; implying that age positively affect influence of rural-urban interaction on livelihood activities of rural dwellers. This is expected, since middle-aged and economically active people are often engaged in rural-urban interaction relative to the very young and aged.

Similarly, the coefficient of frequency of visits to urban areas is positive and significant at 1% level. The implication of this result is that this variable positively affects influence of rural-urban interaction on livelihood activities of rural dwellers.

Table 3: Results of regression analysis

Variable	Coefficients	Standard error	t-value	Probability
Age (X_1)	452491.2	1293657	0.35	0.727
Years of formal education)(X_2)	6508692	2553380	2.55	0.011*
Years of residency(X_3)	1235423	905786.6	1.36	0.174

Variable	Coefficients	Standard error	t-value	Probability
Distance from urban area(X_4)	-387142.3	3487059	-0.11	0.912
Frequency of visits to urban area(X_5)	2.24e+07	8254205	2.72	0.007*
Constant	11.952	0.656	18.21	0.000

R^2 = 0.72, Adjusted R^2 = 0.68. F value = 5.59 * mean Sig. at 1% ** mean Sig. at 5%**
Source: Data Analysis, 2017

CONCLUSION AND RECOMMENDATIONS

The study concluded that rural-urban interaction have significant effect on livelihood activities of rural dwellers in the study area; hence relevant policies formulation is critical in harnessing opportunities from rural-urban interaction, especially in designing interventions for poverty alleviation and improving the household well-being of the rural populace.

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FACTORS ASSOCIATED WITH FOOD SCAVENGING AMONGST RURAL HOUSEHOLDS OF ARAMOKO EKITI, EKITI STATE, NIGERIA

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ABSTRACT
This study assesses the factors associated with food scavenging amongst rural households in Aramoko Ekiti. The specific objectives were to describe the socioeconomic characteristics of the respondents, determine the influence of the scavenged food on their health status and identify the factors that influence their engagement in food scavenging. The study used purposive sampling technique to select 30 food scavengers who were consistently spotted at social gatherings through the use of structured interview schedule Data was analyzed using descriptive statistics and Chi-square was used to test the hypothesis. Results showed that 56.7% of the food scavengers were female with the mean monthly income of N2,100.00. BMI showed that most (88.9%) of the food scavengers were within the normal range of 18.5 – 24.99. Majority (76.7%) of the food scavengers had low dietary diversity. Major determinants of food scavenging were insufficient family resources (73.3%), poverty (56.7%) and unstable home environment (53.3%). Majority (66.7%) of the respondents were identified to be consistent food scavengers given the other category of scavengers. The food scavengers' low dietary intake is due to small monthly income earned and insufficient family resources therefore the identified food scavengers should be supported through extension service education and other incentives that will assist them in farming in order to alleviate their poverty level.
Keywords: Food scavengers, rural households, Body Mass Index (BMI), Poverty and Dietary diversity.

INTRODUCTION
In order to avert the inadequate supply of food to meet the requirement of family consumption, food scavenging has been used as an alternative to achieving food security by rural households. Food is the most basic needs for man which must be available both in quality and quantity at the needed time to sustain life and promote human growth (FAO, 2010). Hence it is very important for human existence.

Research findings reveal that most of the rural populace are food insecure and suffer from malnutrition diseases. Going by this, it could be said that most rural Nigerian households are not food secure because they do not consume the right proportion of food at the needed time for a healthy and active life. Food Security Guide (2011) emphasizes that poverty is the driver of food insecurity and that lack of money precludes the purchase of food. Therefore, people involved scavenged for food to ensure they meet their households consumption needs neglecting the fact that the calories consumed is not up to the recommended average calories of 2,550 kcal (World Bank, 2005). Lokosang (2011), stated that the risk of inadequate access to food is determined by household's capacity to produce food, household purchasing power and several other socio-economic factors that directly or indirectly affect these three major factors. Food scavengers refers to someone who collects food that have been discarded by others or excess food from parties (invited or non-invited), and/or searches through refuse bins for food and useful materials such as money and clothing. In Nigeria like other developing countries, varying number of poor individuals survive by scavenging for food at ceremonies. Although they are not permanent beggars but intermittently practice begging at ceremonies.

The study assessed the Factors associated with food scavenging amongst rural households of Aramoko Ekiti. The specific objectives were to:

1. describe the socio economic characteristics of the identified food scavengers.
2. determine the influence of the scavenged food on their health status.
3. identify the factors that influence engagement in food scavenging among the respondents.

METHODOLOGY
The study area is Aramoko Ekiti, Ekiti State Nigeria. Purposive sampling techniques were used to collect responses from consistent 30 food scavengers at social gatherings through the use of structured interview schedule and participant observation. BMI was used to access the influence of scavenged food on health status of the respondent. A BMI of 18.5 is underweight, 18.5 to 25 is normal weight, 26 to 30 is overweight and over 30 is obese for adult and for children of age 2 to 20 a BMI that is less than 5th percentile was considered underweight, 5th- 84th percentile is normal weight, 85th- 95th percentile were considered to be overweight and above the 95th percentile was considered obese.

Also, the 24-hour dietary recall was used as a reference period to measure household dietary diversity (a proxy for quality of diet) as used by Okwoche, and Asogwa 2012. A household with dietary diversity of 8 points and above was regarded as having high dietary diversity while those below 8 Points was regarded as having low dietary diversity.

Food Poverty Line was constructed to categorize the households into food secure and non-food secure groups using the two-third mean per-capita food consumption expenditure (World Bank, 1986; IFPRI 2001; Oluwatayo, 2005) as the benchmark. Households whose mean consumption expenditure falls below the food poverty line were regarded as being food insecure while those whose expenditure is above the benchmark were regarded as been food secure.

RESULTS AND DISCUSSIONS

Socioeconomic characteristics of Food Scavengers in Aramoko Ekiti

The result in Table 1 reveals Most of the respondents (56.7%) were female who are still in their active age between 25-50years. People in these groups bear the financial burden of providing food and non-food items for their households which led them into food scavenging.

Majority of them have no formal education. This implies that they are illiterates and did not reason beyond their status. This is consistent with Falowo and Adebo (2014) that high educational status is expected to predispose the food scavengers to innovations and better positions to cope with food insecurity challenges. Therefore, the food scavengers focus on their daily bread not minding of what tomorrow will be. They are engaged with mainly odd jobs such as washing of clothes; labourers, carrying of loads in the market, hawking, selling of empty plastics amongst others. Majority of the food scavengers (73.3%) have more than 3 persons per family but depended on a monthly income of less than N5,000 out of which they can afford to spend less than N1,500 ($5) per month on food items due to their meager earning which resort them to food scavenging.

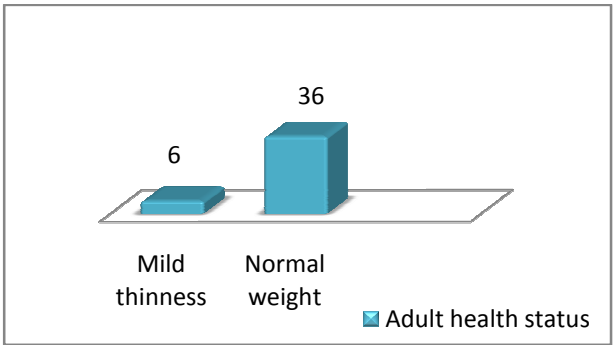
Table 1: Socio economic characteristics of the food scavengers in Aramoko Ekiti (n =30)

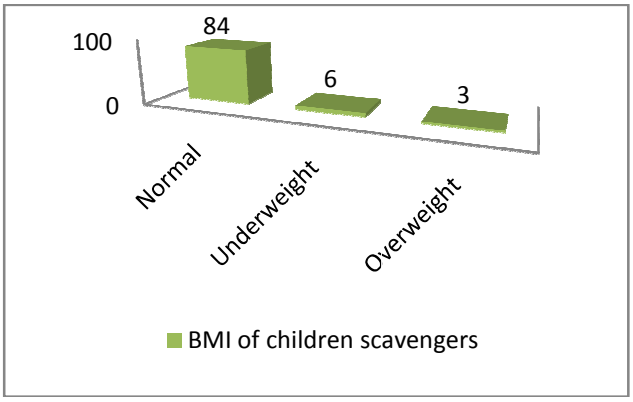
Socio economic characteristics	Frequency	Percentages (%)	Mode
Age			
<25	7	23.3	25-50
25-50	18	60	(36 years)
>50	5	16.6	
Sex			
Male	13	43.3	Female
Female	17	56.7	
Educational Status			
No formal education	12	40	No formal education
Primary	10	33.3	
Secondary	6	20	
Tertiary	1	3.3	
Others	1	3.3	
Household Size			
<3	8	26.7	
3-5	11	36.7	3-5 Households
5-8	4	13.3	(2 persons)
>8	7	23.3	
Occupation			
Farming	0		
Civil servant	2	6.7	
Trading	5	16.6	Odd jobs
Odd jobs	23	76.7	
Income			
<N5000	14	46.7	<N5,000
N5,000-N10,000	12	40	(N2,100)
N10,000-N15,0000	2	6.7	
N15,000-N20,000	2	6.7	

Source: Field survey 2015 ***Mean are in parenthesis.

Influence of Scavenged Food on the Health Status of Scavengers

The result in Figures 3 and 4 showed that majority of the identified food scavengers has normal body weight while few of them fall within underweight, mild thinness and obese. This implies that the scavenged food does not have negative effect on most of the respondent's health status. It was also revealed that they rarely come across health problems as a result of their food intake which signifies that their body system has become adapted to any kind of food consumed.





Source: Field survey 2015

Household dietary diversity of the identified food scavengers in Aramoko Ekiti

The result shows that majority (76.7%) of the food scavengers has low dietary diversity while few (23.3%) has medium and high dietary diversities respectively. The identified food scavenger that has low dietary diversity consumed less than eight foods out of the listed thirteen food items within 24 hours and the food consumed is of low quality. This implies that food security is not an issue to them but rather how to survive hunger.

Factors Influencing the Intensity of Food Scavenging

The Total Per Capita Expenditure (TPCEXP for all the identified food scavengers is N30, 063.64. This is low compared to an average person in Ekiti State as showed in Oluwatayo (2003) which indicated that The Total Per Capita Expenditure (TPCEXP) is ₦420, 065.8. The MTPEXP is ₦1, 002.12 and the poverty line was estimated to be ₦668.08 this shows that the identified food scavengers spend less than $1 /day on food which denote that most (56.7%) of them were poor compared with an international standard comparable measure of extreme poverty as stated by World Bank (2013) that people who do not spend up to $1.25/day are poor.

CONCLUSION AND RECOMMENDATION

Food security is not an issue to the identified food scavengers but rather how to survive hunger. Hence, the identified food scavengers were compelled to compromise the standard and quality of food they consumed. Based on the findings from this study, t he following recommendations were made:

1. Households in the study area should be educated by NGOs and medical practitioners on the use of family planning so as to check mate their family size. Having found that large-sized households were less food secure.
2. Most of the identified households with low dietary diversity should maintain adequate balanced diet by adding little protein to their daily food.
3. The identified food scavengers should be supported through extension service education and other incentives that will

assist them in farming in order to alleviate their poverty level.

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ATTITUDES OF UNIVERSITY AGRICULTURAL STUDENTS TOWARDS AGRI-PRENEURSHIP IN EKITI STATE

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ABSTRACT
The study was carried out to assess the attitudes of agricultural students towards Agri-preneurship in Ekiti State. The specific objectives were to describe the demographic characteristics, students' attitudes towards agribusiness and the challenges to be facedwith agri-preneurship. The study used multistage sampling procedure to elicit responses from 130 students through the use of questionnaire. Data were analyzed using descriptive statistics and Chi-square. Results shown that about 65% of students has positive attitude towards agri-preneurship and are willing to continue in agribusiness after graduation, while Poor access to capital (89.2%), inadequate technologies (82.3%), Inadequate government support to encourage graduate in agriculture and Inability to cope with the task of agri-preneurship (51.5%) were listed as challenges to be faced amongst others. The study recommends that graduates should encourage themselves by pulling resources together through cooperative farming to overcome inadequate capital in other to stay in the track of Agriculture and adequate credit facilities should be provided to farmers with little or no interest
Keywords: Agri-preneurship, Students, Universities, willingness and credit facilities.

INTRODUCTION
Youths, constitute a sizeable proportion of useful citizens who are the principal actors in food production, processing and packaging towards attaining food security. Considering the teaming population of Nigeria, it is important that there should be sufficient, safe and nutritious foods for all individual. To achieve these there is need for diversified knowledge and skills to answer to the twin challenges of shrinking economies and unemployment (Iqbal, MelhemandKokash, 2012) considering the fact that Markets are currently only offering limited job opportunities for university graduates (Norman Rudhumbu , Douglas Svotwa , Takaruza Munyanyiwa and Morgen Mutsau 2016: Frazao, Santos, Oliveira and Oliveira, 2010).

Hence, to attract more young people into agriculture, efforts should be undertaken by governments and agricultural promotion centres to facilitate access (physical and financial) inputs such as improved seeds, fertilizers, mechanization and basic information on agricultural markets. They should be involved in decision making effective rural youth agricultural extension programmes (Mbeine 2012). Current educational programmes provide many employment opportunities to students in several specialization areas such as human resource, marketing and finance (Herath and Amarawansha 2018) this is because high rate of unemployment has become a driven force of poverty in our societies. Allawadi (2010) noted that experience of unemployment has pushed people to think entrepreneurship and the creation of one's own business as the only alternative for survival by people irrespective of their educational background in recent time.

However, with the current situation of the country, most of the youth are interesting to use their initiative and idea learn from the institution they attended and experience gathered from the society they live to start their own business, most of them fail because of how to source for fund, this makes them lack confidence in taking a good decision. Entrepreneurs are not naturally born and however, made via experiences and environment since they grow and learn, being influenced by tutors, instructors and guardians during their growth process (Herath and Amarawansha 2018, Teixeira and Davey, 2008). They opined that students' immediate cultural and social environment influence their beliefs and perspectives.

Based on the foregoing, the study asses' the attitudes of agricultural students in the selected universities in Ekiti state towards agripreneurship. The specific objectives were to describe the:

1. demographic characteristics
2. students' attitudes towards agribusiness and
3. challenges to be facedwith agri-preneurship

METHODOLOGY
The study used multistage sampling procedure to elicit responses from 130 students who are in the final year of the federal and state university in Ekiti state through the use of questionnaire. A 5-point Likert scale from strongly agree (SA) Agree (A), undecided (U) Disagree (D) to Strongly Disagree(SD) was employed to examine students' attitudes towards agribusiness. The grand mean is 2.23, hence any mean above 2.23 has a positive attitude towards agripreneur while a mean below was regarded as negative attitude. Data were analyzed using descriptive statistics.

RESULTS AND DISCUSSION

The result in Table 1 reveals that majority (89.0%) of the agricultural students in the study area were between the age of 20 and 25years, the youngest respondents were less than 20 years old and the oldest were above 30 years old. Most of them were female (70%) and came from a households size of 3-6 (68.5%). Most of the students (70%) were engaged in entrepreneur such as baking cakes, selling chips (potatoes and plantain), selling clothes (English wears, Ankara) that their mates can afford, engage in farming, selling fruits to their classmates, provision, learning how to make shoe and fashion designing amongst others. Their average income was within N10,000-N20,000 per month.

Table 1: Personal characteristics of the respondents

Personal characteristics	Frequency	Percentage	Mean
Age			
<20	10	7.7	
20-25	89	68.5	25
26-30	11	8.5	
>30	20	15.3	
Sex			
Male	60	46.2	
female	70	53.8	
Family history			
Agriculture background	55	42.3	
Non agriculture background	75	57.7	
House size			
>3	25	19.2	
3-6	89	68.5	5
>6	16	12.3	
Engaged in entrepreneur as a student			
Yes	70	53.8	
No	60	46.2	
Average income			
<10,000	35	26.9	
10,000-20,000	40	30.8	15,000
20,000-30,000	35	26.9	
>30,000	20	15.4	

Source: Field survey, 2019

Student's attitudes towards agribusiness

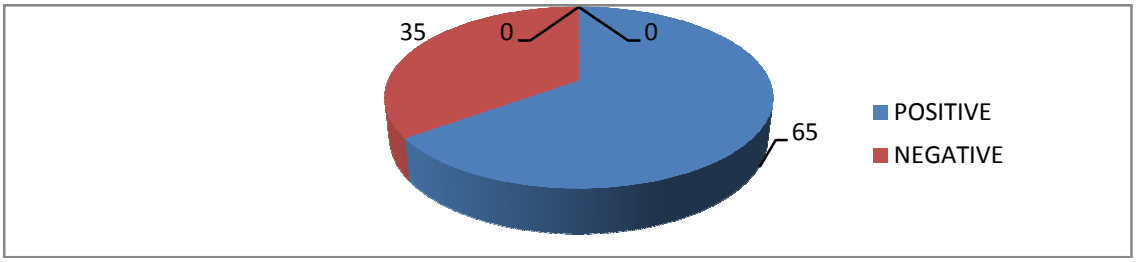
Results in table 2 shows that about 65% of the students has positive attitude towards agri-preneurship and are willing to continue in agribusiness after graduation. These students want to be an agripreneur after graduation, consider agriculture as an important sector than any other sectors, affirms that Knowledge acquire in university will effectively prepared them for an agripreneur, want to work for myself after completing school and prefer to work in non agricultural sector but noted that they Can't start agri-business without huge income which may be difficult.

Table 2: Student's attitudes towards agribusiness

Statements	Mean	Rank
I consider agriculture as an important sector than any other sectors	3.65	1st
Knowledge acquire in university will effectively prepared me for an agripreneur	2.62	2nd
I prefer to work in non agricultural sector	2.56	3rd
I Can't start agri-business without huge income which may be difficult	2.48	4th
I want to be an agripreneur after graduation	2.29	5th
My personal satisfaction with self-employment is very high	2.25	6th
I want to work for myself after completing school	2.24	7th
I can successfully develop business plan	2.24	7th
I can create products and services that satisfy customers as an agripreneur	2.23	8th
Through agripreneurship education , my knowledge, skills and interest in agribusiness have overall improved	1.97	9th
I am not willing to take the risk associated with the new venture	1.92	10th
I do not consider entrepreneurship a desirable career option	1.63	12th

Agriculture can never provide opportunities for employment	1.64	13th
I Lack the basic knowledge and skills to continue as an agripreneur after graduation	1.63	14th
Agripreneur increased my interest in a career of agribusiness	1.40	15th

Source: field survey 2019. ***Grand Mean=2.23



Source: Field survey, 2019

Perceived Challenges to be faced with Agri-preneurship

Result in Table 3 shows that Poor access to capital had the highest with 89.2% was ranked first among theChallenges to be faced with Agri-preneurship. This was followed by the inadequate technologies (82.3%), Inadequate government support to encourage graduate in agriculture was ranked third (81.5%). and Poor enabling environment was ranked forth (80%). Other challenges to be faced were inadequate business opportunities bad road, Poor access to market information, Limited availability of farmland. The least Challenges that are perceived to be faced with Agri-preneurship is Inability to cope with the task of agri-preneurship (51.5%). this implies that when there is adequate infrastructures and good government support, the identified students were ready to become an agripreneur.

Table 3: Perceived Challenges to be faced with Agri-preneurship

Perceived Challenges to be faced with Agri-preneurship	Frequency	percentage	Rank
Poor access to capital	116	89.2	1st
inadequate technologies	107	82.3	2nd
Inadequate government support to encourage graduate in agriculture	106	81.5	3rd
Poor enabling environment	104	80	4th
Inadequate business opportunities	100	76.9	5th
Bad road network	97	74.6	6th
Poor access to market information	95	73.1	7th
Limited availability of farmland	85	65.4	8th
Inability to withstand competition	85	65.4	8th
Inability to cope with the task of agri-preneurship	87	51.5	10th

Source: Field survey, 2019

CONCLUSION AND RECOMMENDATION

About 65% of the students has positive attitude towards agri-preneurship and are willing to continue in agribusiness after graduation. The study recommends that graduates should encourage themselves by pulling resources together through cooperative farming to overcome inadequate capital in other to stay in the track of Agriculture and adequate credit facilities should be provided to farmers with little or no interest.

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FACTORS INFLUENCING ADOPTION OF DAIRY FARMING TECHNOLOGIES AMONG FARMERS IN OYO STATE, NIGERIA

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ABSTRACT
The study examined the factors influencing adoption of dairy farming technologies among farmers. A multistage sampling procedure was used to select the respondents. Descriptive and inferential statics were used for the study. Most (75.0%) of the farmers partially adopted artificial inseminations services and Use of reproductive (51.7%) were the adoption of technologies used by farmers. Significant relationship existed between the effect of factors affecting dairy cattle production and their experience; poor extension services (p=0.001), high cost of input (p=0.0021), inadequate credit facilities (p=0.001), inadequate training for farmers (p=0.014) and land tenure system (p=0.037). Establishment of proper extension services/programme, new innovation of inputs supplied at affordable price, access to credit facilities to enhance farmers' livelihood were thus recommended.
Keyword: Dairy farmers, Artificial inseminations, Dairy farming technologies, Adoption and High cost of input

INTRODUCTION
Nigeria dairy industry which is largely subsistence consists of milk production and importation, processing marketing and consumption. 95% of total herd size of about 20 million belongs to pastoralist. Dairy development in developing countries has played a major role in increasing milk production, improving income level in rural areas, generating employment opportunities and improving the nutritional standards of the people, especially for small and marginal farmers.

The adoption of dairy technologies stems from the fact that it is regarded as a solution to some of the key challenges faced by dairy farmers. These challenges include declining grazing land, low productivity of local dairy cattle and challenges of diseases under the free range grazing system (Muma, 1994; Abayomi, 2013). Additional challenges include market failure, low incomes arising from the sale of milk (Mango, 2002).

It is against this background that the study:

1. identify socio-economic characteristics of the respondent in the study area,
2. determine the extent of technologies used by the livestock farmers in the study area,

There is no significant relationship between the socio economic characteristics and factor influencing the adoption of dairy farming technologies

METHODOLOGY
Sampling procedure and sample size: This study was carried out in Oyo state Nigeria. Purposive selection of Iseyin local government area was done, 10 villages were randomly selected from the local government. Another stage involved selections of Twelve (12) respondents were randomly selected from each village, given a total sample size of 120 respondents for the study.

RESULT AND DISCUSSIONS
Table 1 revealed that almost half (41.7%) of the respondents were within the age range of 30-39 years with the mean age of 43.2years. Studied revealed that majority (95.8%) of the respondents were married. Almost (62.5%) of the respondents had secondary education. It further showed that majority had a mean household size of 7.

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

Variable	Frequency	Percentage	Mean
Age			
20-39	55	45.8	
40 and above	65	54.2	43.2
Marital status			
Single	5	4.2	
Married	115	95.8	
Educational status			
No formal education	8	6.7	
Primary education	32	26.7	
Secondary education	75	62.5	
Tertiary education	5	4.2	
Household size			
1-5	5	4.2	
6-10	108	90.0	7

11-15	**7**	**5.8**

Source: Field Survey, 2018

Table 2 also showed that majority (2.41) of the respondents adopt improved health management and further said that also perceived artificial insemination (1.85) as a major adoption of dairy cattle farming technology in the study area, majority (1.83) of the respondents also agreed that creep feed calves, ration formulation and use reproductive technologies adopted by dairy farmers in the study area. This implies that adoption of these technologies base level priority to the cattle dairy farmers.

Table 2: Distribution of extent of adoption of Technologies used by dairy cattle farmers

Extent of adoption	Non Adoption	Partial adoption	Fully adoption	Mean	Rank
Procurement of improved breed of calf	35 (29.2)	3 (6.7)	77 (64.2)	1.57	12
Improved dairy nutrition	19 (15.8)	35 (29.2)	66 (55.0)	1.61	10
Cross breeding to improve cattle qualities	17 (14.2)	49 (40.8)	54 (45.0)	1.69	9
Improvement of grazing management	13 (10.8)	54 (45.0)	53 (44.2)	1.56	13
Creep feed calves when pasture quality is poor	20 (16.7)	60 (50.0)	40 (33.3)	1.83	3
Ration formulation	20 (16.7)	60 (50.0)	40 (33.3)	1.83	3
Pregnancy checking	19 (15.6)	58 (48.3)	43 (35.8)	1.80	6
Improved Health management (pest and diseases management)	70 (58.3)	29 (24.2)	21 (17.5)	2.41	1
Improved milk hygiene	9 (7.5)	63 (52.5)	48 (40.0)	1.68	9
Artificial insemination services	6 (5.0)	90 (75.0)	24 (20.0)	1.85	2
Modern means of animal identification	7 (5.8)	73 (60.8)	40 (33.3)	1.73	7
Modern branding	10 (8.3)	65 (54.2)	45 (37.5)	1.71	8
Use of reproductive technologies	19 (15.8)	62 (51.7)	39 (32.5)	1.83	3
Body condition score	25 (20.8)	37 (30.8)	58 (48.3)	1.71	7

Source: Field survey, 2018

Table 4: The result obtained showed that high cost of input, low output prices, transportation problem, inadequate credit facilities, diseases and pests and harsh weather all had positive coefficients. This implies that the effect of the role of factors influencing adoption of dairy cattle farming technologies had direct or positive effect on the farmers farming experience.

Table 4: Regression analysis showing the effect of factors affecting dairy cattle production and farmers farming experience

Factors	B	Standard Error	t-value	Significant Decision
Constant	7.976	2.323	3.433	0.001 S
Poor extension services	-2.194	2.508	-4.315	0.001 S
High cost of input	4.605	0.999	4.315	0.021 S
Low output prices	0.824	0.708	1.163	0.247 NS
Inadequate/lack of veterinary service	-0.870	0.510	-1.706	0.091 NS
Transportation problems	0.406	0.407	0.998	0.321 NS
Inadequate credit facilities	1.687	0.454	3.717	0.001 S
Disease and pests	0.007	0.356	0.021	0.983 NS
Problem of feeding the animals in dry season	-0.273	0.353	-0.775	0.440 NS
Inadequate training for the farmers	-0.794	0.319	-2.494	0.014 S

Sources: Field survey, 2017

CONCLUSION

Based on the study, it is therefore concluded that, the major factors affecting adoption of dairy farming technologies could be addressed through establishment of proper extension services/programme, new innovation of inputs supplied at affordable price, access to credit facilities to enhance farmers' livelihood.

RECOMMENDATION

Based on the study, it is therefore recommended that;

1. Extension services should be made available to dairy cattle farmers in order to sensitize them on the adoption of technologies that will improve their production
2. Dairy cattle farmers needed to be trained in advance technologies of cattle production to enhance high level of productivity for milk and milk product such as local cheese (wara), yoghurt.

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EFFECTS OF INVOLVEMENT IN SUSTAINABLE AGRONOMIC PRACTICES ON FOOD SECURITY OF RURAL HOUSEHOLD IN OBAFEMI-OWODE LOCAL GOVERNMENT AREA, OGUN STATE, NIGERIA

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ABSTRACT
The subsistence nature of farming among rural households is likely to put them at risk of losing access to food during the lean season, however, sustainable agriculture practices (SAPs) is expected to guarantee adequate supply of food all year round. This study assessed occurrence of household food insecurity in Obafemi Owode Local Government Area, Ogun State, Nigeria. Multistage sampling procedure was used to select 117 respondents. Data were analysed using frequency, percentage, mean, Chi-square, and PPMC. Results revealed overall awareness level on SAPs was low (56.4%), crop rotation with mean value of 0.62 was the most practiced SAPs, however, the overall involvement of respondent in SAPs was low (57.3%), and about half (50.4%) of the respondents were food insecure in the study area. Practice of mulching and composting (β = -0.22), and erosion control by terrace (β = -0.18) could have effects on household food insecurity. Therefore, improved practice of mulching, composting, and erosion control by terrace would enhance household food security. Hence, it is recommended that more awareness and training should be facilitated on mulching, composting and erosion control by terrace to increase farmers' involvement and guarantee food security.
Keywords: Food insecurity, Involvement in sustainable agronomic practices, effects, rural household**.**

INTRODUCTION
Food security is a situation that exist when all people, at all times, have physical and economic access to sufficient, safe and nutritious food to meet the dietary needs and food preferences for an active and healthy life (Food and Agriculture Organisation (FAO), 2001).

Much of the food in Asia and Africa is produced by smallholder farmers (FAO, 2014). However, smallholder farmers are the most affected by food insecurity (Barrett, 2010; World Bank, 2007).

More than 65 per cent of the Nigerian population is said to be food insecure (Osagie, 2013). As reported by Amaza (2018), the most vulnerable group in Nigeria are the rural smallholder farmers, especially women and children in the marginal areas who do not have access to adequate quality of food they want.

Rural farmers' involvement in sustainable agronomic practices (SAPs) and diversifying agricultural production should expectedly guarantee adequate supply of nutritious food for a year round. The promotion and adoption of SAPs and improved agricultural technologies therefore offers an opportunity to increase production and income substantially, thereby reduce food insecurity (Nata *et al.,* 2014).

The subsistence nature of farming among rural households tend to make them unable to generate sufficient income and also put them at risk of losing access to food during the lean or off season. Owing to depletion of household and market food stocks, increase in prices of staple during lean or off season, the need to harp on potentials of SAPs in relation to rural household food access becomes imperative.Specifically, the study addressed the research questions by considering the following objectives: determine their level of awareness on SAPs, evaluate their level of involvement in SAPs, determine the effect of involvement in SAPs on food security, assess the occurrence of household food insecurity in the study area.

METHODOLOGY
This study was carried out in Obafemi Owode local government area, Ogun state with Owode town as its headquarters. Multi stage sampling technique was used in selecting respondents. The first stage involved random selection of four wards from the twelve wards in the study area.Second stage involved the use of snowball sampling technique to identify two hundred and sixty (260) household heads involved in farming. Finally, 45% proportion of the identified household heads was randomly selected to give a sample size of 117 respondents. The degree of occurrence of household food insecurity was measured using Household Food Insecurity Access Scale (HFIAS) score. Multiple regression was used to analysed the effect of each of the SAPs on food security status.

RESULTS AND DISCUSSION
Involvement in sustainable agronomic practices
Table 2 shows that respondents identified different types of sustainable agriculture practiced.

Using the mean score, the result shows that crop rotation, was practiced more (0.62), followed by practice of diversion ditches and drainage channels (0.41) than other SAPs in the study area.

Table 2: Distribution of respondents based on involvement in sustainable agronomic practices (N= 117)

Sustainable agricultural practices	Involved F(%)	Not Involved F(%)	Mean
Crop rotation	73(62.4)	44(37.6)	0.62
Mulching and composting	46(39.3)	71(60.7)	0.39
Cover cropping	33(28.2)	84(71.8)	0.28
Manure management	34(29.1)	83(70.9)	0.29
Efficient use of fertilizer	46(39.3)	71(60.7)	0.39
Agroforestry	39(33.3)	78(66.7)	0.33
Integrated pest management	43(36.8)	74(63.2)	0.37
Improved livestock management	46(39.3)	71(60.7)	0.39
Diversion ditches and drainage channels	48(41.0)	69(59.0)	0.41
Irrigation	35(29.9)	82(70.1)	0.30
Storing water in reservoir to allow it sink into the soil and increase soil moisture	40(34.2)	77(65.8)	0.34
Erosion control by terrace	19(16.2)	98(83.8)	0.16

Source: Field survey, 2018

Effects of sustainable agronomic practices on respondents' food security status

Table 4 shows that practice of mulching, and erosion control by terrace could have significant effects on household food security at ($p \leq 0.05$ and $p < 0.10$) respectively. The negative value of mulching ($\beta = -0.22$), and erosion control by terrace ($\beta = -0.18$) respectively suggests that the less the practice of these sustainable agronomic practices, the more the household food insecurity. This is in agreement with Olarinre*et al.* (2019) who posited that the more farmers engaged in sustainable agricultural practices, the more food secure they become.

Table 4: Regression analysis of effect of sustainable agronomic practices on household food insecurity

Variables	Beta	T	Sig (p)
Crop rotation	-0.106	-1.144	0.255
Mulching and composting	-0.223	-2.319	0.022**
Cover cropping	-0.077	-0.841	0.402
Manure management	-0.025	-0.251	0.802
Efficient use of fertilizer	-0.138	-1.442	0.152
Agroforestry	-0.057	-0.593	0.555
Integrated pest management	0.069	0.674	0.502
Improved livestock management	0.144	1.501	0.136
Diversion ditches and drainage channels	0.059	0.585	0.560
Irrigation	0.094	0.969	0.335
Storing water in reservoir to allow it sink into the soil and increase soil moisture	-0.153	-1.591	0.115
Erosion control by terrace	-0.181	-1.914	0.058*

**Significant at ≤ 0.05 level, *Significant at < 0.10 level.

Occurrence of household food insecurity

Consequently, Table 5 shows that slightly more than half (50.4%) of the households are food insecure, while 49.6% are food secure. Thus, it can be inferred that although, the gap between food secure and insecure households is closed but there is occurrence of food insecurity in the study area. This suggests that if adequate information on sustainable agricultural practices is disseminated, and more farming households are involved in the practice of sustainable agriculture, occurrence of food insecurity will reduce. This corroborates Nata *et al.* (2014) who posited that promotion and adoption of sustainable farm practices offers an opportunity to improve productivity and income substantially, and reduce food insecurity.

Table 8: Categorization of respondents' household food security status (N= 117)

Food security status	Frequency	Percentage
Food secure (below mean)	58	49.6
Food insecure (above mean)	59	50.4

Source: Field survey, 2018mean = 8.33

CONCLUSION AND RECOMMENDATION

The study concludes that there was a slight occurrence of food insecurity. Practice of mulching, and erosion control by terrace would have significant effect on household food security. The rural households had low awareness of sustainable agricultural practices. Despite respondents' involvement in some of the sustainable agricultural practices available, generally, there was low involvement in sustainable agricultural practices. Also, the study signifies that the more the rural households involved in sustainable agronomic practices, the less the occurrence of food insecurity. The study thus, recommend that awareness and training should be facilitated on mulching, composting and erosion control by terrace to enhance food security in the study area.

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CASHEW FARMERS' PREFERRED SOURCES OF INFORMATION IN IBARAPA CENTRAL LOCAL GOVERNMENT AREA OF OYO STATE, NIGERIA

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ABSTRACT
Farmers tend to be selective in their choice of information source based on their compatibility with their existing practices, societal norms among others. This study examined cashew farmers' preferred sources of information in Ibarapa central local government areas of Oyo State. A multi-stage sampling procedure was adopted to sample 70 cashew farmers association in the local government area. Structured questionnaire and interview schedule was used to elicit responses. Data were analysed using descriptive and inferential statistics (Chi square and PPMC) at p = 0.05. Mean age of the respondents was 32 years, most of the respondents (82.9%) were male, married (80.0%), Muslims (48.6%), and 34.3% had secondary education. Mean farming experience and household size are 14.4 and 6.5 respectively. Respondents' sources of information ranged from co-operative group (91.4%), cashew farmers association (75.7%), fellow farmers (55.7%) radio (50.0%) and mobile phone (40.0%). Respondents' most preferred source of information are extension agents (2.0), cashew farmers association (1.8), radio (1.0), and fellow farmers (0.9). The constraints encounteredwere unavailability of information source (2.0), inadequate extension agents (1.9) and inadequate capital (1.8) among others. Significant relationship existed between respondents' constraints encountered (r= -0.164) and their preferred source of information.It is concluded that the government should provide adequate extension agents for enhanced cashew production.
Keywords: Cashew, Information sources, Cashew farmers association, Extension agents

INTRODUCTION
Studies haves shown that the growth of cash crop such as cocoa, cashew, coffee, cotton, groundnut, palm kernel, rubber has contributed a lot to national development. Cashew (*Anacardium occidentale)*is an importantindustrial and export and has for many years been used for food and income generation. Information is vital in daily life and the major function of information is to increase the knowledge of the user in order to take a right decision and to reduce his level of uncertainty. There are various sources of information such as radio, television, extension workers, farmers associations among others but evaluating information source is an important process in development. Farmers must be able to evaluate the appropriateness of their information source before relying on the information. Studies reveal inadequate exposure of farmers to appropriate agricultural information as one of the major reasons for low yield recorded by many Nigerian farmers however, the problem might be because they do not like the kind of information sources available to them. The information sources available to them may not meet their felt needs, contradict their existing practice, societal norms, values or belief or they may believe the source is not credible, hence this study. Specifically, the study addressed some research questions by considering the following objectives: determine the socioeconomic characteristics of cashew farmers, identify the agricultural information sources available to cashew farmers, ascertain information sources preferred by the respondents, determine whether the farmers are getting adequate information from these sources and identify the constraints faced with regards to information sources in the study area.

METHODOLOGY
This study was carried out in Ibarapa Central Local Government area of Oyo State, Nigeria. The study population were registered cashew farmers with cashew farmers association in Ibarapa central local government area of Oyo state. A multi-stage sampling procedure was adopted to sample the respondents for this study. The local government has 10 wards. The first stage involved random selection fifty percent of the wards to give five wards. The second stage involved systematic selection of 50% of members from cashew farmers' association members list in each ward. A sample size of 70 cashew farmers was used as respondents for the study. Data were collected through the use of structured questionnaire and interview schedule.Data collected were analyzed using descriptive statistics such as percentages, mean scores, frequency counts and inferential statistics such as Pearson Product Moment Correlation (PPMC) to analyze the hypotheses.

RESULTS AND DISCUSSION
Socioeconomic characteristics of respondents
Respondents had 32.4 years as the mean of years of age. This indicates that most of the respondents are adults in their active and reproductive years, which will enable them to carry out farm activities effortlessly. Most (82.9%) of the respondents were male in the study area. This implies males are more involved in cashew

production than females in the study area. Most of the respondents (80.0%) were married. This implies they held marriage as a very serious institution in the study area. Respondents had 6 years as the mean of years of formal education which implied that they were fairly educated. The educational status of the respondents in this study might also influence their preferred information source**.** Majority (60.0%) of the respondents had their household size ranging from 6-10 persons. This implies that respondents have access to family labour for increased production. Likewise respondents had 14 years as their mean years of farming experience and this implies that cashew production is a long age farming activity in the study area.

Sources of information

Result in Table 2 reveals source of information. Co-operative group and cashew farmers association appeared to be the most common source of information as 91.4% and 75.7% of the respondents claimed to obtain information from them while the least patronized source was from film show (2.9%). This could be simply because of challenge of energy failure in the study area.

Preferred source of information

Table 3 shows the respondents' preferred source of information in the study area. It reveals that preferred source of information was more on extension agents (2.0), cashew farmers association (1.8) and co-operative group (1.7). The result negates the findings of Okoedo-Okojie (2015) who posited radio, fellow farmers, poster and bill boards respectively as the most highly preferred as agricultural information source.

Table 3: Distribution of respondents based on preferred source of information

Source	Not Preferred	Preferred	Mostly Preferred	Weighted mean score	Rank
Extension agent	10.0	40.0	50.0	2.0	1st
Cashew farmers Association	8.6	54.3	37.1	1.8	2nd
Co-operation group	8.6	64.3	27.4	1.7	3rd
Radio	47.1	35.7	17.1	1.0	4th
Fellow farmers	55.7	25.7	18.6	0.9	5th
Mobile phone	61.4	21.4	17.1	0.8	6th

Source: Field survey, 2018

Constraints faced by respondents with regards to information sources

According to Table 4, constraints that were mostly encountered by the respondents were those on unavailability of information source (2.0), inadequate extension agents (1.9) and inadequate capital (1.8).

Table 4: Distribution of respondents based on constraints faced by respondents

Constraints	Not a Constraint	Mild Constraint	Severe Constraint	Weighted Mean score	Rank
Unavailability of source type	15.7	27.1	57.1	2.0	1st
Inadequate Extension Agents	17.1	30.0	52.9	1.9	2nd
Inadequate capital	32.9	8.6	58.6	1.8	3rd
Illiteracy	27.1	30.0	42.9	1.7	4th
Poor power supply	35.7	15.7	48.6	1.6	5th
Local leaders holding relevant information	24.3	45.7	30.0	1.5	6th

Source: Field survey, 2018

Constraints and preferred source of information

The result in Table 5 reveals that there was significant correlation betweenrespondents' constraints and their preferred source of information.This implies that constraints the respondents faced influence their preferred source of information.

Table 5: Correlation between respondents' constraints and their preferred source of information

Variable	r-value	p-value	Decision
Preferred source of information	-0.164**	0.000	S

** Correlation is significant at the 0.01 level (2-tailed).

Source: Data analysis, 2018

Implications for extension service

The revelation in this study, that the cashew farmers have source preference for extension agents but get inadequate information from them is a challenge to extension professionals in Oyo State and as such, there is a need to take special measures to meet the farmers source preference. Reaching out to the audience through adequate extension agents will help to spread information and this simple measure can go a long way in fulfilling needs of farmers and giving them a better chance at succeeding as a farmer.

CONCLUSION AND RECOMMENDATION

It is concluded that respondents got adequate information through cooperative groups, cashew farmers association, fellow farmers, radio and mobile phone. The preferred sources of information were extension agents, cashew farmers association, radio, fellow farmers, and mobile phone. It was recommended that there should be provisions of adequate extension agents for enhanced cashew production.

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FACTORS ASSOCIATED WITH EFFECTIVENESS OF UNIVERSITY-BASED RURAL DEVELOPMENT OUTREACHES IN SOUTHWESTERN NIGERIA

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ABSTRACT

The study investigated factors associated with effectiveness of University-Based Rural Development Outreaches (UBRDOs) in Southwestern, Nigeria. A total of 336 outreach beneficiaries were interviewed for the study via structured and pre-tested interview schedule, in the two purposively selected UBRDOs using a multistage sampling procedure. Data collected on socio-demographic characteristics of outreach beneficiaries and factors associated with effectiveness of UBRDOs were analysed using descriptive statistics and factor analysis respectively. The mean age of the respondents was 52.4±6.2 years. A higher percentage (75.6%) got information about UBRDOs through their community leaders and all (100%) respondents interviewed participated to better their lot in life. The study revealed that the outreaches were effective. Factors associated with effectiveness of UBRDOs were socio economic related (λ= 1.9622), outreach personnel related (λ= 1.6744), institutional (UBRDOs) related (λ= 2.6458) and community related (λ= 0.9274) factors. The factors identified explained 83.50 percent of the variance in effectiveness of UBRDOs in Southwestern Nigeria. Based on the findings of the study, it is recommended that efforts and resources should be mobilized by the outreach administrators towards the factors associated with effectiveness of UBRDOs.

Keywords: University-based outreaches, Community leaders,Rural development.

INTRODUCTION

The University-Based Rural Development Outreaches (UBRDOs) are borne out of the need for universities to fulfill their social corporate responsibility to the immediate environment/communities who host them. The outreaches were modeled after the Cooperative Extension System of the United States and tagged as part of the third role of the tripartite roles (teaching, research and community service) of universities.

Several authorities have carried out studies on UBRDPs. For instance; Okunade (2007) who determined the accessibility of agricultural credit and inputs to women farmers of Isoya Rural Development Project; Adisa and Adeloye (2013) who examined the organisation and management of farmers' groups under Isoya rural development project.Adeloye and Adisa (2015) studiedgender-sensitivity in the extension activities of UBRDOs in Southwestern Nigeria; and Adeloye (2016) who established the effectiveness of UBRDOs in Southwestern Nigeria.

While findings of some of the studies acknowledged the prospects and effectiveness of the programmes, none of the study focused on factors associated with effectiveness of the programmes. Therefore, there is need to fill the existing gap of identifying factors associated with effectiveness of UBRDOs in the study area. It is against this backdrop that this study was set to isolate those factors that determine the effectiveness of UBRDOs in Southwestern, Nigeria.

The specific objectives of the study were to

i. describe the socio-demographic characteristics of the beneficiaries of UBRDOs;
ii. identify rural development programmes facilitated by UBRDOs; and
iii. isolate factors associated with effectiveness of UBRDOs in the study area.

METHODOLOGY

The study was carried out in communities in southwestern Nigeria under the coverage of the UBRDOs, due to the fact that there is high concentration of the projects in the zone.A multi-stage sampling procedure was used to select respondents (projects beneficiaries) for the study. At first stage, two UBRDOs were purposively selected from the zone based on full spring activities going on in the outreach communities, that is, Isoya and AMREC model villages' development projects (covering 24 and 58 communities, respectively);

Finally, at third stage, a systematic random sampling technique, with a random start at an interval of two using beneficiaries' register as sampling frame was used to select 336 beneficiaries (240 and 96 beneficiaries from AMREC and Isoya projects respectively) for the study. Data for this study was collected via structured and pre-tested interview schedule. Data collected on socio-demographic characteristics of UBRDOs beneficiaries and factors associated with effectiveness of UBRDOs were analysed using descriptive statistics and factor analysis respectively.

RESULTS AND DISCUSSION

Socio-demographic characteristics of the respondents

Results in Table 1 reveals that the mean age of the respondents was 47.5 with standard deviation of 15.8. This implies that the respondents comprised people of active minds and bodies, which might be versatile in making use of production technologies disseminated to them by the outreach. About half (52.3%) of them was male, this results indicates that the outreaches were gender sensitive. Since only few (8.6%) were not having formal education; it implies that majority were literate. The implication of this submission is that respondents are likely to be more receptive of innovations, improved practices and new ideas introduced to them. In addition, the result indicates that information about UBRDOs in the study area was mainly through outreach's personnel (75.6%), community leaders (74.7%) and media (71.4%). Furthermore, the respondents participated in the outreach to better their lot in life, this is a departure from previous reasons for participating in development outreaches (mere interest and leisure) as reported by Olujide and Adeogun (2006). Also the idea of anything coming from universities (69.8%) is authentic and laudable was strong in the study area.

Table 1: Socio-demographic characteristics of the respondents, n= 336

Variables	Frequency	Percentages	
Age (years)			
Below 16	71	21.3	Mean= 52.4
16-35	108	32.1	Standard deviation=15.8
36-55	140	41.6	
Above 55	17	5.0	
Sex			
Male	176	52.3	
Female	160	47.7	
Years of formal education			
No formal education	29	8.6	
1- 6	68	20.2	Mean= 9.3
7-12	178	52.9	Standard deviation= 3.9
Above 12	61	18.3	
***Sources of information about the projects**			
Project staff	254	75.6	
Neighbours	201	59.8	
Friends	132	39.3	
Community leaders	251	74.7	
Media	240	71.4	
***Reasons for participation in the projects**			
To make ends meet	252	75.0	
Personal interest	203	60.4	
For leisure	84	25.0	
To better my lot in life	336	100.0	
Universities being the anchor	236	69.8	

*Multiple responses
Source**:** Field survey, 2017

Identification of rural development programmes facilitated by the outreaches

Results in Table 2 show that nineteen (19) rural development programmes facilitated by the outreaches in the study area, for the past five years, were identified by the respondents. It was also revealed that all the respondents indicated that the outreaches facilitated production inputs sourcing and procurement, workshop on storage, processing and utilisation of agricultural produce, workshop on income generating activities and linkage with collabourating agencies; also 88.1 percent of the respondents indicated that the outreaches facilitatedcooperatives formation programmes; while few (25%) of the project beneficiaries indicated that the outreaches undertook adult education and agriculture in secondary schools.

This finding implies that inputs sourcing and procurement, workshop on storage, processing and utilisation of agricultural produce, workshop on income generating activities linkage with collabourating agencies and cooperatives formation were the main rural development programmes facilitated by the outreaches in the study area.

Table 2: Selectedrural development programmes facilitated by the outreaches, n= 336

Rural development programmes	*Frequency	Percentages
Production inputs sourcing and procurement	336	100.0
Workshop on storage, processing and utilisation of agric. produce	336	100.0
Workshop on income generating activities	336	100.0
Linkage with collabourating agencies	336	100.0
Cooperatives formation	296	88.1
Land utilisation programme	286	85.1
Agricultural programmes on media like radio	254	75.6
Training on loan management	252	75.0
Training on water purification with moringa	252	75.0
Introduction of vitamin A fortified cassava	252	75.0
Cassava: Adding Value to Africa (C:AVA)	240	71.4
Workshop on personal cleanliness and hygiene	240	71.4
Training on drug use, misuse and abuse	240	71.4
Diagnostic survey	177	52.7
Workshop on parenting and marital stability	172	51.2
Free medication like analgesics, haematinics	156	46.4
Vocational training on liquid detergent making	141	42.0
Adult literacy	84	25.0
Agriculture in secondary school	84	25.0

* Multiple responses
Source: Field survey, 2017

Factors associated with effectiveness of UBRDOs

The results in Table 3 revealed that the factors loaded explained 83.50 percent of variance, while unknown factors explained the remaining 16.50 percent of variance.

Table 3: Factor names and percentage variation accounted for by each factor associated with effectiveness of UBRDOs

Factors	Name	% Variance	Comm. % var.
1	Socio economic	21.80	21.80
2	Outreach' personnel	19.20	41.00
3	Institutional (UBRDOs)	32.20	73.20
4	Community related	10.30	83.50

Source**:** Field survey, 2017

CONCLUSION AND RECOMMENDATIONS

Based on the findings of the study, it was concluded that socio-economic, outreach personnel, institutional and community factors among others are associated with effectiveness of UBRDOs. It is therefore recommended that efforts and resources should be mobilized by the outreach administrators towards the isolated factors associated with effectiveness of UBRDOs.

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SOCIOECONOMIC CHARACTERISTICS OF FARM HOUSEHOLDS INBORGU SECTOR OF KAINJI LAKE NATIONAL PARK SUPPORT ZONE, NIGER STATE, NIGERIA

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ABSTRACT

This study assessed socioeconomic characteristics of farm households in Borgu Sector of Kainji Lake National Park (BS-KLNP) Support Zone Communities, Niger State, Nigeria. The multi-stage sampling procedure was used to select 123 respondents. A structured questionnaire was used to elicit information from the respondents on the basis of the objectives of the study. Descriptive data analysis was done. The mean farming experience, household size, annual net farm income, total farm size of the households were 20 years, 7 members, N130,481 and 6.98 ha respectively. The results identified three household groups. The first group (39.8%) were households that had a bigger farm size (7.90 ha) and higher annual net farm income (N189,358). The second group (28.5%) were households that had a bigger farm size (7.32 ha) and moderate annual net farm income (N132,057). The third group (31.7%) were households that had a smaller farm size (5.22 ha) and low annual net farm income (N97,144). Kruskal Wallis Test showed significant differences ($p<0.05$) in the farming experience ($\chi^2=45.38$), household size ($\chi^2=11.78$), annual net farm income ($\chi^2=84.73$), total farm size($\chi^2=86.82$), age of the household head ($\chi^2=37.84$), period of residency($\chi^2=14.72$), distance of farm(s) to market($\chi^2=12.10$) and home to market(s)($\chi^2=4.16$) across the identified three groups of households. The major policy implication of these results is thatbearing in mind the socio-economic characteristics of farmers in designing agricultural programs would improve food production and provide a basis to select farm households for food production programs.

Keywords: Kainji Lake National Park, farm households, hierarchical cluster analysis

INTRODUCTION

Most challenges faced by smallholderfarms are common across spatial and temporal divides, theinteraction of biophysical and socio-economic factors results in the heterogeneity of farm types or typologies withinand across landscapes. Soil types and fertility management have culminated in soil heterogeneity within and across farms (Masvaya et al., 2010), while resource endowment, land holdings, production orientation and objectives further compound the stratification of farms into complex, dynamic and diverse farm typologies (Kuivanen et al.,2016). Envisaged impacts of technologies are often not realised in most smallholder farming systems in the developingcountries, because they repeatedly fail to match the complexity and diversity of the farming systems (EmtageandSuh,2005).

METHODOLOGY

This study was conducted in the Support Zone of the Borgu Sector of Kainji Lake National Park. It lies between 9^0 40'–10^0 30' N and 3^0 30' – 5^0 50' E. It is 3,970 km^2 in size. The Support Zone of the Borgu Sector of Kainji Lake National Park is a 0 - 15 km border surrounding the park; created to focus conservation and development assistance on those villages who bear the brunt of impacts arising from creation of National Park close to them and whose income and livelihood have been adversely affected by the creation of the park. The objective of the Support Zone was to protect and maintain the biological diversity and other natural values of the area in the long–term, promote sound management practices for sustainable production purposes and protect the natural resource base from other land-use purposes that will be detrimental to the areas biological diversity, and also to contribute to local development of the Support Zone communities.

A structured questionnaire was administered to household heads in selected communities in the support zone of the Borgu Sector of Kainji Lake National Park without gender discrimination. The households' selection was through multi-stage random sampling. A list of communities was provided which included Dekala, Doro, Duruma, Gada-Oli, Gulubi, Kemenji, Kuble, Kwasare, Leshigbe, Loko-mini, Luma, Kali, Malale, Medenge, Nanu, New Kali, Nuku, Sansani, Shagunu, Tenebo, Tinibu, TunganMaje, Vera, Wawa, Woro and Woromakoto communities respectively. This constituted the sample frame of the Borgu Sector of Kainji Lake National Park.

The first stage involved is sectionalizing the study area into four sub-areas and thereafter identifying the food crop farming communities that are within 15 Kilometre borders of the surrounding four sub-areas of the Borgu sector boundary of Kainji Lake National Park. Following this, 5 communities was selected using simple random sampling method in each sub-area while twenty households was further selected in each community using simple random sampling method. In all, questionnaire was administered to 155 households in 14 communities. However, data from 123 households were later used for data analysis due to the filtration of outliers in the data set.Hierarchical Cluster Analysis was used to analyze the data collected.Kruskal-Wallis test was used test for a

difference in distributions (medians) of the cases for the different cluster groups.

In other to acquire similarity of household variables bases on 4 direct related variables to land use characters, cluster analysis was performed. Cluster method used was within-group linkage and squared Euclidean distance was the interval method used in carrying out the analysis.

A cluster analysis was undertaken based on data collected from food crop farming households in Borgu sector of Kainji Lake National Park Support Zone, Niger state. The criteria used in the cluster analysis to create the typologies included data of the:

- Number of members of the household;
- Size of the area of land used by the household for food crop farming;
- Number of years of farming experience of household head; and
- Total households' income that is derived from farming.

Respondents' scores on the above variables were standardised by converting them into Z scores for use in K-means cluster analyses.

RESULTS AND DISCUSSION

The dendrogram is a visual representation of the steps in a hierarchical clustering solution that shows the clusters being combined and the values of the distance coefficients at each step.

This was to work out the best way to allocate cases to clusters.It shows the length of the branch showing how far apart each caseis from the other cases in its cluster. Cases with low distance/high similarity are close together. Based on this, the households' groups were categorised on their total farm size and total farm income. This is as shown in the entries in Figure 1.

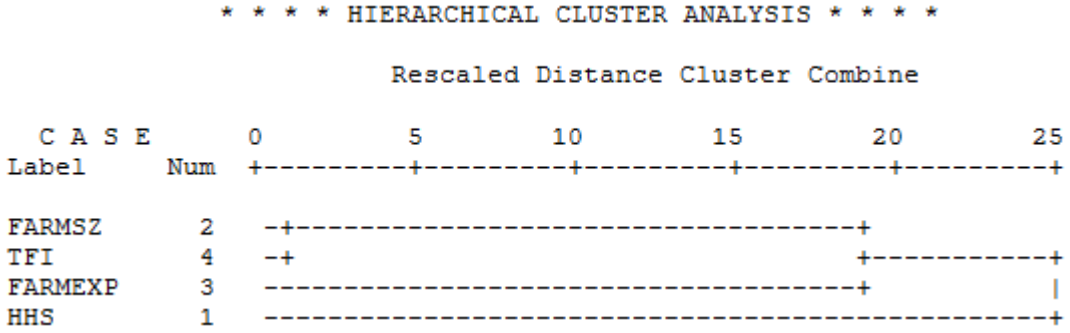

Figure 1: Dendrogram using Average Linkage (Within Group)

Typology of households based on thefactors of farm production

Findings in Table 1 showedthe identified three household groupswhich their population wasdistributed relatively evenly between the groups. Households in group 1 are categorised to have large farm size and high total farm income. Households in group 2 are categorised to have large farm size and moderate total farm income. Households in group 3 are categorised to have small farm size and low total farm income.

The results showed that households in groups 1 and 3 have similar level of reliance on farming experience for their farm production and cash income while households in group 2 had a much higher farming experience than the mean farming experience.

Households in group 1 had few household members while group 2 households had an equivalent of the mean household size. The household size of households in group 3 was found to be equivalent to a summation of households' size in group 1 and 2.

Households in group 1 had a higher total farm income than those in groups 2 and 3 whereas households in group 3 have lower incomes than all of the other groups.However, group 3 total farm income was lower compared to themean total farm income.

Households in group 1 had larger farm size whereas group 2 households had a farm size almost the size of the mean farm size. The farm size of households in group 3 had a smaller farm size.

Table 1: Values of variables used as criteria in the cluster analysis to create the typology

Variable	Clusters			$\bar{x}$(n=123)	χ^2	Sig. level
	1 (n=49)	2 (n=35)	3 (n=39)			
Farming experience (Years):	18.19	31.22	16.49	20.11	45.38	Sig.
Household size (Members):	4.35	7.52	11.68	7.15	11.78	Sig.
Total farm income (100,000 Naira):	1.89	1.32	0.97	1.30	84.73	Sig.
Total Farm size (Ha):	7.90	7.32	5.22	6.98	86.82	Sig.

NOTE: $p < 0.05$

Table 2 presented the differences between the identified household groups vis-à-vis other characteristics attributed them.The results revealed that there are significant differences in the age of the household head, their period of residency of household and distances of home to farm(s) and home to market(s) across three types of household.

The age of household heads of groups 1 and 2 are older than the mean age. However, the location of farm(s) of the households in group 3 are closer to the market(s) while the homes of household heads in groups 1 and 2 are closer to the market(s). On the other hand, households of groups 1 and 2 had resided much longer in the support zone communities as compared to the households of group 3.

Table 2: Characteristics of Household

Characteristics	Clusters			$\bar{x}$ (n=123)	χ^2	Sig. level
	1 (n=49)	2 (n=35)	3 (n=39)			
Age of household head (Years):	42.55	48.50	36.77	41.3	37.84	Sig.
Av. Dist. of home to farm(s) (km):	3.81	4.00	3.53	3.74	8.77	Not Sig.
Av. Dist. of farm(s) to market (km):	6.70	9.88	5.91	6.83	12.10	Sig.
Av. Dist. of home to market (km):	7.36	20.00	5.26	8.27	4.16	Sig.
Period of residency (Years):	35.83	23.88	10.35	25.37	14.72	Sig.

Note: $p < 0.05$

Kruskal Wallis Test showed significant differences ($p<0.05$) in the farming experience ($\chi2=45.38$), household size ($\chi2=11.78$), annual net farm income ($\chi2=84.73$), total farm size ($\chi2=86.82$), age of the household head ($\chi2=37.84$), period of residency($\chi2=14.72$), distance of farm(s) to market ($\chi2=12.10$) and home to market(s) ($\chi2=4.16$) across the identified three groups of households.

CONCLUSION AND RECOMMENDATIONS

This study has made contributions to research on the typology of food crop farming households' in Kainji Lake National Park Support Zone Communities, Niger State, Nigeria. It showed and provided additional insights intoclassifying households based on their characteristics. It wasestablished that households'total farm size and income are the major determinants of classification of in the study area. Also, the study has underlined the heterogeneity of farmhouseholds with regards to the age of household head, age of the household head, their period of residency of household and distances of home to farm(s) and home to market. As some categories of households have better characteristics thanothers, extension communications and policies should be morefocused on specific groups, such as these three household categories. From this study, it can be concluded that classification statistical technique such as Hierarchical Cluster Analysis is a suitable tool for identifying important characteristics oftypical farm households that underlie them. Differentiation of typical farm householdswould help inthe construction of mathematical programming models onthe basis of typical farm households, which is the next stepin terms of further research.

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YOUTHS' PERCEPTION TOWARDS YOUTH COMMERCIAL AGRICULTURE DEVELOPMENT (YCAD) PROGRAMME IN EKITI STATE, NIGERIA

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ABSTRACT
This study determined the perception of youths towards Youth Commercial Agriculture Development (YCAD) programme in Ekiti State, Nigeria. A multistage sampling procedure was used to select 118 youths as study sample. A structured questionnaire, duly pre-tested and validated was used to elicit information on the socio-economic characteristics of the respondents, their perception toward the programme and the type of activities they were involved in. Data collected were analysed using descriptive frequency counts, percentages, mean) and chi square statistical tools. Results showed that average age of the respondents was 36 years, majority (83.1%) were male, all (100%) of the respondents had one form of education or the other. Findings also indicated that majority (87.5%) of the youth had favourable disposition towards youth commercial agricultural development programme. Based on the findings of the study that youth showed more interest in crop production than acquaculture and livestock production, government can organise programme in the latter areas to enhance greater participation.
Keywords: Youth, Youth Commercial Agriculture Development, crop production, aquaculture, livestock production

INTRODUCTION
In Nigeria, the issue of unemployment has continued to be a challenge to both the Federal and State Governments. Of greater importance are the facts that well over two-third of the world's poorest people is located in the rural areas and are engaged primarily in subsistence agriculture (Nwanyanwu*et al.*, 2014). The successive regimes at the Federal government level have introduced various agricultural development schemes with the aim of encouraging the youths and boosting food production and farmers' income through provision of agricultural infrastructure, inputs and effective extension work (Jibowo, 2005). Youth Commercial Agriculture Development (YCAD) programme was established in 2012 by the Ekiti Government through the Ministry of Agriculture and Natural Resources. It involves engaging the youths into commercial agriculture production. The core objective of the programme was to make agriculture a viable source of revenue and sustainable livelihood by ensuring suitable employement for the youths, food security, provision of industrial raw materials and poverty alleviation. On this basis, it is important to investigate youth perception towards the YCAD programme. The objectives of this study incude:toascertain the socio-economic characteristics of the respondents in the study area, examine the areas of agricultural production involved in by the respondents in the Youth Commercial Agriculture Development (YCAD) Programed and identify the agricultural activities carried out in the YCAD Programed.

METHODOLOGY
The study was carried out in EkitiState; a multistage sampling technique was used in selecting the respondents for this study. The first stage involved the purposive selection of six local governments out of the nine local governments where there was large number of participants. Stage two involved random selection of twelve farm centers out of six local government selected Stage three involved the random selection of four respondents from isinla and five respondents from IgbaraOdo for acquaculture, four respondents from Ile OnaAjebamidele and five respondents from Odo Ado were selected for livestock (poultry production), five respondents each from Ikole and Aramoko were selected for tree crop while fifteen respondents each from Orin, Iyemero, Osin, Oke-Ako, Igede and Ayede were selected for arable crop production. In total, 118 respondents were selected for this study.

RESULT AND DISCUSSION
Results in Table 1 reveal the that majority (84.8%) of the respondents were within the ages of 31-40 years, 14.4% were within 21-30 years and 0.8% was within 11-20 years. The average age of the respondents was 36 years. This implies that the respondents were young and still in their active age. This is in line with Chikezie (2012) that said majority of youth are at their productive age where their energies could be harnessed and utilised for productive ventures in agriculture.

Findings in Table 1 also reveal that majority (83.1%) of the participants while 16.9% were female. This could women restricted to domestic or household activities. This is similar to the findings of Muhammed –Lawal*et al*. (2009), which revealed that males are capable of doing more tedious work which is usually associated with farming than the females.

The result in Table 1 further shows that all (100%) the respondents had one form of education or the other. This is in support of Muhammed – Lawal*et al*. (2009), which stated that education is highly important for sustainable agriculture and growth and development because of youths' exposure to new innovations.

Table 1: Socio-economic Characteristics of the Respondents

Variables	Participants (n=118)		
	Frequency	Percentage (%)	Mean
Age (years)			
11-20	1	0.8	
21-30	17	14.4	
31-40	100	84.4	36
Sex			
Male	98	83.1	
Female	20	16.9	
Level of Education			
Primary school attempted	2	1.7	
Primary school completed	2	1.7	
Secondary school attempted	4	3.4	
Secondary school completed	25	21.2	
NCE/OND	20	17.0	
B.Sc/HND	62	52.5	
Masters	3	2.5	

Source: Field Survey, 2017

Areas of Agricultural Production involved in by the Youths

Entries in Table 2 revealed that all (100%) the youth embarked on cassava production, 85.6% were into maize production, 10% planted rice and 13.3% planted vegetable while 63.3% embarked on water melon production. Also, 90% and 60% of the youth embarked on palm tree and cocoa nursery operation respectively. Likewise, 55.6% and 100% of the respondents embarked on layers and broilers production respectively, while 100% of them were into aquaculture production. This implies that majority of the youth were involved in crop production compared to other areas.

Table 2: Area of Agricultural Production involved in by the Youths

Area of Agricultural Production	Frequency	Percentage
Arable Crop		
Cassava	90	100
Maize	77	85.6
Rice	9	10.0
Vegetable	12	13.3
Water melon	57	63.3
Tree crop nursery operation		
Palm tree	9	90
Cocoa	6	60
Livestock production (poultry)		
Layers	5	55.6
Broilers	9	100
Aquaculture	9	100

Source: Field Survey, 2017
*Multiple Responses

Respondents' Perception towards Youth Commercial Agriculture Development (YCAD) Programme

The chart below shows the perception of the respondents toward YCAD programme in the study area. The result shows that majority (87.5%) of the respondents had favourable perception towards the programme while 12.5% of the respondents had unfavourable perception towards the programme.

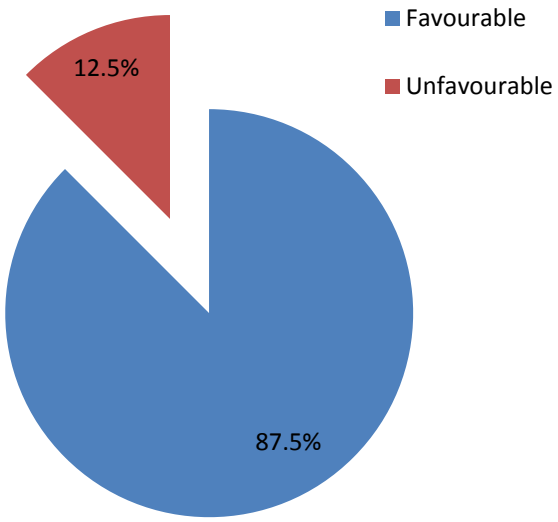

Figure 1: Respondents' Perceptional Index towards Youth Commercial Agriculture Development (YCAD) Programme

CONCLUSION AND RECOMMENDATION

Based on the findings of the study, it was concludedthat youth showed more interest in crop production than acquaculture and livestock production and that the programme helped in job creation, hence, the respondents' favourable perception.

The following recommendations were suggested:

1. It was observed that youths show more interest in crop production than aquaculture and livestock production. Government can organise programmes in the latter areas to enhance greater participation
2. Based on the finding of the study that majority (87.5%) of the respondents had favourable disposition toward Youth Commercial Agricultural Development Programed, government should encourage continuity of agricultural programmes.

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BENEFITS DERIVED FROM BANK OF AGRICULTURAL (BOA) FINANCIAL SERVICES AMONG CASSAVA FARMERS IN OYO STATE, NIGERIA

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ABSTRACT
This study assessed the accessibility and impact of Bank of Agriculture (BOA) among cassava farmers in Oyo State, Nigeria. Multi-stage sampling procedure was used to select 131 cassava farmers who had sought financial services from Bank of Agriculture in the past five years. Structured questionnaire was used to collect data on socio-economic characteristics, types of financial services received and constraints faced by the respondents. Data were analyzed using descriptive statistics.Results showed that the mean age of the cassava farmers was 43 years. Almost all (99.2%) of the respondents were able to secure financial services from the bank between 2 to5 times over the 5-yearperiod. Majority (96.2%) of the respondents claimed to have received financial assistance in form of credit facility and agric insurance policy. Major benefits derived from Bank of Agriculture by the cassava farmers were access to credit ($\bar{x}$= 4.74),increase in production ($\bar{x}$=4.39) and increase in farm size ($\bar{x}$ = 3.57).Major constraints to accessing financial services from BOA by cassava farmers were untimely disbursement of credit ($\bar{x}$ =3.96), stringent eligibilitycriteria ($\bar{x}$ =3.37) and unfriendly repayment mode ($\bar{x}$ =2.85). The overall benefits derived by the cassava farmers from BOA financial services was adjudged low with 93.9% of the respondents derived benefit mean score of ≤ 39 of 69 maximum score range. The study concluded that increase in production output/yield and expanded farm holding were major benefits derived from BOA financial services by the cassava farmers. The study recommended that adequate training of cassava farmers on the available services of BOA and review of eligibility requirement for financial assistance will enhance their access to credit.

Keywords: Credit, Unfriendly repayment mode, Financial services, Cassava farmers, and Bank of Agriculture (BOA)

INTRODUCTION
The global food price crisis has moved agricultural finance on top of African and international development agenda. Agricultural production needs to increase by 70 percent by 2050 to feed the world, while climate change and urbanization will heavily reduce the area of cultivable land. One key solution lies in financing agricultural production. Agriculture will, and continues to be a major building block in economic success and the achievement of the Millennium Development Goals (MDGs) in most of Africa countries (Making Finance Work for Africa – (MFWA), 2012). The overarching strategy of the cassava transformation is to turn the cassava sector in Nigeria into a major player in local and international starch, sweeteners, ethanol, high quality cassava flour and dried chips industries by adopting improved production and processing technologies, and organising producers and processors into efficient value-added chains (Federal Ministry of Agriculture and Rural Development (FMARD), 2012). Commercial cassava production in Oyo state, the project, known as Cassava Vanguard Farm Project, was officially launched at the Oyo State Agricultural Development Project's Farmers' hall in Oyo town in September, 2013. The relevance of this approach to rural finance rose from the gradual emergence of integrated rural development operations between the agriculture and financial sectors to facilitate the flow of commodities and services from producers to consumers within the activity clusters and sub-sectors. This study aims to empirically investigate whether cassava farmers have access to financial services of the Bank of Agriculture, identify forms or ways at which cassava farmers received financial services on their production activities and to generally access the impact of BOA financial services on cassava farmers' production activities.

METHODOLOGY
Oyo State covers a total land mass of 28,454 square kilometers. It is bounded by Ogun State in the South and Kwara State in the North. To the west, it is bounded partly by Ogun State and partly by the Republic of Benin, while in the East it is bounded by Osun State. The sampling frame of the study was 262 cassava farmers. This constitutes the list of cassava farmers in Nigeria Cassava Grower's Association (NCGA), Oyo State Chapter who had in the last five years benefited from BOA financial services. Multi-Stage sampling technique was used to select the respondents. At the first stage, the three (3) senatorial district in the state comprising 33 local government area were purposively selected; each L.G.A has a chapter of NCGA and within each of the three senatorial districts, a branch of BOA is strategically located. At the second stage, Nigeria Cassava Growers

Association (NCGA) chapter at which a branch of Bank of Agriculture were located within the three (3) senatorial were purposively chosen to have; Iseyin L.G.A chapter of NCGA, Oyo East L.G.A chapter of NCGA and Ibarapa Central LGA chapter of NCGA at each of these selected LGA is a Bank of Agriculture Located. In Iseyin L.G.A chapter of NCGA there are 140 registered cassava farmers; Oyo East L.G.A chapter of NCGA has 60 registered cassava farmers and Ibarapa Central L.G. A chapter of NCGA has 62 registered cassava farmers. At stage three, simple random sampling technique was used to select 50% out of all the NCGA members that have benefited from BOA financial services in the last five years from the three (3) selected branches to have 70 respondents from Iseyin, 30 respondents from Oyo East LGA and 31 respondents from Igboora LGA to have a sample size of 131 cassava farmers.

RESULTS AND DISCUSSIONS

Socioeconomic characteristics of cassava farmers

Resultsfrom Table 1 indicate the mean age of the cassava farmers to be 43 years. Most (70.2 %) of the respondents were in the age group of 41-50 years of age. Majority (92.4%) of the respondents were male, while 7.6% were female. This implies that arable crop farming (particularly cassava farming) in the study area is predominantly male dominated. This result is in line with Food and Agriculture Organisation, FAO (2004) that noted low participation of women in arable crop production as a result of lack of access to credit and membership in rural organisations which has adversely affected the access of women farmers to agricultural inputs and technologies. The mean years of experience of the cassava farmers were 17 years. Majority (81.7%) of the farmers cultivated farmlands ranging from 1 to 5 hectares and thus could be referred to as small scale farmers, while few (18.3%) farmers practiced large scale farming of 6 to 10 hectare. Furthermore, the mean cost of production per hectare of the respondents in the study area was estimated to be ₦43, 610.69. Most (74.8%) of the respondents had production cost per hectares ranging from ₦14, 000-₦60, 000 while 3.1% claimed to produce within the range of N61, 000-N80, 000 per hectare.

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

Characteristics	Frequency	Percentage	Mean/Mode
Age [years]			
31-40	37	28.2	
41-50	92	70.2	
51-60	2	1.5	**42.8± 0.05**
Sex			
Male	121	92.4	
Female	10	7.6	**Male**
Farming experience [years]			
1-5	1	0.8	
6-10	1	0.8	
11-15	14	10.7	
16-20	105	80.2	
21years above	10	7.6	**16.7±0.03**
Farm size [Ha]			
01-May	107	81.7	
06-Oct	27	18.3	**4.77± 0.02**
Cost of production [Hectares]			
N20, 000- N40,000	65	49.7	
N41, 000-N60,000	98	74.8	
N61, 000-N80,000	4	3.1	**₦43,610.69**
Tone produced [Hectares]			
6-10tones	131	100	**6.79**
Banking experience with BOA			
1-5years	76	58	
6-10years	55	42	**5.49**

Source: Field survey, 2014
*Multiple Responses

Overall perceived benefit derived from financial services of BOA to production activities of the cassava farmers

Results from Table 5 show the overall perceived benefit of the Bank of Agriculture to production activities of the cassava farmers in the

study area. From the study, it can be inferred that BOA financial services is directly based to credit/loan facility and has under estimated activities of value chain financial service scheme, that is, credit facility coupled with extension service and other value added services will not only lead to the enhancement of on-farm capitalization but also give room for better farm management and a more efficient utilisation of resources.

Table 5: Overall perceived benefit derived from financial services of the Bank of Agriculture on production activities of the cassava farmers

Variable	Frequency	Percentage
Low Perceived Benefits (13 - 39)	123	93.9
High Perceived Benefits (40 - 65)	8	6.1
Total	131	100

Mean = 39; Minimum Score = 13; Maximum Score = 65
Source: Field survey, 2014

CONCLUSION AND RECOMMENDATION

Government aid financial programme such as BOA compare with other sources of financial services in terms of services provided is more or less subsidized and aid to boost the agriculture sector. BOA financial services is directly based on credit/loan facility and has under estimated activities of value chain financial service scheme, coupled with extension services and other value added services will not only lead to the enhancement of on-farm capitalization but will also give room for better farm management and a more efficient utilisation of resources. It is on the knowledge gap findings that the study recommend adequate training of cassava farmers on the available services of BOA and review of eligibility requirement for financial assistance will enhance their access to credit.

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ASSESSMENT OF INFORMATION NEEDS OF CASSAVA PROCESSORS ON TURNING WASTE TO WEALTH IN OYO METROPOLIS, OYO STATE, NIGERIA

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ABSTRACT
Access to information is crucial for agricultural development, attainment of sustainable and economic goals by practitioners such as cassava processors. The study assessed information needs of cassava processors on turning cassava peels to wealth in Oyo State, Nigeria. The population for the study was cassava processors in Oyo metropolis. Purposive and simple random sampling techniques were used in selecting a total sample size of 132 respondents. A well-structured interview guide was used for data collection on socio-economic characteristics, sources of information, information needs and constraints to turning cassava peels into wealth. Data collected were analysed using descriptive statistics. Result shows that majority of the respondents were female (87.8%), while 84.8% were married with a mean age of 43 years. Further analysis reveals that majority (54.5%) were engaged as labourers that often use the peel as an additional income. All the respondents (100%) used sun which was the only available means of drying the peel. The major constraints faced by the respondents include; lack of dryer (100%) for processing especially during the raining season, poor access to finance (95.4%) and marketing (90.9%) The study also found out that processors need information on how to acquire dryer (92.4%) and source for fund (89.3%) The study therefore, recommended that extension agents in the study area should pay regular visit to the respondents and adequately inform them on how to access, fund, dryer and market links. This will enhance processors' income; reduce environmental pollution and health hazard.
Keywords: Information needs, Cassava Processors, Cassava Peel, Waste, Wealth Creation

INTRODUCTION

Access to information is very crucial for agricultural development in general and attainment of sustainable and economic goals by its practitioners. Dissemination of relevant information on agricultural enterprise becomes essential as the sector employs about 58% of the economically active population, contributes 40% of the GDP and 52.8% of export earnings FAO (2017). Also, it contributes to provision of food and raw materials to meet the growing demand of the economy. However, agriculture is still dominated by subsistence farmers who produce more of foods crops in order to survive. One of the major food crops produced in the country is cassava as it is a staple food. (FAO, 2007) signified that Nigeria is the world largest cassava producer and its transformation is the most advanced in Africa. Cassava master plan 2006 (online) also indicated that Nigeria currently produces about 38 million metric tonnes (MT) per annum; a figure expected to double by 2020.

Cassava is rarely consumed as tuber but processed into higher value food and industrial products, such as noodles, glucose, maltose and textile starch. Its transformation generates a wet cassava peel which is mostly discarded as waste in refuse dumping grounds at the processing centres, road sides and in rivers (Ewen, 2017). The peels often constitutes nuisance to the environment due to generation of offensive odour and emission of carbon monoxide thereby causing pollution, environmental degradation and health hazards. Whereas, if cassava peel is well managed, processed and sold, it would contribute largely to the income of the processors and provide additional economic options for livestock and fish producers when converted to animal feed (IITA, 2013). Various technologies are recently developed from cassava peels to boost its utilisation. Availability, adoption and use of relevant information on processing of cassava peel will ensure adequate protection of the environments, promotion of good health and enhancement of wealth creation by the processors instead of polluting the nearby air, soil, groundwater and wasting a potential feed source (Stapleton, 2015). Information access is very imperative in agricultural enterprises. It is in this vein that this study investigated the information needs of cassava processors on turning cassava waste to wealth in Oyo State.

The objectives of the study were to:

1. describe the socio-economic characteristics of the respondents
2. assess the information needs of cassava processors on turning cassava peels into wealth
3. assess the sources of obtaining information by the respondents in Oyo
4. examine the constraints of tuning cassava peels into wealth by cassava processors.

METHODOLOGY

The study was carried out in Oyo state, Nigeria. The state is located on latitude 7,460N and longitude 3,500Ein southern part of Nigeria. The state covers an area of 28,454 square kilometres. Oyo state had a population of 5,591,585 people (NPC,2006). The study was carried out in Oyo metropolis of Oyo state, Nigeria. Farming is the major occupation of the people in the area. The selection of Oyo metropolis was based on the

intensity of cassava production and processing in the area. A list of five hundred and twenty eight (528) cassava processors in Oyo metropolis was generated from Oyo ADP out of which one hundred and thirty two processors (132) were randomly selected for the study. Data was collected with the use of well-structured interview guide and analysed using descriptive and inferential statistics. Simple frequency counts, percentages and mean were used to summarise the data.

RESULTS AND DISCUSSION

Socioeconomic characteristics

Data in Table 1 revealed that the mean age of the respondents was 43.3 years. Majority (84.8%) were married, (87.9%) were women while (51.5%) were Muslim and (48.5%) were Christian. This is an indication that female dominated the enterprise. The result also showed that (40.2%) has no formal education, (43.9%) had primary education and (15.9%) had secondary education. About half (50.8%) of the respondents had 4-6 people, 17.4% had 1-3 people and 31.8% had 7-9 people in their household respectively. More than half (51.5%) had 3-4 years of experience in the business, 31.1 per cent had 1-2 years while 13.6 per cent had 5-6 years and only 3.8% had 7 years and above experience on the business which indicates that cassava peels processing is a new area of income generation that need to be properly harnessed. Furthermore, findings revealed that majority of the respondents according to their primary occupation are labourers (54.5%), (13.6%) are farmers while (16.7%) and (15.2%) are primarily traders and processors respectively. This is an indication that the labourers dominates cassava peels enterprise and that it could be done on part-time basis. All the respondents (100%) use sun as the only means of drying the peels. This is an indication that the respondents have problem in drying the peels during raining season due to inadequate sunlight.

Table 1: Distribution of respondents according to socioeconomic characteristics

Variables	Frequency	Percentage	Mean
Sex			
Male	16	12.1	
Female	116	87.9	
Age			
21-30	18	13.6	43.3
31-40	31	23.5	
41-50	53	40.2	
51-60	22	16.7	
61-70	8	6.1	
Marital status			
Single	8	6.1	
Married	112	84.8	
Widow/widower	12	9.1	
Religion			
Christianity	64	48.5	
Islam	68	51.5	
Traditional	0	0	
Level of education			
No formal education	53	40.2	
Primary	58	43.9	
Secondary	21	15.9	
Tertiary	0	0	
Household size			
1-3	23	17.4	5.4
4-6	67	50.8	
7-9	42	31.8	
Years of farming experience			
1-2	41	31.1	3.3
3-4	68	51.5	
5-6	18	13.6	
7 and above	5	3.8	
Primary occupation			
Farming	18	13.6	
Trading	22	16.7	
Processor	20	15.2	

Variables	Frequency	Percentage	Mean
Artisan	72	54.5	
Means of drying peels			
Sun drying	132	100	
Use of dryer	0	0	

Source: Field survey, 2017

Distribution of respondents by information needs on turning cassava peels to wealth

Data in Table 2 revealed that acquisition of processing machines (92.4%), source of finance (89.3%), access to market (92.4%), group formation (84.8%), use of machine and maintenance (85.6%), cost of processing machine (84.1%), storage during glut (77.3%) and maintenance of good hygiene are area of information needs of processors on how to turn cassava peels to wealth in the study area.

Table 2: Distribution of respondents by information needs on turning peels to wealth

Information needs	Frequency	Percentage	Mean
Processing of peels	58	43.9	5.3
Marketing information	77	58.3	7
Value addition	109	82.5	9.9
Use of machine and maintenance	111	84.1	10.1
Cost of processing machines	113	85.6	10.3
How to maintain good hygiene	89	67.4	8.1
Source of finance	118	89.3	10.7
Storage during glut	102	77.3	9.3
Group formation	112	84.8	10.2
Market access	122	92.4	11.1
Acquisition of processing machines	122	92.4	11.1

Source: Field survey, 2017

Distribution of respondents' by information sources: Data in Table 3 reveals that majority (m=2.5) obtained their information from friends and family.This is followed by radio (m=1.6), television (m=1.2), extension agents (m=1.1), newspaper (m=1.1) respectively. The findings implied that extension service is inadequate in the study area. This corroborates the findings of Adeniyi and Yekinni (2015) that friends and families were the most source of information to arable crop farmers.

Table 3: Distribution of respondents' according to information sources

Sources of information	Often	Rarely	Never	Mean score	Rank
Extension agents	12	24	96	1.1	4th
Radio	29	16	87	1.6	2nd
Television	02	21	109	1.2	3rd
Mobile phone	00	03	129	0.0	6th
Friends and family	77	38	17	2.5	1st
Newspaper	01	05	126	1.1	4th

Constraints to information access on turning cassava peels to wealth

Data in Table 4 showed that inadequate processing information, poor extension service, lack of power supply and lack of access to finance ranked first and second. While poor road network, illiteracy, poor media network and lack of cooperation among processors ranked fifth, sixth, seventh and eighth respectively.

Table 4: Constraints to cassava peels processing

Constraints	Mean	Mean ranking
Poor power supplies	20.2	2nd .
Poor media network	7.5	8th
Lack of cooperation among processors	8.2	7th
Poor extension service	20.2	2nd
Illiteracy	11.2	6th
Lack of access to finance	20.2	2nd

Constraints	Mean	Mean ranking
Inadequate processing information	22	1st
Poor road network	17.6	5th

Source: Field survey, 2017

CONCLUSION AND RECOMMENDATION

The study revealsthat information is needed on turning cassava peels into wealth in the study area. Based on the findings of the study, information is mainly needed on market access and how to acquire dryer, which are closely followed by source of finance, group formation and prices of processing machine The study also unveil that extension services is inadequate in the study area. Constraints faced by the respondents are inadequate processing information, poor extension service, poor power supply and lack of access to finance. The study therefore recommends that information should be provided to the respondents on market access and how to acquire cassava peel processing machines.

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TRANSFORMATION OF APOILAND THROUGH YOUTH AND GENDER ENTREPRENEURSHIP: A STAKE IN COMMUNITY

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ABSTRACT

The Ijaw Apoi, or Apoi Ijaw, is a tribe of the Ijaw people found in Ese-Odo local government area in the southern senatorial district of Ondo State. At one end of the spectrum of the geographical location Apoi Nation and its water front with the River Oluwa one of the longest in Nigeria and her God given Natural resources like bitumen, silica and sand, with extensive fertile soil suitable for agriculture and with economic trees. This fact makes her a most viable investment destination for agro allied industries. However, how toaccess the teeming resources that abound in Apoi nation and to be converted into economic realities and market dynamics for Apoi Nation is the questions that need answers. Using the Key Informant, observation and in-depth interview data collection techniques and Atlas-ti version 6.2 as the data analysis tool,the study found out that, apart from teeming resources, the area is equally challenged with neglect not only by the government, but also by the sons and daughters of this nation; probably due to lack of employment and social infrastructure. The study submits that the youths should make positive use of information technological events in this globalization era. The paper, strongly recommend the lunch of "federation of Apoi skill acquisition center" the help of their illustrious sons and daughters both home and abroad, various NGOs and the assistant of both Local and State Governments that will help in training all our youths and women in all sorts of trade and technological skills that can transform and sustain their environment.

INTRODUCTION

The IjawApoi, or ApoiIjaw, is a tribe of the Ijaw people found in Ese-Odo local government area in the Southern Senatorial district of Ondo State. At one end of the spectrum of the geographical location Apoi nation and its water front with the river Oluwa one of the longest in Nigeria and her god given natural resources like bitumen, silica and sand, with extensive fertile soil suitable for agriculture and with economic trees. This fact makes her a most viable investment destination for agro allied industries. However, how to access the teeming resources that abound in Apoi nation and to be converted into economic realities and market dynamics for Apoi nation is the questions that need answers. However, "Entrepreneurship is recognised globally as a critical economic development strategy for job and wealth creation" (Nyadu-Addo and Mensah, 2017). Baijal, (2016) defined entrepreneurship capital as "a region's endowment with factors conducive to the creation of new businesses" and it exerts a positive impact on the region's economic output.

Apoiland is wholly a rural area that is in urgent need of much infrastructural development as obtainable in urban areas and responsible for the machine-factory system of production. Consequently, the study seeks to draw attention to the availability of raw resources (especially natural) in Apoiland and for a corresponding interest in investing massively in the area, particularly by the indigenes home and abroad, for development.

The major challenge that is ravaging the study area is that of neglect not only by the government, but also by the sons and daughters of this nation; the whole of Apoi land is almost in desolate. Igbekebo does not look like a local government headquarters, Sabomi is even more worrisome. The oil mill at Ipoke is either in a comatose or state of moribund as the government and the people are uninterested in revamping the mill that should otherwise generate employment for ourpeople.Another thing that would have been a source of development is the abandoned oil refinery (Russian owned) at Ipoke that can turn the whole of Apoi nation around, but it seems nobody is even doing anything about it. Moreover, the rivers, the reason why the people are called the riverine are ravaged with water hyacinth (lakua) as it has almost cover all the rivers to the point of extinction. The area also lack basic social infrastructure, infact the area has not been having electricity power supply for past six years. Therefore, the major objective of this study therefore is to suggest how youth and gender entrepreneurship can be used as the instrument for the transformation of Apoiland into a developed community.The study further examine the socio-economic characteristics of the area and the prospects-potentials (awaiting discovery and application).

METHODOLOGY

The data collection method for study was purely qualitative. And In-depth interviews (IDIs) data collection method was used to generate the necessary data for the study.

Then 45 In-depth interviews (IDIs) were conducted; on all the nine (9) towns that make up Apoiland i.e.; Igbotu, Ojuala, Shabomi, Inikorogha, Oboro, Igbobini, Ipoke, Kiribo and Igbekebo(Alagoa, 2005). And 5 IDIs each were

conducted in the nine towns.The IDIs were conducted on the Obas, Head Chiefs, Traditional women leaders, youth leaders, and selected individuals. During the study the nine(9) towns that make up Apoiland were visited during the research.In each of the town, two Key Informants were selected for the study.With the help of the Key Informants elabourate observations were made for the study.Data collected were transcribed and thematically analysed based on the objective of the study with the use of Atlas-ti version 6.2 qualitative data analysis tools. Content analysis was adopted for analysing the data and similar thoughts expressed across the participating IDI and KII was identified, coded and grouped together to come up with major themes.

RESULT DISCUSSION

Historical Background of Apoiland

The historical origin of the Apoiswas summarized by one of the interviewee he stated that:

> *"Apois originated from Brass, around Kolokuma in the present Bayelsa State Prior to their arrival at their present location, tribal traditions recall a long period of settlement at Ukomu in what is now Furupagha territory and later migrated to Apaka in Ese-Odo area of Ondo State".*(Traditional Ruler 70 years old)

Moreover, another IDI respondent traced the historical background of Apoi nation to south western region of Nigeria and Ile-Ife to be precise being the cradle of the Yoruba race by some historianhe however concluded the story by saying;

> "*Legend has it that Apoi the father of the Apoi nation was the son of Ojoo, a crown prince from Ile-Ife. History has it that Ojoo left Ile-Ife because he could not find a (a territory) to rule over. He then moved eastward on the advice of an oracle to establish a settlement which was found in the present day Bayelsa State of Nigeria".* (Traditional Ruler, 60 years old).

Legend has it that after staying for some period in Apaka, they migrated to other places such as Old Igbotu, Ojuala, Shabomi, Inikorogha, Oboro, Igbobini, Ipoke, Kiribo and Igbekebo for the new settlements, and this story was confirmed by the intelligence report (An intelligence report of the Apoi-Ijaw Area of Okitipupa Division, Ondo province). These nine principal ancient kingdoms of the IjawApoi include Igbobini, Okomu, Kiribo, Ikpoki, Inikorogha, Oboro, Shabomi, Igbotu and Igbekebo. and the two emerging towns are Zion Apoi and Oluagbo.

Prospects-Potentials (awaiting discovery and application)

1. Study reveals that the area has quite a number of human resources to harness; politicians, elites, illustrious sons and daughters both home and abroad either patrilineal or matrilineal descent which can form the social capital needed to rescue the land.
2. The study also reveals that there are annual festivals like Boabo in Igbobini, Iwe in Igbotu that can serve as cultural tourism centers and also as tools for our community and sustainable development.
3. It was observed that River Oluwastarting from the water front at Oluagbo can be developed into tourist resort centre for boat cruising and other Apoi delicacies.
4. The study also revealed that most of the inhabitants are traditional fish farmers, and if given enough entrepreneurial skills, they could make use of the current technological events to generate more income from fishing using aquaculture techniques.
5. It was further observed that, the land is blessed with economic trees such as Iroko (chlorophoraexcelsa), Opepe (sarcocephalus), Sida (lovoakleuneana), Olofun (guareacedrata), and Ariyerin (Afzerliabipindensia). And that the men were traditionally into lumbering business, and that if the youths of the area can acquire latest entrepreneurial skills in wood business like the Chinese, it will help the development of the area.
6. The study also reveals that the people in the area also engage in traditional distillation of ogogoro/alcohol, but with right entrepreneurial skills it can become large in quantity and with modern equipments through private partnerships and collabourations.
7. It was observed that the area is blessed with a lot of Bamboo poles, with the right entrepreneurial skill this can be turned into modern cane chairs, tables and other cane accessories and create market for the area.
8. The study reveals that mat weaving is one of the traditional skills of the people in the area, if this is developed, it will meet national and international taste.
9. Moreover, it was observed that tapping of palm wine, is a lucrative business in the area, with the right entrepreneurial skill and technological advancement, it can become a lucrative business.
10. It was also observed that the people in the area have developed look warmness in

Palm oil production because of lack of public and private partnerships.

11. The study also reveals that women in the area do not have formidable women groups and associations to enhance both their social capital and their financial capabilities.
12. Canoe building can also become modernized with the right entrepreneurial skill and technological advancement.
13. The native periwinkle (from water snail family), the women should form group associations to enhance both their social capital and their financial capabilities. And begin packaging of this food with large protein for better marketing.
14. The Current efforts by the State, in partnership with the Federal Ministry of Mines and Steel Development and private sector investors, and the issuance of four Bitumen exploration/ exploitation licenses to the State. Andthe willingness of State to partner with private investors who are willing to operate these State owned blocks. The illustrious sons of the area to invest in some of these State owned blocks.
15. Lastly, the greatest enemy, i.e. the pest that cover the water ways- water hyacinth, the peoplecan turn this Waste or Pest to wealth in such a way that it will bring about enormous advantages in terms of sanitation and utilisation to the people.

CONCLUSION AND RECOMMENDATIONS

The findings suggest that if all prospects and potential in the area that are awaiting discovery and application is explored through entrepreneurship skills it will promote development of the area through job creation and income generation. The standards of living of the people, their families and communities will also be improved.Based on the findings of the research the study recommends the following;

1. The leaders and Obas in Apoiland should contact all their sons and daughters across the globe to form development groups and also inform them about the devastating conditions and the likely potentials and prospects in their communities.
2. The organisation of son and daughters should launch “federation of Apoi skill acquisition center” that will help in training youths and women in all sorts of entrepreneurial and technological skills that can better their lots and develop the community
3. The State government especially the Ministry of Environment, NGOs, illustrious sons and daughters and with sponsorship from the office of Sustainable Development should organise and teach the youths and women some skills on how to turn the pest- water hyacinth to wealth.
4. River Oluwa water front at Oluagbo should be developed as tourist resort centre for boat cruising and other Apoi delicacies to help boost the economy of community.
5. Fishing - Aqua culture- as traditional fish farmers, people should be taught how to make steady income from their homes, using aquaculture fish farming techniques.
6. The people in the area should take advantage of the Current efforts by the State, in partnership with the Federal Ministry of Mines and Steel Development and private sector investors, and invest in the Bitumen exploration/ exploitation as the State is willing to partner with private investors who are willing to operate these State owned blocks.
7. Government and the NGOs should create ICT centers to train the youths to get acquitted with the latest technological development around the globe.
8. To sustain the entrepreneurial endeavor of the people, Government should also intensify the efforts to bring back the light for the people around the area after six years without electricity power supply.
9. Government should try and resuscitate the oil mill in the area so as to help in the development and boost the entrepreneurial skills.
10. Government and the indigenes should reinvest in the refinery to reactivate the entire economy of the area and the State in general.

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PERCEIVED CAUSES OF DIABETES AMONG RURAL YOUTH IN AKOKO SOUTH EAST LOCAL GOVERNMENT OF ONDO STATE

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ABSTRACT
This study investigated the perceived causes of diabetes among rural youth in Akoko South East Local Government of Ondo State. Two-stage sampling procedure was used to select 120 respondents in the study area and data collected were analyzed using frequency counts, mean, and Pearson Product Moment Correlation. Specific objectives were to ascertain respondents' awareness of causes of diabetes and identify respondents' sources of information on the causes of diabetes. All the respondents were aware that consumption of excessive industrial sugar could lead to diabetes, 66.7% were aware that consumption of excessive carbohydrate foods could also cause diabetes. The highest ranked sources of information were radio ($\bar{x}$=1.78), private health worker ($\bar{x}$=1.38) and television ($\bar{x}$=1.35). The major perceived causes of diabetes among the respondents were sweet foods ($\bar{x}$=4.67), consumption of excessive carbohydrate foods ($\bar{x}$=4.53) and lack of exercise ($\bar{x}$=3.63). It was therefore concluded that the respondents had wrong perception about the causes of diabetes which could be due to low awareness about the causes of diabetes in the study area. There is need for more awareness on other causes of diabetes.
Keywords: Diabetes, Perception, Rural Youth, Consumption, Awareness

INTRODUCTION

According to WHO (2015), diabetes is one of the major health challenge facing Nigerians, most especially the youth, thus, reducing their productivity. According to Health line (Pletcher, 2014), diabetes can be described as a metabolic group of diseases that occur in people with a high levels of sugar in their blood due to problems of the body producing insulin. Diabetes can affect all people regardless of their race, age, gender or even their lifestyle. High blood glucose, more specifically, diabetes mellitus is a major health problem among the youth (Olaitan, 2012). Diabetes clinically is a non-communicable disorder but diabetics as a group are at increased risk of disease states such as heart diseases, blindness, nerve disorders, kidney diseases, gangrene etc. Typically, life expectancy of people with diabetes is shortened by up to 15 years and 75% die of macrovascular complications (Randi and Maureen, 2015). People with diabetes need to manage this condition to stay healthy. Chineye and Young (2016) indicated that although type 2 diabetes used to be common in adults, it is becoming more common amongst the youth due to the levels of obesity that are occurring.

Youths are the successor farming generation and therefore the future of food security in Nigeria. The ageing smallholder farmers are less likely to adopt the new technologies needed to sustainably increase agricultural productivity. There is therefore a pressing need to engage the youth in ways that they can see a promising future in Agriculture as well as to influence them to pursue careers in agriculture-based industries. According to WHO (2015), one of the major causal diseases reducing productivity of the youth is diabetes.Diabetes is a disease that has continued to increase as a result of the high intake of sugar coupled with the lack of daily exercise activities in man. According to WHO (2015), most of the perceived causes of diabetes are common among the youth, this raised a questions on the awareness and perception of the youth about the causes of diabetes. Therefore, the study assessed youth perceived causes of diabetes in Akoko South East Local Government of Ondo State.

The specific objectives were to:

a) ascertain respondents' awareness of the causes of diabetes
b) identify respondents' sources of information on causes of diabetes

METHODOLOGY

Study area - Akoko South-East is a Local Government Area in Ondo State, Nigeria. Its headquarters is IsuaAkoko. It has an area of 530 km² and a population of 82,426 at the 2006 census. Akoko South-East local government area covers an area of 226 km². The local government area is bounded to the north by Akoko North-East Local Government area, to the east by Edo State, to the south by Ose Local Government Area, and to the west by Akoko South-West local government area

Sampling procedure and sample size - Two stage sampling was used in selecting respondents for the study.

Stage 1 involved purposive selection of 50% of the communities in the Local Government. The most rural communities were selected; the three communities that were selected out of the six in the Local Governments were Ifira, Ipesi and Sosan.

Stage 2 involved random selection of 40 youth in each of the selected communities to give 120 respondents.

Measurement of variables

Perceived causes

The dependent variable of the study is perceived causes of diabetes. Respondents were presented with list of perception statements to indicate their perception about the causes of diabetes on a 5 point scale of Strongly Agree, Agree, Undecided, Disagree and Strongly Disagree with scoring of 5, 4, 3, 2 and 1 for positively worded statement and reverse for negatively worded statements.

RESULT AND DISCUSSIONS

Awareness of respondents about the causes of diabetes

Result of analysis on the awareness of Nigerian youth about the causes of diabetes on figure 3 reveals that the entire respondent were aware that consumption of industrial sugar may lead diabetes. Majority (66.7%) of the respondents were aware that consumption of excessive carbohydrate could lead to diabetes. Surprisingly, majority (85.0%) of the respondents were not aware that diabetes could be hereditary. Also, 83.3% of the respondents were not aware that consumption of beer could lead to diabetes. In the same vein, 70.0% were not aware that not exercising the body could lead to accumulation of sugar in the blood stream leading to diabetes.

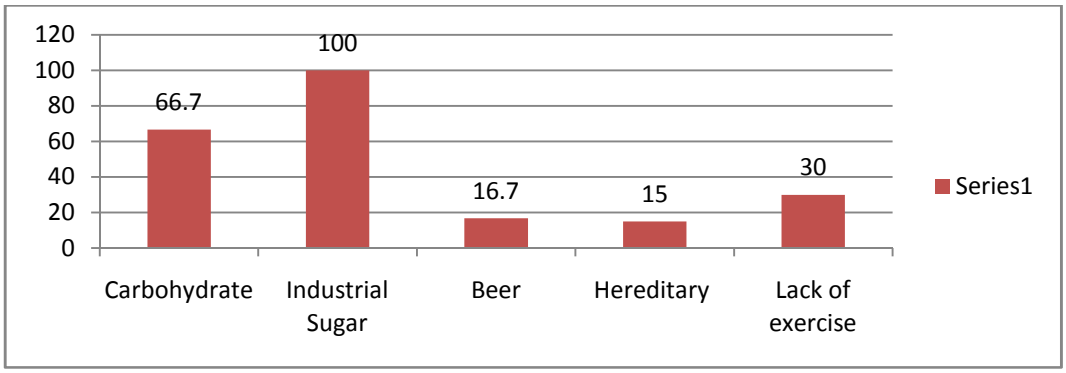

Figure 3: Distribution of respondents according to their awareness of the causes of diabetes

Sources of information used by respondents to access information on the causes of diabetes

Result of analysis on the sources of information used by respondents as presented on table 1 reveals that radio ($\bar{x}$=1.78), private health workers ($\bar{x}$=1.38) and television ($\bar{x}$=1.35) were the commonly used means of accessing information on causes of diabetes among youth in the study area. Other means that were rarely used include newspaper ($\bar{x}$=1.03), friends ($\bar{x}$=1.02), relatives ($\bar{x}$=0.93), government health workers ($\bar{x}$=0.83), religious houses ($\bar{x}$=0.75) and community leader ($\bar{x}$=0.52).

Table 1: Distribution of respondents according to the sources of information used to access information on the causes of diabetes

Source of Information	Not at all		Often		Very often			
	Freq	%	Freq	%	Freq	%	Mean	Rank
Television	0	0.0	39	65.0	21	35.0	1.35	3rd
Radio	0	0.0	13	21.7	47	78.3	1.78	1st
News paper	7	11.7	44	73.3	9	15.0	1.03	4th
Religious houses	20	33.3	35	58.3	5	8.3	0.75	8th
Community leaders	30	50.0	29	48.3	1	1.7	0.52	9th
Friends	7	11.7	45	75.0	8	13.3	1.02	5th
Relatives	10	16.7	44	73.3	6	10.0	0.93	6th
Government health workers	18	30.0	34	56.7	8	13.3	0.83	7th
Private health workers	7	11.7	23	38.3	30	50.0	1.38	2nd
Grand Mean							**1.07**	

Categorization of perception

Result of analysis in Figure 6 reveals that more than half (51.7%) of the respondents had unfavourable perception about the causes of diabetes while just 48.3% had favourable perception about it. This implies that the youth in the study area had wrong perception about the causes of diabetes. This confirms the result on awareness that there is need for more awareness about the causes of diabetes among the youth in Nigeria.

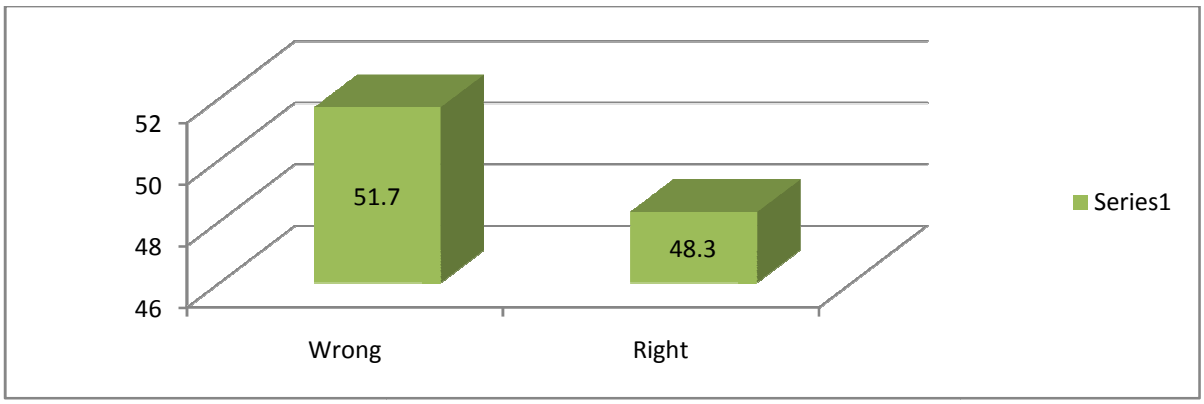

Figure 6: Distribution of the categorization of respondents' perception

CONCLUSIONS AND RECOMMENDATIONS

The study investigated the perception of rural youth to the causes of diabetes in Akoko South East Local Government Area of Ondo State. Consequent upon empirical evidence in the study, it could be affirmed that the respondents had unfavorable perception about the causes of diabetes which could be caused by the low awareness about the causes of diabetes in the study area.

Based on the findings of this study, the discussion involved and the conclusions drawn, the following recommendations are proposed in ensuring that rural youth has unfavorable perception about the causes of diabetes:

- there should be more awareness about the causes of diabetes in rural communities
- there should be more education on discouraging the consumption of beer

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EFFECTS OF CONFLICTS BETWEEN ARABLE CROP FARMERS AND PASTORALISTS IN ONDO STATE, NIGERIA

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ABSTRACT
The study investigated the effects of conflicts between arable crop farmers and pastoralists in Ondo State. Using a multistage sampling procedure, 78 arable crop farmers and 30 pastoralists were selected. Data were collected using interview schedule and analysed using frequency and mean while the hypothesis was tested using t-test. The study confirmed decrease in output ($\bar{x}$=3.0) and loss of income ($\bar{x}$=3.0) as the most severe effects of conflicts experienced by the farmers. The pastoralists identified loss of herds ($\bar{x}$=3.0), reduced access to land ($\bar{x}$=2.80), food scarcity ($\bar{x}$=2.80) as most severe effects of conflicts. The t-test result shows a significant difference (t=18.912, p=0.003) in the effects of conflicts on farmers and on pastoralist. The study concludes that farmers were more affected by conflicts than the pastoralists. It recommends that grassroots agencies should be strengthened to implement laws to curb uncontrolled grazing and discipline when necessary.
Keywords: farmers, pastoralists, conflicts, grazing, arable crops

INTRODUCTION

In recent years, increased concentrated patterns of human settlement and the growing competition from other uses for land such as expansion of public infrastructure and acquisition of land by large-scale farmers and other private commercial interests and many more have greatly reduced the land area meant for agriculture with the implication that most arable land areas, that were previously used for crop production became unproductive as they are now used for other human activities leading to ranching options where modern variations like sheep and cattle stations exist (Umoh, 2017).

Problems relating to land and water use, obstruction of traditional migration routes, livestock theft and crop damage tend to trigger disputes among pastoralists and crop farmers and dwellers in rural communities. Insecurity in many northern states because of the Boko Haram insurgency in the north east, less well reported rural banditry and cattle rustling in the northwest and north central zones also prompts increasing numbers of pastoralist to migrate south with an increasing pressure on available land space in the southern region. Climatic change, a key factor in agricultural production and environment factors such as drought and desertification have degraded pastures, dried up many natural water sources forcing a large number of pastoralist to migrate in search of grassland and water for their herds (International Crisis Group Africa Report, 2017).

Pastoralism is ideally the mobile aspect of agriculture that entails the movement of man (herders) and animals (herds) from place to place in search of ideal grazing areas in terms of fresh pasture and water (Moran, 2006) in (Dimelu, Salifu, Enwelu and Igbokwe, 2017). Arable crop farming is a type of crop production that produces a wide range of annual crops which means that the crop life cycle, from germination to seed production, is completed within a year.

According Blench (2010), the production of crops and animals both are not mutually exclusive. Both the crop and livestock farmers compete for available land resources. The production of crop and livestock animals are both carried out by small-scale farmers that are scattered all over the country with no demarcation between grazing routes and cropping lands. Also, majority of livestock farmers practise extensive system of livestock husbandry which demands that the animals must graze on the open grassland without being confined to any farm house or grazing routes while crop farmers plant without fencing. Also, the production of livestock animals is not seasonal meaning that the animals must be fed all through the year.

Chaudhry and Asif (2015), defines conflict as a disagreement in opinions between people or groups, due to differences in attitudes, beliefs, values or needs. It can also occur when people share the same perception of goals with disagreement related to means. Conflicts between farmers and nomadic cattle herders have been a common feature of economic livelihood in West Africa. Conflicts between crop farmers and pastoralists are common in nearly every part of Nigeria making it is a formidable challenge to economic development, threat to food security and sustainable livelihood (Dimelu*et al.,* 2017). It has escalated over time, heavily affecting the well-being of conflicting parties, the communities at large and agricultural and rural development. The effects will continue to lower the standard of living of affected individuals and groups and invariably, the economic growth of the nation. This study was therefore carried out to investigate the effects of conflicts on arable crop farmers and pastoralists in Ondo state.

METHODOLOGY

The study was carried out in Ondo State Nigeria. It has an approximate land area of 15,500 $Km^2$and lies between Latitudes 50 45' and 70 52' N and longitudes 40 20' and 60 05 East with a population of 3,460,877 million. The people are mostly subsistence farmers, fishermen and traders. Major crops include:cassava, plantain, cocoa, palm oiland timber. There is abundant pastoral farming comprising of cattle, goats and sheep. The state is blessed with natural resources such as bitumen, crude oil, and land ceramics (Ondo State website, 2018).Ondo State was selected because it is one of the states in Nigeria that have recorded incidence of farmer-pastoralists' conflict. A multistage random sampling procedure was used to respondents for the study. Three communities from twoLocal Government Areas (LGAs) with incidence of farmer-pastoralists' conflict were selectedvis-a-visAkure South and Akure North LGAs. The final stage entailed the selection of 13 crop farmers in each community and 4 pastoralists from same community resulting to a total of 108 respondents interviewed. Only 100 of the research instruments were found usable for the purpose of the study.

Effects of conflict on agricultural production and livelihood of respondents were indicated from the list of possible effects using 4-point Likert type-scale of Very Severe=3, Severe= 2, Partially Severe= 1, Not Severe= 0. A mean of 1.5 was obtained for the effects. The mean of 1.5 and above were regarded as high effects and below were regarded as low effects.

RESULTS AND DISCUSSIONS

Effects of conflicts on crop farmers and on pastoralists

According to Table 1, results showed that farmers regarded decrease in output ($\bar{x}$=3.0), loss of income ($\bar{x}$=3.0) inability to refund loans ($\bar{x}$=3.0) as the most severe effects of conflicts. The pastoralists identified loss of herds ($\bar{x}$=3.0), reduced access to land ($\bar{x}$=2.8), food scarcity ($\bar{x}$=2.8) as their most severe effects of conflicts. Pastoralists identified loss of herds (100.0%), reduced access to land (84.0%), food scarcity (76.0%). Farmers however, identified loss of income (98.7%), decrease in output (97.3%), inability to refund loans (96.0%), insecurity (96.0%), destruction of crops on farmland (94.7%), abandonment of crops on fields (94.7%), loss of arable farmland (94.7%). These were as a result of crop damage on farmland by herds and uncontrolled grazing and this agrees with Adelakun*et. al.* (2015) findings which revealed that reduction in output and income of crop farmers are as a result of the destruction of crops by cattle.The severity of effects of the conflicts between crop farmers and pastoralists as identified in the table showed that farmers suffered more losses than the pastoralists.All the identified effects were categorised as high for both crops farmers and pastoralists as they all had a mean above 1.5. The least identified effect for the crop farmers was proliferation of small arms ($\bar{x}$=1.90) and impairments and disabilities for the pastoralists ($\bar{x}$=1.80).

Table 1: Percentage Distribution of Respondents according to the Effects of Conflicts

Effects	Farmers					Pastoralists				
	VS	S	PS	NS	$\bar{x}$	VS	S	PS	NS	$\bar{x}$
Decrease in output	97.3	2.7	0.0	0.0	3.0	64.0	36.0	0.0	0.0	2.6
Loss of arable farmland	94.7	4.0	1.3	0.0	2.9	0.0	0.0	0.0	0.0	0.0
Loss of lives and properties	90.7	9.3	0.0	0.0	2.9	68.0	28.0	4.0	0.0	2.6
Insecurity	96.0	2.7	1.3	0.0	2.9	76.0	12.0	12.0	0.0	2.6
Loss of agricultural labour force	60.0	37.3	2.7	0.0	2.6	0.0	0.0	0.0	0.0	0.0
Migration	50.7	44.0	5.3	0.0	2.5	28.0	72.0	0.0	0.0	2.3
Destruction of crops on farmland	94.7	5.3	0.0	0.0	2.9	0.0	0.0	0.0	0.0	0.0
Late planting	33.3	66.7	0.0	0.0	2.3	0.0	0.0	0.0	0.0	0.0
Harvesting of premature crops	86.7	10.7	2.7	0.0	2.8	0.0	0.0	0.0	0.0	0.0
Abandonment of crops on fields	94.7	4.0	1.3	0.0	2.9	0.0	0.0	0.0	0.0	0.0
Reduced access to land	78.7	21.3	0.0	0.0	2.8	84.0	16.0	0.0	0.0	2.8
Food scarcity	98.7	1.3	0.0	0.0	3.0	76.0	24.0	0.0	0.0	2.8
Increased labour and security cost	66.7	30.7	2.7	0.0	2.6	0.0	0.0	0.0	0.0	0.0
Inability to refund loans	96.0	4.0	0.0	0.0	3.0	80.0	16.0	4.0	0.0	2.8
Destruction of stored produce	76.0	17.3	6.7	0.0	2.7	0.0	0.0	0.0	0.0	2.3
Constraint in mobility	54.7	44.0	1.3	0.0	2.5	36.0	64.0	0.0	0.0	0.4
Impairment and disabilities	56.0	29.3	14.7	0.0	2.4	8.0	64.0	28.0	0.0	1.8
Distrust among various parties	92.0	2.7	5.3	0.0	2.9	72.0	24.0	4.0	0.0	2.7
Lack of proper farming practices	61.3	32.0	6.7	0.0	2.5	0.0	0.0	0.0	0.0	0.0
Loss of income	98.7	1.3	0.0	0.0	3.0	64.0	36.0	0.0	0.0	2.6
Teenage pregnancy	76.0	10.7	4.0	9.3	2.5	68.0	32.0	0.0	0.0	2.7
Increased widows and orphans	85.3	9.3	2.7	2.7	2.8	72.0	28.0	0.0	0.0	2.7

Effects	Farmers					Pastoralists				
	VS	S	PS	NS	$\bar{x}$	VS	S	PS	NS	$\bar{x}$
Increased rate of social vices	85.3	14.7	0.0	0.0	2.9	76.0	24.0	0.0	0.0	2.8
Proliferation of small arms	8.0	45.3	37.3	5.3	1.5	8.0	72.0	20.0	0.0	1.9
Land degradation	53.3	41.3	5.3	0.0	2.5	0.0	0.0	0.0	0.0	2.5
Quality of relationship	85.3	13.3	1.3	0.0	2.8	64.0	28.0	8.0	0.0	2.6
Increased prices of goods and services	93.3	6.7	0.0	0.0	2.9	72.0	20.0	8.0	0.0	2.6
Loss of herds	0.0	0.0	0.0	0.0	0.0	100	0.0	0.0	0.0	3.0

Source: Field survey, 2018.
Key: Very Severe= VS, Severe= S, Partially Severe= PS, Not Severe= NS.

There is no significant difference between effects of conflicts on crop farmers and on pastoralists. Table 2 reveals a significant difference (t=18.912, p≤0.003) in the effects. The mean distribution shows that farmers were more affected by conflicts than pastoralists. This agrees with Adisa (2011) which shows that farmers experienced more losses than pastoralists.

Table 2: Difference in the effects of conflicts on crop farmers and on pastoralists

Variable	Group	T-value	Std. Error	Mean	df	Standard deviation	p-value	Decision
Effects of Conflicts	Farmers	18.912	1.361	73.1867	98	6.52789	0.003*	Significant
	Pastoralists			47.4400		3.24140		

Source: Field survey, 2018* Significance at ≤ 0.05

CONCLUSIONS AND RECOMMENDATIONS

The effects of conflicts between crop farmers and pastoralists were mainly decrease in output, loss of income loss of lives and properties, destruction of crops on farmland, loss of herds, inability to refund loans and food scarcity. Both crop farmers and pastoralists were affected by conflicts with its severity tolling more on the farmers.It wasrecommended that there should be controlled grazing and the grassroots law enforcement agents should be strengthened to implement laws to curb uncontrolled grazing and discipline when necessary.

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ATTITUDE OF OPENFIELD FARMERS TOWARDS TOMATO POSTHARVEST HANDLING ACTIVITIES IN KANO AND KADUNA STATES OF NIGERIA

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ABSTRACT
Postharvest loss of tomato in Nigeria is high due to inadequate postharvest handling activities. Attitudes of openfield farmers towards postharvest handling activities of tomato in Kano and Kaduna states were examined. Four-stage sampling procedure was used to select 213 tomato farmers. Interview schedule was used. Age of open-field farmers was 48 years, majority (92.0%) were married with 17 years of farming experience. Majority (60.1%) were not favourably disposed to postharvest handling activities of tomato. Majority (54.9%) incurred high rate of losses. There was significant relationship (r = -0.152) between attitude and the losses incurred. The study therefore recommends that, government and other NGOs should provide necessary modern postharvest handling facilities which could influence the attitudinal disposition of openfield farmers towards postharvest activities of tomato to ensure reduction in the rate of losses for improved rural livelihood and adequate food security.
Keywords: Postharvest handling activities, Tomato postharvest losses, Open-field farmers, Attitude

INTRODUCTION
Postharvest losses of fruits and vegetables are estimated at about 5 to 20% in technologically advanced countries and 20 to 50% in less developed and developing countries (Mashav, 2010). In Nigeria, losses of fruits and vegetables amounts to about 35 to 45% of the total annual production as a result of inadequate postharvest activities(FAO, 2008). Nigeria is one of the largest producers of tomato and other fruits vegetables grown in its several agricultural and ecological zones. Globally, about one–third of food produced s lost along the supply chain of food distribution annually (Gustavsson, Sonneson and Meybeck, 2011). Nigeria is losing about 2.4 billion tonnes of food annually as a result of inadequate postharvest handling activities which connected with the inefficient handling activities (Okoruwa, *et al,* 2010).

These agricultural products are lost at the frightening rate of thirty to fifty percent annually due to improper postharvest handling activities. Fruits and vegetables are major sources of vitamins and minerals essential in human diet. However, the dietary values of horticultural crops mostly fruits and vegetables are greatly affected by postharvest handling activities as they are usually harvested when fresh with high moisture content which makes their management a special problem. It is especially so in the tropical regions where the temperature is very high when compared with temperate regions (Sablani, Opara, and Balushi, 2006).

Objectives of the study

1. ascertain the socio-economic characteristics of the respondents
2. determine respondents' attitude towards postharvest handling activities
3. discover the rate of postharvest losses of tomato incurred

The study hypothesised that;

$H_0$1: There was no significant relationship between the respondents' personal and enterprise characteristics losses incurred.

$H_0$2: There was no significant relationship between respondents' attitude towards postharvest handling activities of tomato and losses incurred.

METHODOLOGY
Multistage sampling procedure was used. Purposively, two states were selected (Kano and Kaduna states). Purposive sampling was also used to select 20% of LGAs from the two states. Thereafter, 10% of the wards were randomly selected to give a total of two LGAs in Kaduna state and three LGAs in Kano state. Lastly, 5% of the registered tomato farmers in each ward were randomly selected for the study to give a total of 213 farmers. Data was collected with the use of structured questionnaire and were analysed using descriptive statistics and PPMC.

RESULTS AND DISCUSSION
Personal and enterprise characteristics
Table 1 reveals that the mean age of respondents was 47.7 years. Few (35.2%) of respondents had between 1 – 2 acres of farmland. This is consistent with the findings of Daudu, Chado and Igbashal (2009). Majority (62.4%) of the respondents had between 11 to 20 years of farming experience and 40.4% had primary education

Table 1: Distribution of selected respondents' enterprise characteristics

Variable description	Openfield Farmers (n=213)		
Age (Years)	**F**	**%**	**Mean**
≤ 30 years	55	25.8	
41 – 50	117	54.9	47.7± 7.6
≥ 50 years	41	19.2	
Size of tomato farm (acres)			
≤ 1	65	30.5	
1.0 – 2	75	35.2	4.1±27.3
2.0 – 3	53	24.9	
> 3	20	9.4	
Years of formal Education			
Primary school	86	40.4	
Secondary school	78	36.8	
Tertiary education	6	2.8	
Non-formal	43	20.2	
Years of experience			
≤ 10 years	43	20.2	
11-20	133	62.4	
> 20 years	37	17.4	

Source: Field survey (2017)

Respondents' attitude towards postharvest handling activities of tomato

The result (Table 2) shows that majority (60.1%) of openfield farmers had unfavourable attitude towards postharvest handling activities, while only few (39.9%) had favourable attitude to postharvest handling activities of tomato.

Table 2: Attitude of openfield farmers on various postharvest activities

Attitude to Postharvest Handling Activities	Open field farmers (n=213)	
	F	**%**
Unfavourable	128	60.1
Favourable	85	39.9

Source: Field survey, 2017

The rate of postharvest losses incurred by openfield farmers

The result shows that, majority (54.9%) of openfield farmers incurred high rate of postharvest losses while few (45.1%) incurred low rate of postharvest losses.

Table 3: Distribution of respondents by the rate of losses incurred

Rate of losses incurred	Openfield Farmers (n=213)	
	F	**%**
Low level of postharvest losses	96	45.1
High level of postharvest losses	117	54.9

Source: Field survey, 2017

Relationship between respondents' socio-economic characteristics and losses

The result (Table 4) shows that there was significant relationship between respondents' level of education (r= -0.173), years of farming experience (r = -0.163), size of tomato farm (r = -0.279), quantity produced (r = 0.272) and the losses incurred. This implies that education, years of experience, size of tomato farm and quantity produced have significant effects on the rate of losses incurred.

Table 4: Personal and enterprise characteristics and losses incurred

Variables	Openfield farmers (n = 213)		
	r- value	**p-value**	**Decision**
Age	0.050	0.467	Not significant
Education	- 0.173	0.041	Significant
Years of experience	-0.163	0.032	Significant

Variables	Openfield farmers (n = 213)		
	r- value	p-value	Decision
Size of tomato farm(acres)	0.279	0.042	Significant
Quantity produced (kg)	0.272	0.045	Significant

Source**:** Field survey, 2017

Relationship between respondents' attitude toward postharvest handling activities and losses

The result from Table 4 shows that attitudinal disposition of openfield farmers towards postharvest handling activities of tomato was significantly related ($r = -0.152$, $p<0.05$) to the rate of postharvest losses they incurred in tomato production. This implies that attitude of the openfield farmers dictates the rate of postharvest losses they incurred. This suggests that positive attitude towards postharvest handling activities will bring about reduction in the rate of postharvest losses incurred.

Table 4: Respondents' attitude towards postharvest handling activities and losses

Variables	Openfield Farmers (n = 213)		
	r– value	p- value	Decision
Attitude to postharvest handling activities of tomato	-0.152	0.027	Significant

Source**:** Field survey, 2017

CONCLUSION

Attitudinal disposition of respondents towards various postharvest handling activities of tomato was not favourable. The study therefore recommends that government should assist the farmers by providing necessary modern storage and processing facilities for storage and processing for future use and to influence their attitude positively.

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EFFECTS OF CLIMATE VARIABILITY ON YIELDS OF SELECTED ARABLE CROPS IN SOUTHWESTERN NIGERIA

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ABSTRACT
Arable crop production is heavily climate dependent especially in Nigeria. Climate variability could trigger food insecurity if the controlling intricacies were not properly understood and handled. The study had assessed the effect of climate variability on yields of selected arable crops in Southwestern Nigeria. Multistage sampling procedure was used in selecting 350 arable crop farmers in the study area. Structured interview schedule was used to collect the needed information. Descriptive statistics used were frequency counts, percentages and mean. Pearson Product Moment Correlation was used to test the only hypothesis. It was revealed that the trend of arable crop yields per hectare were inconsistent, varied and low in the study area. It was recommended that farmers must be cultivating varieties of crops that can withstand adverse effects of climate.
Keywords: Climate change, rain-fed, yields, arable crops

INTRODUCTION
Arable crop production is a very important aspect of agriculture because arable crops have become staple food on the tables of a typical Nigerian household. The sustained production of the crops is subject to whims and caprices of climate because it is mainly rain-fed and climate dependent. Therefore, any palpable distortion in "climate normalcy" will definitely trigger certain chain of events and effects that might be unpalatable to arable crop production. According to Oyelere (2016) arable crops cultivation depends on various agricultural activities which mainly depend so much on climate conditions for its continuous successful cultivation.Climate and its variability remain a very serious issue as far as agriculture and arable crop production are concerned. This is because profitable farming critically depends on normality of climate as climate parameters are the major determining factors for optimum food crop production. World Meteorological Organisation (WMO), had maintained that climate "normals" are used as reference points to compare current meteorological trends to that of past or what was considered "normal".The issue of climate variability presents a scenario of significantly varied pattern of weather elements in frequency and magnitude which sometimes lead to extreme condition or situation. Matzneller, Ventura, Gaspari and Pisca(2010) had asserted that agriculture is currently highly exposed to climate change, as farming activities directly depend on climatic conditions.The change in climate affects the distribution of rainfall, sun intensity/temperature and wind during a year which also determines the growing season of annual crops and eventually, influence yields especially those crops cultivated under rain-fed conditions. This study assessed the effects of climate variability on arable crop yields. Specifically,the study determined the yields of the selected arable crops in the study area.

METHODOLOGY
Multistage sampling procedure was used in selecting the arable crops farmers across the states in the study area. Firstly, 50 percent of the Southwestern States were purposively selected because arable crops cultivation was prevalent in the area. Relying on Agricultural Development Programme (ADP) delineations in the Southwestern Nigeria, 50% of the zones in each of the chosen states were selected giving six (6) zones out of eleven (11) zones (Ogun State has 4, Osun State has 3 and Oyo State has 4). From the selected zones, 25% of the blocks were randomly selected, giving eleven (11) blocks out of forty (40) blocks chosen. That is: 3, 5 and 3 blocks were randomly chosen from Ogun, Osun and Oyo States, respectively. From these selected blocks, 50% of the cells were randomly selected making a total of forty-four (44) cells in all out of eighty-eight (88) chosen cells. Out of three hundred and fifty-two groups in the selected blocks, 20% was randomly sampled to give seventy groups. Finally, 20% of the farmers from each group were randomly sampled to give a total of three hundred and fifty (350) arable crops farmers as the respondents for this study.

RESULTS AND DISCUSSION
Data in Table 1 revealed that in Southwestern Nigeria, the mean maize yields for 2014 was 1.8 tons, in 2015 it was also 1.8 tons while in 2013 it was 1.7 tons per hectare. This result reflected the observation by Kamara (2013) that despite the expansion in production areas, maize yields in farmers' fields' averaged from 1 to 2 tons per hectare in contrast to the higher yields of about 5 to 7 tons per hectare reported in breeding stations. Yam yields in 2013, 2014 and 2015 were 7.3 tons, 4.5 tons and 3.9 tons per hectare, respectively. This implies that yam yields in Southwestern Nigeria was still very low as World Bank (1992) noted that average farmers' yam yield

in Nigeria was 10 tons per hectare. Tomato yields in 2013, 2014 and 2015 were 4.0 tons, 3.4 tons and 3.1 tons per hectare, respectively. It could be inferred that the trend of arable crops yields per hectare were in zigzag, inconsistent and varied in Southwestern Nigeria during the period of this study. Other factors may have contributed to the variations but climate variability may have largely contributed immensely to these variations. This corroboratedYaro (2010) that climate variability may be the leading cause of the decline in food crop production amongst other constraints.

Table 1: Distribution of mean yields of selected arable crops in southwestern Nigeria (n=350)

Mean yield (ton/ha)	2013	2014	2015
Maize	1.7	1.8	1.8
Yam	7.3	4.5	3.9
Tomatoes	4.0	3.4	3.1

Source: Data Analysis, 2016

Table 2 showed the mean yields of the selected arable crops in 2013, 2014 and 2015 cropping seasons. Maize yields for Ogun State in 2013, 2015 and 2014 were 1.9 tons, 1.3 tons and 1.2 tons per hectare, respectively. Yam yields for 2013, 2014 and 2015 were6.4 tons, 3.1 tons and1.6 tons per hectare, respectively. Tomato yield in 2014 was 4.1 tons while in 2013 it was 3.9 tons and in 2015 it was 3.6 tons per hectare.In Oyo state, maize yield in 2015 was 2.5 tons while in 2014 it was 2.3 tons and in 2013 it was 1.2 tons per hectare. Yam yields in 2013, 2014 and 2015 were 7.5, 5.4 and 4.3 tons per hectare, respectively. In 2013, tomato yield was 4.8 tons in 2015 it was 3.2 tons while in 2014 it was 2.9 tons per hectare.In Osun state, maize yields in 2013, 2014 and 2015 were 1.8 tons, 1.6 tons and 1.6 tons per hectare, respectively. Yam yield for 2013 was 8.0 tons, while in 2015 it was 6.0 tons and in 2014 the yield was 5.0 tons per hectare. Tomato yields in 2013, 2014 and 2015 were 3.4 tons, 3.4 tons and 2.6 tons per hectare, respectively. Vagaries of weather may have caused the various variations in the yields of different arable crops across the three States. This is in line with Omoniyi (2014) that the variations in the onset, cessation and amount of rainfall, number of raining days, the length of the rainy season on which the growing season is dependent, and extreme temperatures, can together or separately have adverse effects on the yields crops.

Table 2: Distribution of respondents by mean crops yield in each State

Mean yields (ton/ha)	Ogun(n=95)			Oyo(n=95)			Osun(n=160)		
Years	2013	2014	2015	2013	2014	2015	2013	2014	2015
Maize	1.9	1.2	1.3	1.3	2.3	2.5	1.8	1.6	1.6
Yam	6.4	3.1	1.6	7.5	5.4	4.3	8.0	5.0	6.0
Tomato	3.9	4.1	3.6	4.8	2.9	3.2	3.4	3.4	2.6

Source: Data analysis, 2016

Test of hypothesis

The result of Pearson Product Moment Correlation Coefficient (r) in Table 3 revealed that, in Southwestern Nigeria, there was a significant relationship between yields ($r = 0.031$, $p < 0.05$) and effect of climate variability on arable crops. This implies that farmers believed that their crops yields were affected by what they perceived as effects of climate variability on their arable crops. Climate change will affect plant growth and development along with crop yield (Hatfield and Prueger, 2015).

Table 3: Summary of Pearson Correlation analysis showing the relationship between farmers' yields and effects of climate change on arable crops

Yields	Number	r – value	p – value	Decision
Southwestern Nigeria	350	0.031	0.005	Significant

Level of significant = 0.05

Source: Data Analysis, 2016

CONCLUSION AND RECOMMENDATION

The study had assessed the effects of climate variability on arable crop production in Southwestern Nigeria. The irregularities of these climatic factors had impacted negatively on arable crops in Southwestern Nigeria as reflected in the yields of selected arable crops in this study. As evidenced, the yields were inconsistent, varied and low. Therefore, it was hereby recommended that farmers should endeavor to source for and cultivate improved varieties of crops that can withstand the adverse effects of climate variability.

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SMALL-SCALE LOCAL BLACK SOAP PRODUCTION AMONG RURAL DWELLERS IN ONDO STATE

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ABSTRACT
Small scale agribusiness enterprises are essential for rapid economic and social development of developing countries. African Black soap has numerous benefits and importance; skin care – dry skin, stretch marks, spots, pimples, acne, oily skin, clear blemishes, eczema, body odour and soothe skin irritations. The study investigates small scale local black soap production, by identifying the inputs needs of the respondents, sources of funding their business and constraints associated with the enterprise. A hundred and ten (110) respondents were selected from two local government areas of Ondo State. Data was collected with the aid of interview guide and analysed using descriptive statistical tools. The findings revealed that 64.55% of the respondents are between the ages of 31-40 years, 69.01% were female with 60.91% having at least SSCE. 95.46% of them have not less 6 - 10years of production experience. Market is the main sources of input for 56.36%, almost half (43.64%) reported drying of inputs, 29.09% indicated stirring the black soap, and 10% of the respondents reported getting water for production as a constraint to production, 92.72% highlighted capital as a major problem. The study concluded that indigenous processing method is making the job tiresome and the producers could not access Government intervention due to low level of education. The study recommended intervention of local fabricators to bring up locally fabricated and affordable processing equipment for the producers and Governmentintervention is necessary at no or little interest rate credit facilities.
Keywords: Small-scale, local, black soap, production, rural dwellers

INTRODUCTION

Small and medium scale enterprises (SMEs) are regarded as the engineof economic growth and equitable development in developing economies (Aremu and Adeyemi (2011). This is because SMEs are known to be labour intensive, capable of helping create most of the newjobs the world will need in later years to come, and it is capital saving. Small-scale black soap production is not left out. In Nigeria, black soap has different names, in Hausait is known as Sabilum-salo, in Yorubas Ose-dudu and in Igbo as Ncha-Nkota. The traditional African Black soap has in combination, water, roasted plantain skin or cocoa pod, palm oil, palm kernel oil, or Shea butter, all these when processed together, are referred to as “black soap”.

According to Sinnha (2019),black soap has several medicinal benefits and importance.It is a natural moisturizer for skin, helps to improve or eliminate uneven skin tone, treat razor bumps caused by ingrown hairs, prevent acne because of its anti-bacterial properties, reduce hyperpigmentation and soothe irritated skin. It is normally not scented and can be used by anyone who wishes to treat his/her skin nicely and improve the quality of his/her skin. An excellent cleanser for oily skin and acne because of its antiseptic properties. African people also use black soap to prevent the skin from rashes, ring worm, measles, eczema and body odour. It is used as a natural shampoo to avoid dry itchy scalp. Black soap is used in the treatment of many infectious diseases caused by micro-organisms. The soap was also used on babies because of its purity and gentleness on sensitive skin (Summers, 2019).The traditional black soap has been around for centuries and had been in use for so long, commonly among the Yoruba people. At a time, attention shifted away from the local black soap for some better packaged soaps but the tide is changing in favour of the black soap, which is popularly called abuwe or ose dudu by the Yoruba people.In the last decade the cosmeticindustry has come to recognize the efficacy of black soap as well as the rising campaign for use of natural and herbal products, experts in the beauty industry have gone back to the roots and capitalized on the medicinal benefits of the local soap by turning it to the base of their numerous products.

Small-scale black soap producers face cluster of problems. Such problems are due to various reasons usually falling under political, economic, and social barriers. Small-scale businesses generally, play significant role in family sustenance, and among these is black soap production.

Production of the traditional black soap; Ose dudu, is a thriving major industry in Ondo State but in spite of the brisk business and massive daily production, the people still live amidst squalor and abject poverty as producers manage to make ends meet (Gbenga-Ogundare, 2016).

The specific objectives of the study are to:

1. Describe the socio-economic characteristics of respondents in the study area.
2. Identify the source of inputs/raw materials used by the respondents.
3. Identify respondents’sources of finance for their business.
4. Highlight the channels available for marketing black soap.

5. Identify the constraints to black soap production in the study area.

METHODOLOGY

The study was conducted in two Local Government Area (LGA) of Ondo state, Nigeria; Akure and Idanre. Onehundred and ten (110) respondents were randomly selected from the two LGAs.The respondents comprised of both male and female soap producers in the study area. Data were generated through the use of questionnaire administered to male and female soap producers to elicit information on their socioeconomic characteristics and their production activities. Data collected were analysed using descriptive (Frequencies and percentage) statistical tools.

RESULTS AND DISCUSSION

Table 1 revealed that most (64.55%) of the respondents are between the ages of31-40years.Majority (69.05%) of the respondents were female,this is synonymous to Underwood (2008) that often timesblack soap is made by women. As little as 11.01% of the respondents have above first school leaving certificate. This implies low level of education, which can have negative effects on business performance. This is supported by Magoutas, Papadogonas, and Sfakianakis, (2012), thathigh level of educationfacilitatesimprovements in productivity and competitiveness. Over average (53.64%) have between 6-10 years of production experience, and majority (54.55%) earns above N61,000 on monthly basis.

Table1: Distribution of respondents according to socioeconomic characteristics

Age	**Frequency**	**Percentages (%)**
21-30	13	11.82
31-40	71	64.55
41-50	18	16.36
50 and above	08	7.27
Sex		
Male	34	30.91
Female	76	69.01
Educational level		
Primary school	55	50
SSCE	6	5.45
NCE/OND	3	2.73
HND/BSc	2	1.82
MSc and above	1	0.91
No primary school	43	39.09
Production experience		
Below 5years	5	4.55
6-10years	59	53.64
11-20years	41	37.27
21years above	5	4.55
Monthly income		
Below 20,000	8	7.27
21,000-40,000	10	9.09
41,000-60,000	32	29.09
61,000 and above	60	54.55
Total	**110**	**100**

Source: Field Research, 2018

Table 2 below shows the sources of input/raw materialsfor producing black soap. It can be deduced from the findings that a high percentage (56.36%) of respondents get their input from market, followed by 31.82% respondents who source input from farm.

Table 2: Distribution of respondents based on sources of input

Sources	**Frequency**	**Percentages (%)**
Farm	35	31.82
Home	13	11.82
Market	62	56.36
Total	**110**	**100**

Source: Field Research, 2018

Sources of finance to the respondents

Table 3 shows that most soap producers (53.64%) rely on the cooperative societies for getting funds for their businesses. 37.27% get funds from commercial banks and family and friends rendered support to just 1.82% of the respondents. This finding is supported by Abassi and Wang (2017) who found out that bank credit/lending is the most widely recognized outer source of money for some SMEs and business visionaries.It was also deduced that almost all respondents(95.45%) have no access to Government assistance.

Table 3: Distribution of respondents based on their source of finance

Variables	Frequency	Percentages (%)
Sources of finance		
Commercial Bank	41	37.27
Family and friends	2	1.82
Cooperative Societies	59	53.64
Personal savings	3	2.73
Group Contribution	5	4.55
Government assistance		
Yes	5	4.55
No	105	95.45
Total	**110**	**100.00**

Source: Field Research, 2018

Constraints associated with small scale of black soap

Respondents are allowed to choose more than one constraints at a time. The result below shows that 43.64% of respondents encountered the problem of drying the input needed, 29.09% of the respondents faced the problem of mixing raw materials during processing, 17% of respondents have problem with sourcing original raw materials and 10% are faced with the issue of getting sufficient water for production.This corroborates the fincing of Alo, Achem, Mohammed and Abdulqadir, (2012).

Table 4: distribution of respondents according to constraints to production of black soap

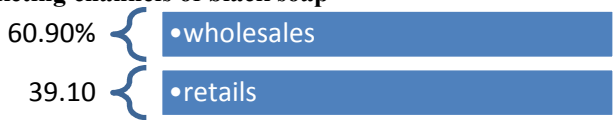
Variables	Frequency	Percentages
Drying of inputs	48	43.64
Stirring of mixtures	32	29.09
Sourcing of inputs	19	17.27
Insufficient water	11	10
Lack of capital	102	92..72

Source: Field Research, 2018

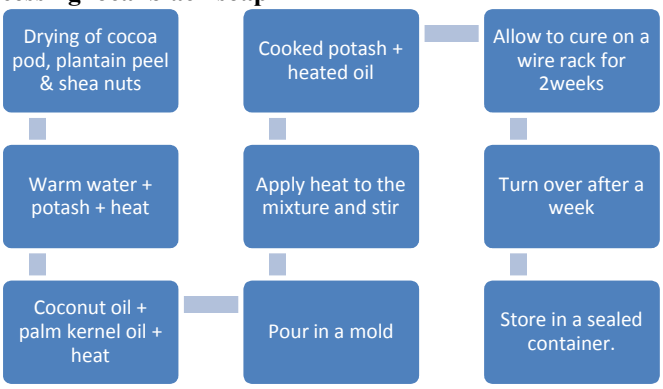
Channels available for marketing black soap

Below is the information about the respondents' marketing channels.Majority (60.90%) of the respondents sell their product through wholesales by selling to those that will resell to individual consumers. 39.09% respondents market it directly to consumers (retail).

Marketing channels of black soap



Steps involved in processing local black soap



CONCLUSION

The study concluded that indigenous processing method is making the job tiresome and lack of capital and assistance from Government also hindered their production capacity.The producers lack adequate knowledge in the area of packaging and use of modern processing equipment due to their low level of education. The study recommended intervention of local fabricators to bring up locally fabricated and affordable processing equipment for the producers.The producers need capacity building in the area of packaging and use of modern processing equipment and Government intervention is necessary at no or little interest rate credit facilities.

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PERCEIVED NUTRITIONAL AND MEDICINAL BENEFITS OF COCOYAM AMONG RURAL DWELLERS IN KWARA STATE, NIGERIA

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ABSTRACT
The study investigated rural dwellers perception of the nutritional and medicinal benefits of cocoyam in Kwara State Nigeria. Three stage sampling technique was used to select 120 respondents for this study. Objectives of the study were to determine the level of cocoyam consumption among rural dwellers and to evaluate rural dwellers perception on the nutritional and medicinal benefits of cocoyam. Descriptive statistics such as mean, frequency counts, percentages and tables were used to analyze the results of the study. Results revealed that 43.3% of respondents are farmers and 34.2% of them belong to one farmers' group or the other. Majority (91.7%) of respondents consume cocoyam which they usually obtained through growing (55%), buying (35.8%) and gift (9.2%). The result also showed high percentage (83.3%) of the respondents were aware of the nutritional and medicinal benefits of the consumption of cocoyam. Result showed that respondents perceived the following benefits can be derived from cocoyam: good for people with diabetes ($Mean\ score\ (\bar{x}) = 2.55$), reduce blood sugar ($\bar{x} = 2.52$), prevent heart problems ($\bar{x} = 2.56$) and reduce blood pressure ($\bar{x} = 2.71$). The study concluded that though the respondents are aware of the nutritional and medicinal benefits of consumption of cocoyam, there is need for more enlightenment on the level of consumption for various categories of health and nutritional status within households. It was therefore recommended that enlightenment programmes on the consumption of cocoyam should be carried out to ensure that the benefits are efficiently derived.
Keywords: Cocoyam, Health benefits, Nutritional benefits, Enlightenment programme, Cocoyam consumption

INTRODUCTION

Cocoyamare herbaceous perennial plant belonging to the family *aracieae* and are grown primarily for their edible roots, although all parts of the plant are edible, cocoyam that are cultivated as food crop belongs to either the genus *colocasia* or the genus *xanthosoma*and are generally comprised of a large spherical corm (swollen underground storage stem), from which a few large leaves emerges. The petioles of the leaves stand erect and can reach lengths in excess of 1m(3.3ft), the leaves blade are large and heart –shaped and can reach 50cm (15.8inches) in length. The corm produces lateral buds which give rise to tubers or corms and sucker or stolon.*Xanthosoma* species are also vegetatively propagated, usually from the sets, corm, piece, tuber or sucker, and require temperature above 21^0c (69.8f) to grow properly.Unlike *colocasia* spp, they will not tolerate water logging and grow best in deep, well drain loams with a PH between 5.5 and 6.5 in partial shade. *Xanthosoma* specie is usually grown in ridges at the onset of the wet season.

Cocoyam (*colocasia spp* and *xanthosoma spp*)is grown in the tropics and sub-tropical regions of the world particularly in Africa for human nutrition and medicinal value, animal feed, and cash income for both farmers and traders.In other parts of the world, species of Colocasia are often referred to as taro, while cocoyam or tannia is used for species of Xanthosoma (Manner and Taylor, 2010; Lebot, 2009).As food for human consumption, the nutritional and medicinal value of the various part of cocoyam is primarily caloric (Davies *et al*, 2008). The underground corms provide easily digested starch; and the leaves are nutritious spinach like vegetables, which gives lot of minerals, vitamins and thiamine (Eze *et al*, 2016).

Despite the nutritional advantages of cocoyam and its potential for poverty alleviation, relatively little research attention has been devoted to it. Consequently, the potentials of cocoyam as an important staple food crop and its associated nutritional and health advantages remain under-exploited. It has been noted that the situation of marginalized or under-researched crops such as cocoyam, which nevertheless are undoubtedly important to food and income security for millions of resource-limited farm households, will continue to worsen due to neglect and limited competitiveness unless steps are taken to raise their profile.

The aim of the study was to investigate the perceived nutritional and medicinal benefits of consuming cocoyam among rural dwellers in Kwara State. The specific objectives were to;

- determine the level of consumption of cocoyam among rural dwellers in Kwara state.
- evaluate the perception of rural dwellers on the nutritional and medicinal benefits of cocoyam.

METHODOLOGY

Study area: This study was carried out in Kwara State; Kwara State is located within the north central geopolitical zone, commonly referred to as middle belt region of Nigeria. The state is bounded by Niger and Kebbi States in the northern

part, Kogi State in the East and Osun, Oyo and Ondo State in the South and Republic of Benin in the West. The State lies between latitudes $7^0$45N and $9^0$30N and longitudes $2^0$30E and $6^0$25E.It is positioned in the forest savanna and enjoys reasonable dry and wet seasons, rainy season starts in April and ends in November, with heavier rains falling in September and October. This is a summer rainfall area, with an annual rainfall range of 1000mm to 1,500mm. The month of December and January coincide with the cold and dry harmattan season. Average maximum temperatures vary between 30°c and 35°c.

The capital city of Ilorin is situated 306km inland from the coastal city of Lagos and 500km from the federal capital, Abuja. Kwara state was created in May 1967, as one of the first 12 states to replace the nation's four regions. The soil is fertile and the state is well watered by the various tributaries of the Niger River which runs through hills and valleys.

Sampling procedure and sample size: The population of the study consists of all rural dwellers in the study area. A purposive sampling technique was adopted in the selection of the rural dwellers in the study area. One rural Local Government Area was selected from each of the three senatorial districts in Kwara state (Kwara South, Kwara North and Kwara Central). From each of the three local governments (Ifelodun, Ilorin west and Moro), one (1) rural community each was selected. Finally 40 rural dwellers were selected for the study from each community bringing the sample size to one hundred and twenty (120) rural dwellers that were interviewed for the study. Data for this study was obtained through the use of structuredinterview schedule used to solicit information from the respondents.

Level of respondents' consumption of cocoyam

Type/form of cocoyam consumed	Everyday	Three times a week	Twice a week	Once a week	Not at all	Mean Score
Fried cocoyam	14 (11.7)	30 (25)	12 (10)	41 (34.2)	23 (19.2)	2.7583
Pounded cocoyam	55 (45.8)	50 (41.7)	12 (10)	3 (2.5)	0 (0.0)	3.9917
Cocoyam flour	59 (49.2)	31 (25.8)	15 (12.5)	13 (10.8)	2 (1.7)	4.1
Cocoyam porridge	55 (45.8)	50 (41.7)	12 (10)	3 (2.5)	0 (0.0)	4.3083
Cocoyam soup	90 (80)	18 (15)	2 (1.7)	2 (1.7)	2 (1.7)	4.7
Roasted cocoyam	24 (20)	22 (18.3)	12 (10)	23 (19.2)	39 (32.5)	2.7417
Boiled cocoyam	20 (16.7)	12 (10)	22 (18.3)	34 (28.3)	32 (26.7)	2.6167

Source: Field survey, 2019

The table above presents the result of respondents' frequency of consumption of cocoyam and in what form. The result showed that respondents consumed pounded cocoyam (45.8%), cocoyam flour (49.2%), cocoyam porridge (45.8%) and cocoyam soup (80%) on daily basis. The result also showed that most respondent consumed their cocoyam in form of pounded, Flour, porridge and soup as indicated by mean (3.9, 4.1, 4.3 and 4.7) respectively. This is an indication that cocoyam is an important staple food in the study area.

Respondents' perception of benefits derived from consumption of cocoyam

Statement	SA	A	UD	D	SD	Mean Score
Cocoyam has a lot of health benefits	66 (55)	36 (30)	16 (13.4)	1 (0.8)	1 (0.8)	1.6167
Cocoyam is very nutritious	52 (43.3)	41 (34.2)	24 (20.0)	1 (0.8)	2 (1.7)	1.8333
Cocoyam is good for people with diabetes	16 (13.3)	41 (34.2)	47 (39.3)	13 (10.8)	3 (2.5)	2.5500
Eating cocoyam can reduce blood sugar	14 (11.7)	47 (39.2)	48 (40.0)	5 (4.2)	6 (5.0)	2.5167
Cocoyam can be used to prevent heart problems	17 (14.2)	38 (31.7)	51 (42.5)	9 (7.5)	5 (4.2)	2.5583
Cocoyam digests faster when eaten	20 (16.7)	52 (43.3)	39 (32.5)	6 (5.0)	3 (2.5)	2.3333
Consumption of cocoyam can reduce blood pressure	12 (10)	35 (29.2)	54 (45)	14 (11.7)	5 (4.2)	2.7083
Cocoyam can improve eye sight	16 (13.3)	45 (37.5)	48 (40)	7 (5.8)	4 (3.3)	2.4833
Cocoyam leaves are good for vegetables rich in vitamins.	24 (20)	47 (39.2)	46 (38.2)	1 (0.8)	2 (1.7)	2.225
Cocoyam is a cheap source of carbohydrates and vitamins	24 (20)	45 (37.5)	46 (38.3)	4 (3.3)	1 (0.8)	2.25

Source: Field survey, 2019

The table above presents respondents' perception of benefits derived from consumption of cocoyam. The result showed that most respondents perceived cocoyam is good for people with diabetes, reduce blood sugar, prevent heart problem and reduce blood pressure, as indicated by mean (2.55, 2.52, 2.56, and 2.71) respectively. This indicates that rural dwellers are aware of the health and nutritional benefits derived from the consumption of cocoyam.

CONCLUSION AND RECOMMENDATIONS

The study concluded that though the respondents are aware of the nutritional and medicinal benefits of consumption of cocoyam, there is need for more enlightenment on the level of consumption for various categories of health and nutritional status within households. It was therefore recommended that enlightenment programmes on the consumption of cocoyam should be carried out to ensure that the benefits are efficiently derived.

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ASSESSMENT OF CASSAVA VALUE ADDITION ACTIVITIES AMONG RURAL HOUSEHOLDS IN ONDO STATE, NIGERIA

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ABSTRACT
This study is aimed at assessing cassava value addition activities among rural households in Ondo States, Nigeria. A multi-stage sampling procedure was used to select a total of 180 respondents and information was gathered from the respondents with the aid of well-structured questionnaire/interview schedule. The results from the socio-economic characteristics of the respondents revealed that the mean age was 43 years, 41.1% had secondary school education and the average annual income was N119,785.86. Garriwas the most preferred cassava value-added product with Relative Credibility Index of 7.11. The result of the PPMC of aggregate cassava value addition withannual income of the respondentswas significant ($r=0.14$, $p<0.01$). The study recommended garri being most preferred cassava value-added product to prospective investors.
Keywords: Cassava, value addition, Rural households, Relative Credibility Index, Garri and Product

INTRODUCTION
Value addition has often been understood literally as any activity that allows producers to capture greater value for their agricultural commodities or adding of worth or value to a commodity. However, value addition is a post-harvest level and a process of enhancing the economic value and consumerappeal of a product (USDA, 2015).

Value addition has remained a great concern to policy makers in developing countries, especially to the Nigerian government because of the numerous constraints and militating factors involved(Bureau of African Affairs, 2010 and Umeh, 2013).In Nigeria, large quantities and wide varieties of cassava tubers are being produced, but we have not yet optimized the economic benefits derived from them (Oladejo, *et al*., 2014) and in the country only a small fraction is used commercially for livestock feed, ethanol, textile, confectionery and in the food industries (FAO, 2012).

Therefore, for Nigeria to boost rural incomes, Nigeria must prioritise cassava value addition.

The objectives of the study areto:

i. identify the cassava value-added activities and products in the study area and
ii. determine the most preferred cassava value-added product among the respondents

Hypothesis of the study, stated in null form are as follows; there is no significant relationship between aggregate cassava value addition and the annual income of the respondents.

METHODOLOGY
The study was carried out in Ondo State, Nigeria. The study adopted a multi-stage sampling procedure in which purposive and simple random sampling techniques were used to choose the respondents for the study (NBS, 2009). Structured questionnaire/interview schedule was used to collect information from the respondents. The sampling frame entailed a list of all cassava processors; wholesalers and cassava product marketers in the study area. A total of 180 respondents and were used for the analysis.

Aggregate Value Addition (VA)= $\sum$ VAactors

RESULTS AND DICUSSION
Results from Table 1 shows that a total of 63.3 % of the respondents were within the age range of 31 and 50 years. This implies that majority of the respondents were still in their productive and active period and can contribute to cassava value addition (CVA) in the study area.

The distribution of respondents according to level of education shows that 41.1% of the respondents attended secondary school, while 31.7 % of them had tertiary school education. This indicates high literacy level among the respondents.

The average cassava value addition (CVA) experience was 9 years and considered adequate. Moreover, the average annual income of the respondents was N119,785.86.00, which indicates that CVA activities is still being operated at a low scale in the study area, going by the United Nations poverty line of two US Dollar per day.

Table 1: Socio-Economic Characteristics of Respondents (n=180)

Variables	Frequency	Percentage	Mean
Age (years)			
21 – 30	25	13.9	
31 – 40	49	27.2	

Variables	Frequency	Percentage	Mean
41 – 50	65	36.1	43.4
51– 60	26	14.4	
61 and above	15	8.3	
Sex			
Male	99	55	
Female	81	45	
Education			
No formal	18	10	
Primary	31	17.2	
Secondary	74	41.1	
Post-secondary	57	31.7	
Cassava value addition experience (years)			
1 – 5	78	43.3	9
6 – 10	47	26.1	
11 – 15	27	15	
16 – 20	14	7.8	
21 – above	14	7.8	
Annual Income (₦)			
Less than 100,000	55	30.6	₦119,785.86
100001- 200000	15	8.3	
200001- 300000	23	12.7	
300001- 400000	16	8.9	
400001-500000	20	11.1	
500001 and above	51	28.4	

Source: Field Survey, 2019

Involvement in cassava value-added activities by the respondents

The result from Table 2 shows that 86.1 % of the respondents were involved in peeling of cassava tubers, followed by washing (55.6 %). Branding had the least percentage of 15.6 %. Peeling and washing are activities that are general to all cassava value-added products.

Table 2: Distribution of respondents according to involvement in value-added activities

Cassava Value-added Activities	Frequency	Percentage
Peeling	155	86.1
Washing	100	55.6
Packing	53	29.4
Grating	50	27.8
Fermenting	50	27.8
Pressing	57	31.7
Chipping	20	11.1
Sieving	56	31.1
Frying	57	31.7
Storing	56	31.1
Packaging	58	32.2
Transporting	62	34.4
Branding	28	15.6
Marketing	58	32.2

Source: Field Survey, 2019.
*Multiple responses

Production and Relative Credibility Index (RCI) of cassava value-added products in the study area

Table 3 shows that *garri* was the first cassava value-added product produced by the respondents, as well as the most preferred cassava value-added product in the study area with RCI of 7.11. Furthermore, 43.9 % of the respondents accorded *garri* as the most preferredand 56.1 % of the respondents placed least credibility on*garri*. According to the decision rule *garri,* cassava flour/*lafun*, *fufu/akpu* and cassava *pupuru* were found credible in the study area and could be

invested in (Obinna, 2015), however, *garri* was the most preferred food product.

Table 3: Production and Relative Credibility Index of Cassava Value-added Products

CVA product	Most Credible (X)		Least Credible (Y)		RCI Score
	Frequency	Percentage	Frequency	Percentage	
Garri	79	43.89	101	56.11	7.11
Flour/Lafun	32	17.77	148	82.22	1.97
Fufu/Akpu	31	17.22	149	82.78	1.89
Pupuru	31	17.22	149	82.78	1.89
Cassava chips	13	7.2	167	92.78	0.71
Cassava starch	8	4.44	172	95.56	0.42
Animal feed	28	15.55	152	84.4	1.67
Cassava cake	8	4.44	172	95.56	0.42
Tapioca	4	2.22	176	97.78	0.21
Cassava chin-chin	2	1.11	178	98.9	0.10
Alcohol	2	1.11	178	98.9	0.10

Source: Field Survey, 2019
Decision rule: Any RCI ≥ 1.11 is adjudged credible (Obinna, 2015)

Model Specification: $RCI = \frac{X}{Y} \times \frac{100}{n}$

Where RCI = Relative Credibility Index, X=Number of respondents that believed that a product was the most preferred product, Y = Number of respondents that believed that a product was the least preferred product, and n = Total number of the cassava value-added products i.e. 11.

There is no significant relationship between aggregate cassava value addition and the annual income of the respondents.

Result from PPMC correlation in Table 4 shows that there is significant relationship between aggregate cassava value addition and the annual income of the respondents. The null hypothesis is therefore rejected.

Table 4: PPMC Correlation of Aggregate Cassava Value Addition with Annual Income

PPMC	Value	SE	App T	Significance
Pearson	0.139	0.034	4.08	0.025

Source: Field Survey, 2019.Significant at 5 % level

CONCLUSION AND RECOMMENDATIONS

Garri, flour, fufu and pupuru were the prominent cassava value-added products in the study area, but garriwas the most preferred product with the highest relative credibility index (RCI) and is recommended to prospective investors in cassava value addition business.

Cassava value addition is a good income generating business that is worthwhile in the study area, Government and NGOs should intensify their efforts in assisting cassava value-added actors with training and provision of modern cassava value addition innovation techniques for sustainable production, processing and marketing in the study area.

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ASSESSMENT OF YOUTH EMPLOYMENT AND SOCIAL SUPPORT OPERATIONS' SKILL FOR JOB ON THE EMPLOYABILITY OF YOUTH IN OYO STATE, NIGERIA

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ABSTRACT

The study assessed Youth Employment and Social Support Operations' (YESSO) skill for job on employability of youth in Oyo State. Simple random sampling technique was used in selecting 110 respondents for the study. Primary data were collected on socio-economic characteristics, involvement in skill for job and employability with the use of structured questionnaire, and were subjected to descriptive statistics such as percentages, mean, frequency distribution and inferential statistics using Chi square, Spearman Rho Rank Order Correlation, Pearson Product Moment Correlation and Multiple regression.The study revealed that more than half of the respondents were self-employed (51.8%) and earned average income of N10787.50 per month. Findings also showed that most (67.3%) of the respondents had high level of involvement in the skill for job component of YESSO project and majority (74.5%) were employable. Involvement of respondents in skill for components of YESSO did not account for their high rate of employability. The study therefore recommends that government and other relevant stakeholders should ensure that subsequent skill development programmes are carefully designed and implemented.

Keywords: Employability, Youth Employment and Social Support Operations (YESSO), Involvement, Employment status, Skill for job

INTRODUCTION

Unemployment is a phenomenon that occurs when a person who is actively searching for employment is unable to find work. Unemployment is often used as a measure of the health of the economy. Furthermore, unemployment is extremely high in Nigeria, which is basically because the number of unemployed people especially the youths overshadows the number of people in the labour force. Skill mismatch has been found to be a major cause of unemployment among graduates, who are poorly prepared for work and this, has implication on relevance of university education, the employability and the productivity of university graduates (Miu, 2016).

Employability of youth in a country is a crucial determinant of the level of unemployment among youth in the country. Hence, governments in Nigeria came up with various programmes such as the National Directorate of Employment (NDE), the Youth Enterprise with Innovation in Nigeria (YOU-WIN) and others. However, in spite of these programmes, the challenges youth unemployment still poses a very serious concern. In order to address the youth unemployment, The Federal Government of Nigeria established YESSO in collabouration with the World Bank. Component three which is one of the four components of YESSO programme deals with skill for job which centres on life, vocational and entrepreneurial skills.

Recently, the Oyo state government through the skill for job component of YESSO project trained unemployed youths in the acquisition of skills and trades such as computer studies, fashion designing so as to increase their employability and ultimately reduce youth poverty in the state which has been very serious and alarming (Olojede, Nwaodike and Oni, 2019). Hence, the aim of the study is to assess the extent to which skill for job component of YESSO has influenced the employability of beneficiaries. Specifically, the study described socio-economic characteristics, determined level of involvement in skill for job component of YESSO and ascertained level of employability of the respondents. Also, relationship between the socio-economic characteristics and contribution of the involvement in the skill for job component of YESSO in relation to respondents' employability were tested.

METHODOLOGY

The study was carried out in Oyo State, located in the south western part of Nigeria with a population of 5,591,589 people out of which 2,032,406 were youth (national Population Commission, 2006).The population of the study comprised of all beneficiaries of skill for job component of YESSO project in Oyo state. Simple random sampling was used in selecting 60% of the 182 beneficiaries in Oyo state to give a total of 110 respondents for the study. Quantitative data was used for the study and were collected through the use of structured questionnaires.

The dependent variable of this study is employability of YESSO beneficiaries. It was measured by 25-item statements adapted from Economist Intelligence Unit (EIU) 2009 scale under domains of personal characteristics, social competence, basic work skills, core work skills, change in knowledge and suitability for engagement with response options of Strong, Weak and No. Scores of 2, 1 and 0 were assigned respectively. The total score for each of the respondents was computed and the mean was then used as bench mark to categorize into employable

or not employable. Independent variables measured include social economic characteristics and involvement in skill for job component of YESSO. Both descriptive and inferential statistics were be used in analyzing the data collected, Descriptive statistics such as frequency counts, mean and percentage count were used to explain data analysed while the inferential statistical tool used for data analysis was multiple linear regression.

RESULTS AND DISCUSSION

Respondents' socio-economic characteristics

Table 1 shows that majority of the respondents (91.8%) were between the ages of 20 and 35 years with the average age of 29.3 years. As a result of that, they are considered to be active and capable of undertaking any economic activities to cater for their family needs.This finding is in line with the African Union Commission (2006) of youth as persons between the ages of 15 and 35 years. The result on employment status indicates that more than half (51.8%) of the respondents are self-employed. However, Table 1 reveals that more than half (52.7%) of the respondents earned N10, 787 average income. This indicates that most of the respondents are low income earners.

Table 1: Distribution of respondents based on selected socio-economic characteristics

Variables	Frequency	Percentage	Mean
Age			
20-25 years	31	28.2	
26-30 years	35	31.8	29.26± 4.83
31-35 years	35	31.8	
>35 years	9	8.2	
Employment status			
Employed	16	11.8	
Self employed	57	54.5	
Unemployed	37	33.6	
Monthly Income			
< N10,000	30	27.3	
N 10000 – **N** 40000	58	52.7	N10787.5±14065.27
N 40001 - **N**80000	14	12.7	
Above N80000	8	7.3	

Field Survey 2018

Respondents based on the level of involvement in skill for job component of YESSO project

Table 2 shows that most (63.7%) of the respondents were highly involved in skill for job component of YESSO project. This implies that the respondents were actively involved in the activities of the skill for job components of YESSO.

Table 2: Frequency and mean distribution based on the level of involvement of respondents in skill for job component of YESSO project (n = 110)

Involvement	Frequency	Percentage (%)	Parameters
High	74	67.3	Mean = 15.21, S.D = 1.62
Low	36	32.7	Min = 8, Max = 16

Table 3 reveals that majority (74.5%) of the respondents were employable. This implies respondents can contribute tremendously to the labour market if properly engaged. However, the Centre for the Study of the Economics in Africa (CSEA) (2018) reported low employability of Nigeria youths. This is understandable because youths are the most populous age group in Nigeria and almost half (47%) of the states in Nigeria according Oxford Poverty and Human Development (OPHI) (2017) are experiencing high incidence of poverty with more than half of their inhabitants ranging from 52.4% to 91.9% being poor.

Table 3: Distribution of respondents based on their employability

Employability	Frequency	Percentage (%)	Parameters
Employable	82	25.5	Mean= 46.46, S.D.=5.37
Not employable	28	74.5	Min =30, Max =50

Contribution of youth involvement in YESSO skill for job on their employability

Table 6 reveals the multiple regression analysis result on the contribution of youth

involvement in YESSO skill for job on their employability in Oyo state. The result shows that none of the skill for job components of YESSO project influenced the employability of the youths. This implies that skill for job components do not in any way make respondents employable, that is, respondents could be actively involved in these components and may not necessarily develop in terms of employability.

Table 6: Multiple regression analysis of the influence of level of youth involvement in YESSO skill for job on their employability

Level of involvement	Beta	t-value	p-value
Constant		7.645	0.00
Awareness programme	-0.091	-0.823	0.412
Accreditation programme	0.170	1.288	0.201
Orientation Programme	-0.182	-1.005	0.317
Life skill training	-0.051	-0.199	0.843
Vocational/sector specific skills training	0.001	0.009	0.993
Entrepreneurship skills training	0.190	0.869	0.387
Internship/Apprenticeship	-0.076	-0.503	0.616
Payment of monthly stipends	-0.141	-1.237	0.219

$R = 0.294$, $R^2 = 0.086$, Adjusted $R^2 = 0.014$, Standard Error of the estimate = 5.33304

CONCLUSION AND RECOMMENDATIONS

The study concludes that the involvement of respondents in skill for components of YESSO did not account for their high rate of employability. Therefore, it was recommended that government and other relevant stakeholders should ensure that subsequent skill development programmes are carefully designed and implemented to achieve their main objectives.

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FACTORS INFLUENCING RURAL DWELLERS' INVOLVEMENT IN ELECTORAL PROCESS IN OGUN STATE

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ABSTRACT
This study assessed the factors influencing rural dwellers' involvement in electoral process. Multistage sampling procedure was used in selecting a total of 150 respondents for the study. Data on the objectives of the study were collected through the use of structured questionnaire and interview schedule and analysed using descriptive and inferential statistics. Findings revealed that 63.3% of the respondents had high knowledge level of electoral process and 56.0% had low level of involvement in electoral process. Inadequate security at voting centers ($\bar{x}$ = 1.49) and difficulty in registering for Permanent Voters' Card ($\bar{x}$ = 1.37) were considered severe constraints facing respondents' involvement. There was a significant relationship between respondents' marital status (χ^2=10.821, p=0.029), educational level (χ^2=46.196, p=0.000), constraints to involvement (r = 0.717, p = 0.000), monthly income (r = -0.403, p=0.000) and level of involvement (r=-0.626, p=0.000) with factors influencing involvement in electoral process. The major factors influencing respondents' involvement in electoral process are low expectation from elected government, electoral violence and no choice of candidate in the study area. The respondents had high knowledge of electoral process but low involvement due to lack of security and difficulty in getting permanent voters card. The study recommended that adequate security measures should be put in place to curb electoral violence at polling centres.
Keywords: Electoral process, Rural dwellers, Voters' involvement, Electoral violence and Difficulty in registering for PVC.

INTRODUCTION
Rural areas are vital sector of every nation's economy. According to the National Population Commission, Nigeria (2009), approximately 64 percent of the population lives in rural areas. Similarly, the rural areas are regarded as the most important sector of the Nigeria population because the rural sector is the major source of capital formation for the country and the principal market for domestic and raw materials for industrial processes (Ugwanyi and Chukwuemeka, 2013). Despite this, Laah, Abba, Ishaya and Gana (2013), observed that rural areas are usually deprived of basic needs of life such as housing, medical care, postal communication, education, transport etc., which can easily be provided by good leaders.

Meanwhile, electoral process provides citizen with the opportunity to decide those who will represent them at the local, state and national level. Therefore, it is paramount that all eligible voters should participate in all electoral processes, from voter's registration to voting proper. It is quite ironical that elections in Nigeria, over the years till the last general election have been marred with high level of rural voter apathy.

However, the independent electoral commission embarked on various voter education campaign to educate the voters on how to go about the electoral process, with little improvement on voters turn out been recorded, particularly in rural areas. Voter apathy remains one of the central problems in Nigeria politics and election as the values of democracy keep eroding conspicuously with its effect on rural development increasingly visible. This underscores the need to investigate the factors influencing rural dwellers involvement in electoral process.

The main objective of this study is to identify the factors influencing rural dwellers' involvement in electoral process. The specific objectives are to:

1. determine respondent level of knowledge of electoral process,
2. determine respondents' level of involvement in electoral process and
3. identify the constraints facing respondents' involvement in electoral process..

METHODOLOGY
The study was carried out in Ogun State, Southwestern Nigeria. The population of the study includes all eligible voters in rural areas i.e. 18 years and above. Multi-stage sampling procedure was used in selecting 150 respondents for this study. Data were collected with the use of structured questionnaire and interview schedule on respondents' level of knowledge, level of involvement and constraints experienced on electoral process.

RESULT AND DISCUSSION
The mean age of respondents was 50.76 ± 13.96 years, 51.3% were male and 55.3% were married. Thirty-four percent were traders while 31.7% were farmers. More than half (58.0%) of the respondents do not belong to any group while 68.7% earned below ₦25,000/ monthly

Level of knowledge, involvement and Constraints in electoral process

The categorisation of respondents' knowledge in Table 1 reveals that 63.3% of the respondents had high level of knowledge of electoral process. This result was similar to the findings of Ajibade, Ocheni, Mabe and Adekunle (2012) that majority of individuals had knowledge of electoral processes and the political happenings around them. The categorisation of respondents in table 2 reveals that more than half (56.0%) of the respondents had low level of involvement in electoral process. This finding agrees with Falade (2014) that there is low level of political participation in Nigeria. Table 3 shows that the three most severe constraints facing respondents' involvement in electoral process were inadequate security at voting centers ($\overline{x}$=1.49), difficulty in registering for Permanent Voters' Card ($\overline{x}$=1.37) and inadequate facilities at polling centers ($\overline{x}$=1.31).

Table 1: Categorization of respondents' knowledge of electoral process

Knowledge	Score	Frequency	Percentage	Min	Max	Mean	SD
Low level	7-8.92	55	36.7	7	11	8.93	1.14
High level	8.93-11	95	63.3				
Total		**150**	**100.0**				

Table 2: Categorization of respondents' involvement in electoral process

Involvement	Score	F	Percentage	Min	Max	Mean	SD
Low level	5- 7.86	84	56.0	5	20	7.87	6.14
High level	7.87-20	66	44.0				
Total		**150**	**100.0**				

Table 3: Distribution of respondents by constraints n = 150

Constraints	Severe Constraint F (%)	Mild constraint F (%)	Not a constraint F (%)	Mean	Rank
Inadequate security at voting centers	92 (61.3	39 (26.0)	19 (12.7)	1.49	1st
Difficulty in registering for PVC	81 (54.0)	44 (29.3)	25 (16.7)	1.37	2nd
Inadequate facilities at polling centers.	70 (46.7)	57 (38.0)	23 (15.3)	1.31	3rd
Distance from home to voting centers	92 (61.3)	9 (6.0)	49 (32.7)	1.29	4th
Long waiting time between accreditation and voting.	83 (55.3)	14 (9.3)	53 (35.3)	1.20	5th
Long queue during voting	81 (54.0)	16 (10.7)	53 (35.3)	1.19	6th
Bad weather condition during electoral process.	70 (46.7)	27 (18.0)	53 (35.3)	1.11	7th
No formal education.	21 (14.0)	30 (20.0)	99 (66.0)	0.48	8th

Factors influencing involvement in electoral process

Findings from Table 5 shows that the three major factors influencing respondents' involvement in electoral process are low expectation from elected government ($\overline{x}$ = 0.83), electoral violence ($\overline{x}$ = 0.72) and no choice of candidate ($\overline{x}$ = 0.62). Falade (2014) discovered in a study that majority of Nigerian citizens had no confidence in their political leaders because they do not fulfilled their promises after electioneering.

Table 5: Distribution of respondents by factors influencing involvement in electoral process

Factors influencing involvement	Yes F (%)	No F (%)	Mean	Rank
Low expectation from elected government	95 (63.3)	55 (36.7)	0.83	1st
Electoral violence	108 (72.0)	42 (28.0)	0.72	2nd
No choice of candidate	93 (62.0)	57 (38.0)	0.62	3rd
Lack/loss of PVC	91 (60.7)	59 (39.3)	0.61	4th
Lack of interest	89 (59.3)	61 (40.7)	0.59	5th
Health issues	87 (58.0)	63 (42.0)	0.58	6th
Nature of my job	54 (36.0)	96 (64.0)	0.36	7th
Ethnicity	29 (19.3)	121 (80.7)	0.19	8th
Religious beliefs	10 (6.7)	140 (93.3)	0.07	9th

Relationship between respondents' selected socio-economic characteristics and factors influencing their involvement in electoral process

Result of Chi-square analysis in table 6 reveals a significant relationship between respondents' marital status (χ^2=10.82, p=0.03), educational level (χ^2=46.20, p=0.00), primary occupation (χ^2=29.76, p=0.00), group membership (χ^2=36.05, p=0.00) and factors influencing their involvement in electoral process. However, in table 6, an inverse relationship existed between respondents' monthly income (r= -0.403, p=0.000) and factors influencing their involvement in electoral process. The inverse relationship indicates that as respondents' monthly income increases, factors influencing their involvement in electoral process decreases.

Table 6: Relationship between respondents' selected socio-economic characteristics and factors influencing their involvement in electoral process

Variables	χ2	DF	P-value	Decision	Remark
Marital status	10.82	4	0.03	S	Reject
Educational level	46.20	4	0.00	S	Reject
Primary occupation	29.76	6	0.00	S	Reject
Group membership	36.05	1	0.00	S	Reject
	r- value				
Monthly income	-0.403	-	0.00	S	Reject

Relationship between respondents' level of involvement, constraints in electoral process and factors influencing their involvement in electoral process

The PPMC analysis in table 7 reveals that there is an inverse relationship between respondents' level of involvement in electoral process (r= -0.626, p=0.000) and factors influencing their involvement in electoral process. This implies that the higher the factors influencing involvement in electoral process, the lower the level of involvement in electoral process. Data in table 7 also reveals that there was a significant relationship between constraints facing respondents' involvement in electoral process (r= 0.717, p= 0.000) and factors influencing their involvement in electoral process. This is expected as the higher the constraints experienced by the voters, the higher the factors that would influence their involvement in electoral process.

Table 7 Correlation between respondents' level of involvement and constraints of electoral process and factors influencing their involvement in electoral process

Variable	r value	p-value	Decision	Remark
Level of involvement in electoral process	-0.626	0.000	S	Reject
Constraints	0.717	0.000	S	Reject

CONCLUSION AND RECOMMENDATIONS

The study concluded that most of the respondents had high level of knowledge on electoral process but their level of involvement was low. Electoral violence, no choice of candidate and low expectation from elected government officials were factors influencing respondents' involvement in electoral process. Marital status, educational level, primary occupation, group membership as well as monthly income had significant effect on the factors influencing respondents' involvement in electoral process. Political leaders should endeavor to fulfill their promises and educational institutions should be harnessed for effective sensitization on the need to participate in election process.

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UTILISATION OF INDIGENOUS FARM SECURITY TECHNOLOGIES IN PREVENTING AGRICULTURAL-CRIMES AMONG CROP FARMERS IN OYO STATE, NIGERIA

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ABSTRACT
The study evaluated the utilisation of indigenous farm security technologies in preventing Agricultural crimes among crop farmers in Oyo State. Structured interview schedule was administered to 294 respondents. The data obtained specifically include: types of agricultural crimes, causes of agricultural crimes in crop production and effect of agricultural crimes on crop production level of farmers. These were analysed using descriptive statistics consisting of frequency distribution and percentages. Findings revealed that crop farmers claimed drug abuse/excessive alcohol consumption, poverty, hunger and unemployment as the key causes of agricultural crimes. In addition, uncontrolled bush burning ranked first while theft of horticultural crops ranked least on the type of agricultural crimes experienced in the study area. Also the study established that majority of respondents (98.0%) utilised farm land demarcation by bamboo/woods, 21.6% utilised indigenous technology such as charms and 39.8% utilised planting of poisonous weeds to set farm boundaries to prevent agricultural crimes on their farm. Chi square analysis result revealed that selected socio economic characteristics such as age (X^2 =74.000, p = 0.000), educational qualification (X^2 = 107.388, p = 0.000), farming experience (X^2 = 92.102, p = 0.000) and household size (X^2 = 70.490, p = 0.000) had significant relationship with the utilisation level of farm technologies in preventing agricultural crime. Based on the findings of this study, it was concluded that respondents utilised several farm technologies to tackle agricultural crimes. The study recommended that joint efforts of crop farmers rather than individual should be synchronised to collectively tackle agricultural crime.
Keywords: Land demarcation, farm technologies, Agricultural crime, Crop farmers and Theft of horticultural crops

INTRODUCTION
The problem of crime on farms appears to be widespread, and can often involve serious financial and personal losses for farmers. The isolation of many rural areas, the ease of access to most properties through road systems and modern vehicles, the increasing value of chemicals, machinery and equipment on farms, and the portable nature of livestock and equipment means farms are an inviting target for thieves, vandals and other criminals

Various types of property crime relevant to agricultural industries include theft of tools and equipment, fuel, agricultural machinery, agricultural chemicals and pesticides, fencing materials, timbers, horticultures, livestock, seed and grains, wool, hides or skins. Others include: vandalism, rural arson, rural fraud, illegal shooters, dumping of refuse and growing of drug plants (Baclay, 2001). According to Bunei *et al* (2014),for sustained farm crime reduction, there is need to improve the social, cultural, political and economic environment of farm communities through interventions such as poverty reduction, youth empowerment, affordable middle level education, easy access to micro-credit finance, community policing, provision of youth recreational facilities and so on

Unfortunately, few rigorous assessments of crime prevention measures have been done anywhere in the world, and more specifically in Africa (Poyner 2009; Fraser 2011). Worse still, an assessment of agricultural crime prevention is limited if not non-existent (Fraser, 2011). It is on this note that this study is designed to specifically identify types of agricultural crime experienced by crop farmers, determine causes of agricultural crime on crop production and examine utilisation of farm technologies in preventing agricultural crime among crop farmers

METHODOLOGY
The study area is Oyo state, Nigeria. Agriculture is the main occupation of the people of Oyo State. The climate in the state favours the cultivation of crops like maize, yam, cassava, millet, rice, plantains, cocoa, palm produce, cashew and so on. There are a number of government farm settlements in Ipapo, Ilora, Eruwa, Ogbomosho, Iresaadu, Ijaiye, Akufo and Lalupon (Wikipedia, 2018). Oyo State has 4 Agricultural Development Zones which are Ibadan/Ibarapa, Oyo, Saki and Ogbomoso. Two zones were randomly selected which are Saki and Ogbomoso zones. Three (3) local governments were randomly selected from the five (5) local governments in Ogbomoso zone.Similarly, five (5) local governments were randomly selected from 11 local governments in Saki zone. The list of All farmers association of Nigeria (AFAN) was obtained in which crop farmers were extracted from each of the respective local governments. Based on the list (2940 registered crop farmers), 10% were randomly selected to give sample size of 294

respondents.The dependent variable of the study isthe utilisation level of farm technologies in preventing agricultural-crimes. This was measured by listing out farm technologies utilised in preventing agricultural-crimes and utilisation was scored Yes =1, No = 0.The independent variable is socio economic characteristics. Percentages, frequency counts, weighted mean score were used to describe the data. However, Pearson Product Moment Correlation was used to establish the relationship between the selected variables.

RESULTS AND DISCUSSION

Types of agricultural crime experienced by crop farmers

Table 1 shows that the major agricultural crime experienced in the study was uncontrolled bush burning and was ranked first with weighted mean score (WMS) of 0.96, theft of crop produce was ranked second with WMS of 0.79, illegal breaking of farm shields and building ranked third with WMS of 0.68. The least on the ranking of agricultural crime was theft of horticultural plants with WMS of 0.21. This means that respondents experienced multifarious and interrelated agricultural crimes which can leads to crop failure.

Table1: Respondents' distribution according to type of agricultural crime experienced.

Types of Agricultural crime*	Frequency of occurrence				
	Very often	Often	Never	WMS	Rank
Uncontrolled bush burning	99 (33.7)	102(34.7)	93 (31.6)	0.96	1st
Dumping waste material on farm	174 (59.2)	102 (34.7)	18 (6.1)	0.47	7th
Menace of cattle on farms	105 (35.7)	156 (53.1)	33 (11.2)	0.53	5th
Illegal breaking of farm sheds	129 (43.9)	129 (43.9)	36 (12.2)	0.68	3rd
Illegal hunting	186 (63.3)	96 (32.7)	12 (4.1)	0.41	8th
Growing of illegal plants	234(79.6)	54 (18.4)	6 (2.0)	0.22	9th
Theft of agricultural tools	159 (54.1)	93 (31.6)	42 (14.3)	0.60	4th
Theft of crop produce	114 (38.8)	129 (43.9)	51 (17.3)	0.79	2nd
Theft of fencing materials	162 (55.1)	108 (36.7)	21 (7.1)	0.53	5th
Theft of horticultural plants	234 (79.6)	57 (19.4)	3 (1.0)	0.21	10th

Source: Field survey, 2018
*Multiple responses

Causes of agricultural crime on crop production

Table 2 revealed that 90.8% of the respondents believed that drug abuse was the cause of agricultural crime, 93.9% claimed poverty was the cause of agricultural crime, 96.9% of the respondents indicated hunger and unemployment respectively. This implies social and economic factors constituted basis of agricultural crime in the study area.

Table 2: Distribution of respondents according to causes of agricultural crime on farm

Cause of Agricultural crime of farm*	Frequency	Percentage (%)
Hunger	285	96.9
Unemployment	285	96.9
Poverty	276	93.9
Drug abuse	267	90.8

Source: Field survey, 2018
*Multiple responses

Utilisation of indigenous farm security technologies in preventing agricultural crime

Table 3 revealed that majority (98.0%) utilised farm land demarcation, 39.8% utilised planting of poisonous weed at all farm boundaries, 79.6% utilised gongs on farm, 21.4% of the respondents utilised jatropha plant and charms, 58.2% utilised poison of water channel for cattle, 70.4% utilised dispute settlement between farmers and herdsmen while 85.7% utilised provision of local vigilante like Odua People's Congress (OPC) and thugs to prevent agricultural crime on their farm. This implies that crop farmers utilised locally sourced farm technologies in preventing agricultural crime in Oyo state.

Table 3: Utilisedindigenous farm security technologies in preventing agricultural crime

Utilised indigenous farm security technologies *	Frequency	Percentage (%)
Farm land demarcation	288	98.0
Planting of poisonous weed	117	39.8

Utilised indigenous farm security technologies *	Frequency	Percentage (%)
Charms	63	21.4
Use of jatropha plant to set farm boundary	63	21.4
Poison of water channel for cattle	171	58.2
Dispute settlement between farmers/herdsmen	207	70.4
Local vigilante (OPC, Thugs)	252	85.7

Source: Field survey, 2018
*Multiple responses

Effect of agricultural crimes on crop production

It was established on table 4 that agricultural crime leads to crop failure as indicated by all the respondents. Majority (99.0%) also indicated famine. Also, 92% and 98% ascertained agricultural crime leads to victimization of crop farmers and decrease in farmer's income respectively. This means that agricultural crime had negative consequences on the productivity and general well-being of the crop farmers.

Table 4: Distribution of respondents according to effect of agricultural crime

Effect of agricultural crime *	Frequency	Percentage
Crop failure	294	100
Famine	291	99.0
Victimization of farmers	276	93.9
Decrease in income of the farmers	270	91.8

Source: Field survey, 2018
*Multiple responses

Chi square analysis showing relationship between selected socio-economic characteristics of the respondents and utilisation level of indigenous farm security technologies in preventing agricultural crimes

Chi square analysis result revealed that selected socio economic characteristics age (X^2 =74.000, p = 0.000), educational qualification (X^2 = 107.388, p = 0.000), farmers' experienced (X^2 = 92.102, p = 0.000), household size (X^2 = 70.490, p = 0.000), farm size (X^2 =50.898, p = 0.000) had significant relationship with the utilisation of farm technologies in preventing agricultural crime. This means that the selected socio-economic characteristics can influence utilisation of farm technologies in preventing agricultural crimes. For example small scale farm size willutilise local farm technologiesto prevent agricultural crime.

Table 5:Chi square analysis showing relationship between selected socio-economic characteristics of the respondents and utilisation level of indigenous farm security technologies in preventing agricultural crimes

Socio economic characteristics	X^2	Degree of freedom (df)	p-value	Remark
Marital status	138.02	4	0.000	H0 rejected
Age	74.0	27	0.000	H0 rejected
Educational qualification	107.388	16	0.000	H0 rejected
Farming experience	92.102	22	0.000	H0 rejected
Household size	70.49	15	0.000	H0 rejected
Farm size	50.898	11	0.000	H0 rejected

Source: Field survey, 2018

CONCLUSION AND RECOMMENDATIONS

Based on the findings of this research work, the study concluded that crop farmers utilised locally sourced farm technologies in preventing agricultural crime in Oyo state. The study therefore recommended as follows:

- Modern farm technologies should be made available to safe guard agricultural crime in the area.
- State and local governments should design project to compensate crop farmers that experience certain level of agricultural crimes that lead to crop failure.

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GENDER ANALYSIS OF ACCESS TO CREDIT AMONG FARMING HOUSEHOLDS IN IWO AGRICULTURAL ZONE OF OSUN STATE, NIGERIA

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ABSTRACT
This study analyzed gender disparities in access to farm credit among farming households in Iwo Agricultural Zone of Osun State, Nigeria. Multistage sampling procedure was utilised to select sixty each, of male and female farming household heads as study sample. Gender disaggregated primary data were collected on socioeconomic characteristics, sources of credit, volume of credit granted and constraints to credit access. Data were analysed using descriptive and inferential statistics. Results revealed mean ages of male and female farmers as 50 and 52 years respectively, 31.7% and 41.7% were married with mean household size of 5 and 4 persons for male and female farmers respectively. Average farm sizes were 4Ha and 3Ha while the mean years of farming experience was 8 years and 6 years for male and female farmers, respectively. Results further revealed that all (100.0%) the respondents obtain farm credit from cooperative societies while few source credit from money lenders: males (20.0%), females (30.0%) and microfinance banks: males (23.8%), females (16.7%). Major constraints to credit access included lack of collateral: males (1.76), females (1.88), high interest rate: males (1.72), females (1.88) and late approval of loans: males (1.64), females (1.58). Household size (t=0.961, p=0.000) and years of formal education (t=0.298, p=0.006) influenced female farmers' access to credit while age (t= -2.460, p=0.020), household size (t=4.180, p=0.000) and years of formal education (t=2.750, p=0.010) determined male farmers' credit access. Credit institutions in the study area should grant farmers timely low interest credit while possibly waiving the required collaterals for farmers.
Keywords: Gender differences, Credit access, Farming households.

INTRODUCTION

Farm credit is among the essential factors needed for agricultural production as it enables farmers secure farm inputs and hire labour promptly, to execute their farm operations which are time bound. Akpan, Inimfon, Samuel, Edem and Uwemedimo (2013) affirmed that farm credit is widely recognized as one of the intermediate factors between the adoption of farm technologies and increased farm income among other prerequisites for attaining the national goal of reducing rural poverty and ensuring self-sufficiency in food production in the country. Credit in cash or kind, can be obtained from formal, semi-formal or informal sources. IFPRI (2012) affirmed that women play critical and potentially transformative role in agricultural growth in developing countries, but they face persistent obstacles and economic constraints limiting further inclusion in agriculture. Despite women's enormous contributions to production, their access to needed farm resources has been very low because of inadequate knowledge and training in the use of improved technologies (Quisumbing 1996, Gladwin 2002, and World Bank, 2007). FAO (2010) highlighted the need to close the gender gap in access to productive resources, education, extension and financial services. It is against this background that this study was poised to address the following specific objectives:

i. to describe the socioeconomic characteristics of the male and female farmers of farming households in the study area
ii. to identify the sources of credit available to male and female respondents
iii. to examine the differences in the amount of credit granted to male and female respondents
iv. to identify the major constraints to credit access amongst male and female respondents in the study area.

Hypothesis of the study
There is no significant relationship between selected socioeconomic characteristics and credit access among male and female farmers in the study area.

METHODOLOGY

The study was conducted in Iwo Agricultural Zone of Osun State. Two-stage sampling technique was used to select sample for the study. First stage involved purposive selection of six (6) agrarian communities in Iwo zone of Osun ADP while the second stage involved selection of twenty (10 male-headed and 10 female-headed) households from each of the six (6) selected communities using snow-ball technique, to give a total of one hundred and twenty (60 male; 60 female) respondents as study sample. Primary data were collected usingwell-structured interview schedule and same were analyzed using both descriptive statisticsand multiple linear regression.

RESULTS AND DISCUSSION

Socioeconomic characteristics of respondents

Table 1 reveals the mean age of male and female respondents as 50 and 52 years respectively.

Most male(83.3%) and female(90.0%) respondents were married with an average household size of 6 and 7 members respectively. Male respondents had eight years of formal education on the average while their female counterparts had six years. The annual farm income of male and female respondents was found as ₦168,066 and ₦126, 083 respectively.Table 1further indicates the means of farm sizes of male and female farmers as 3.0Ha and 2.5Ha with an average of 14.6 and 12.0 years of farming experience respectively.

Table 1: Distribution of respondents based on socioeconomic characteristics

Variables	**Male**		**Female**		**Means**
Age (Years)	**Frequency**	**Percentage**	**Frequency**	**Percentage**	
20 – 39	06	10.0	02	3.3	
40 – 49	10	16.7	04	6.7	Male =50.0
50 – 59	32	53.3	38	63.3	Female = 52.0
60 – 69	04	6.7	06	10.0	
70 – 79	08	13.3	10	16.7	
Marital status					
Married	50	83.3	54	90.0	
Widowed	10	16.7	06	10.0	
Years of Formal Education					
No formal education	22	36.7	30	50.0	
1 – 6	18	30.0	20	33.3	Male =8.0
7 – 12	12	20.0	06	10.0	Female = 6.0
13 – 18	08	13.3	04	6.7	
Annual Farm Income (₦)					
1,000 - 100,000	12	20.0	30	50.0	
101,000 - 200,000	32	53.3	20	33.3	Male = ₦168,066
201, 000 - 300,000	10	16.7	06	10.0	Female = ₦126,083
301, 000 - 400,000	06	10.0	04	6.7	
Household size					
1 – 5	12	20.0	22	36.7	
6 – 10	44	73.3	36	60.0	Male = 7.0
11 – 15	04	6.7	02	3.3	Female = 6.0
Farm size (Hectares)					
1-3.0	38	63.3	48	80.0	
3.1 – 5.0	16	26.7	10	16.7	Male = 3.0
5.1 – 7.0	06	10.0	02	3.3	Female = 2.5
Farming Exp. (Years)					
6 – 10	22	36.7	30	50.0	
11 – 15	14	23.3	12	20.0	Male = 14.6
16 – 20	12	20.0	08	13.3	Female = 12.0
21 – 25	04	6.7	06	10.0	
26 – 30	08	13.3	04	6.7	
TOTAL	**60**	**100.0**	**60**	**100.0**	

Source: Field Survey, 2016

Sources of credit available to male and female respondents

Table 2 shows that all the sampled respondents had access to credit from cooperative societies. Males had better access to credit from microfinance bank (23.3%) and commercial banks (6.7%) sources while females had better access to credit from daily contribution (40.0%) and money lender (30.0%).

Table 2: Distribution of respondents based on credit sources available to them

Credit sources	**Male**		**Female**	
	Frequency	**Percentage**	**Frequency**	**Percentage**
Daily contribution	12	20.0	24	40.0
Money lender	12	20.0	18	30.0
Cooperative societies	60	100.0	60	100.0
Microfinance bank	14	23.3	10	16.7
Commercial bank	04	6.7	02	3.3

Source: Field Survey, 2016. ***MRT**

Proportion of male and female respondentsgranted farm credit

Table 3 indicates that 74.84% of both male and female respondent that requested between ₦10,000 and ₦50,000 credit were granted. Basically, as reflected on the table, the higher the credit requested the lower the percentage of respondents that were granted. This trend is further exacerbated amongst female respondents probably because of their incapability to provide necessary collateral to secure such loans.

Table 3: Distribution of respondents based on amount of credit granted to them

Credit (₦'000)	MALE (%)		FEMALE (%)	
	Requested	Granted	Requested	Granted
10 – 50	74.8	74.8	76.0	76.0
51 – 100	9.7	8.7	10.4	9.4
101 – 150	8.6	7.5	7.2	5.5
151-200	4.0	3.7	4.8	4.6
201 -250	2.9	2.1	1.6	1.2

Source: Field Survey, 2016. ***MRT**

Constraints to Credit Access

Table 4ranked constraints to credit access in their order of severity. Male farmers ranked lack of collateral 1st (1.88) followed by high interest rate (1.82) and late approval of loans (1.59%) which were ranked 2nd and 3rd respectively while female farmers ranked both lack of collateral and high rate of interest were 1st(1.70) and late approval of loans 3rd (1.36).

Table 4: Distribution of respondents based on constraints to credit access

Constraints	Male		Female	
	Mean	Rank	Mean	Rank
Lack of collateral	1.88	1st	1.70	1st
High interest rate	1.82	2nd	1.70	1st
Late approval of credit	1.59	3rd	1.36	3rd

Source: Field Survey, 2016. ***MRT**

Test of relationships between socioeconomic characteristics and credit access

Table 5 shows that age is negatively related to credit accessamong male farmers whilehousehold size is positively related to credit access.Table 6 reveals positive relationshipsbetween household size and years of formal educationand credit access among female farmers. Age, gender, farm size, distance to lending source, years of formal education and household size etc.determinedcreditaccess among poultry farmers in southern Nigeria (Akpan*et al*., 2013).

Table 5: Test ofrelationship between socioeconomic characteristics and credit access among male farmers

Variables	Co-eff.	t-value	Prob.	Decision
Age	-1.2396	-2.4600	0.0200**	S
Household size	2.8722	4.1800	0.000*	S
Years of Formal Education	0.8366	2.7500	0.0100*	S
Farm size	0.1045	0.3400	0.7630	NS
Farming Experience	-0.0513	-0.2700	0.7900	NS
Constant	-0.1039	-0.0500	0.959	

Analyzed Data, 2016 R^2=0.5422

Table 6: Test of relationship between selected socioeconomic characteristics and credit access among female farmers

Variables	Co-eff.	t-value	Prob.	Decision
Age	-0.7171	0.5280	0.191	NS
Household size	5.0771	0.9608	0.000*	S
Years of Formal Education	0.9311	0.2977	0.006*	S
HH size	0.0203	0.3004	0.947	NS
Farming Experience	-0.3675	0.2069	0.093	NS
Constant	-3.5350	2.1132	0.112	

Analyzed Data, 2016 R^2=0.54842

CONCLUSION AND RECOMMENDATIONS

The study identified cooperative as the major source of credit available to both the male and female farmers in the study area. In addition, male farmers had better access to credit from microfinance and commercial bank sources while their female counterparts sourced credit more from daily contribution and money lenders. The major constraints to credit access among male and female farmers in the study area include lack of collateral, high interest rate and late approval of loans. Multiple regression revealed relationships between age, household size and years of education and credit access among male farmers while household size and years of formal education are related to credit access among female farmers in the study area. Thus, the study recommends that:

i. Interests on agricultural loans should be waived or reduced in the study area while loan requests are promptly processed and granted timelyto fulfiltime-bound farm operations.
ii. Farm inputs should be subsidized always, to reduce the cost of production and minimize the need for credit among farmers.

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HOUSEHOLDS' FOOD SECURITY CHALLENGES IN LAGOS STATE, NIGERIA

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ABSTRACT

Food insecurity is still a major problem of concern among Nigerian households, hence the need to critically and empirically examine the associated challenges to food security in view of proffering solutions. This study identified households' food security challenges in Lagos State, Nigeria. Systematically, household heads were sampled from 135 households in four LGAs in Lagos State, Nigeria. Data were garnered using a well-structured questionnaires and interview schedule. Data was analyzed using descriptive statistics such as percentages, means and inferential statistics used were Chi-square and Pearson Product Moment Correlation. Most of the respondents were married (54.8%) and had tertiary education (60.7%). The mean age was 46 years, while average monthly income was N97,807.41. Major information sources on food security were social media ($\bar{x}$=1.65), television ($\bar{x}$=1.62) and family members ($\bar{x}$=1.48). More than half (56.3%) of the households were food secure. Prominent challenges to food security were food availability ($\bar{x}$=1.65), high cost of food ($\bar{x}$=1.47), health status of individuals ($\bar{x}$=1.47) and food accessibility ($\bar{x}$=1.39). Significant relationship existed between age (r= 0.204, p<0.05), household size (r= 0.173, p<0.05), information sources (r= 0.219, p<0.05) and food security challenges.The study recommends that home gardening be encouraged among respondents so as to aid availability of and accessibility to food items.

Keywords: Food security, High cost of food, Households, Information sources and Food accessibility

INTRODUCTION

The importance of food for the survival of mankind cannot be overemphasized. Food, according to Ibok, Idiong, Brown,Okon and Okon(2014) is defined as any substance that human beings eat or drink for sustenance. There is the need for man to be agile and active in its day-to-day activities if productivity is to be ensured. According to FAO (2010), food security is achieved when it is ensured that everyone at all times, have physical, social and economic access to adequate, safe and nutritious food which meets their dietary needs and food preferences for an active and healthy life. Attaining food security had been a challenge requiring concerted effort of the entire populace in the world. The United Nations Food and Agriculture Organisation- FAO (2015) estimated that about 795 million people of the 7.3 billion people in the world or one out of nine suffered from chronic undernourishment in 2016. It was reported that Sub-Saharan Africa including Nigeria is the region with the highest prevalence of undernourishment in the world at 23.2 percent, or almost one in every four people (FAO, 2017). The opposite of food security is food insecurity. One of the major contributors to various health related problems of human and slow pace of economic development is food insecurity and hunger (Premanandh, 2011). Owing to the fact that Lagos State, Nigeria is one of the state with numerous economic activities contributing to the nations' economy, it becomes imperative to assess food security challenges of the populace so that appropriate measures can be put in place to combat food insecurity. Hence, this study assessed households' food security challenges in Lagos State, Nigeria.

METHODOLOGY

The study was carried out in Lagos Stateand the state is very big and populous for its numerous economic activities. The population for this study included households in Lagos state. There were 20 Local Government Areas (LGA) in Lagos State and 20% of the LGAs were randomly sampled to give 4 LGAs namely Agege, Lagos mainland, Ikoyi/Obalende and Epe LGAs. Three communities were sampled each from the selected LGAs. Ten households were sampled each from the selected communities in Agege, Lagos mainland and Ikoyi/Obalende LGAs, while 15 households were sampled each from the selected communities in Epe LGA. A total of 135 households were sampled for this study. Data was collected with the aid well-structured questionnaires and interview schedule. Data was analyzed using descriptive statistics such as percentages, means and inferential statistics used were Chi-square and Pearson Product Moment Correlation.

RESULTS AND DISCUSSION

Socioeconomic characteristics of respondents

Table 1 reveals that the average age of respondents was45.48±18.42 years, respondents who were male were 50.4%, more than half of the respondents were married (54.8%), majority were Christians (81.5%) and formally educated (88.8%). Primary occupation engaged in by respondents include being civil servant (37.0%), trading (28.1%), farming (18.5%), artisan (10.4%) and sporting (5.9%). The average household size was 6.05±3.04 persons and average monthly income was ₦97,807.41±145,017.47. According to Bashir *et al.* (2010), individual income influence their food security status.

Table 1: Distribution of respondents based on their socio-economic characteristics (n=135)

Variables	Category	Freq	%	Mean±SD
Age	< 31	33	24.4	
	31 – 40	32	23.7	
	41 – 50	21	15.6	45.48±18.42
	51 – 60	18	13.3	
	> 60	31	23.0	
Sex	Male	68	50.4	
	Female	67	49.6	
Marital status	Single	51	37.8	
	Married	74	54.8	
	Divorced	2	1.5	
	Separated	3	2.2	
	Widowed	2	1.5	
Religion	Christianity	110	81.5	
	Islam	21	15.6	
	Traditional	4	3.0	
Education	No formal education	9	6.6	
	Primary	18	13.3	
	Secondary	20	14.8	
	Tertiary	82	60.7	
	Vocational	6	4.4	
Primary occupation	Farming	25	18.5	
	Trading	38	28.1	
	Civil servant	50	37.0	
	Artisan	14	10.4	
	Sporting	8	5.9	
Household size	1 – 3	25	18.5	
	4 – 6	67	49.6	6.05±3.04
	7 – 9	25	18.5	
	> 9	18	13.3	
Monthly income (₦)	≤ 20,000	19	14.1	
	20,001 - 40,000	31	23.0	97807.41±
	40,001 - 60,000	33	24.4	145017.47
	60,001 - 80,000	14	10.4	
	> 80,000	38	28.1	

Source: Field Survey, 2017

Sources of information

Sources used by respondents to access information as revealed in Table 2 shows that respondents in the study area sourced information majorly from social media ($\bar{x}$=1.65), television ($\bar{x}$=1.62), family members ($\bar{x}$=1.48), colleagues ($\bar{x}$=1.45) and radio ($\bar{x}$=1.30).The use of social media has been a veritable tool for information sharing in recent times. It is not surprising it ranked first as major source of information on food security among the respondents.

Table 2: Distribution of respondents based on their sources of information on food security

Information sources	Regularly		Occasionally		Never			
	Freq	%	Freq	%	Freq	%	Mean	Rank
Radio	57	42.2	62	45.9	16	11.9	1.30	5th
Television	89	65.9	41	30.4	5	3.7	1.62	2nd
Magazine	22	16.3	81	60.0	32	23.7	0.93	7th
Extension workers	34	25.2	52	38.5	49	36.3	0.89	8th
Health practitioners	7	5.2	53	39.3	75	55.6	0.50	10th
Family members	68	50.4	64	47.4	3	2.2	1.48	3rd
Colleagues	68	50.4	60	44.4	7	5.2	1.45	4th
Newspaper	46	34.1	81	60.0	8	5.9	1.28	6th
Social media	96	71.1	31	23.0	8	5.9	1.65	1st
Seminar	7	5.2	102	75.6	26	19.3	0.86	9th

Source: Field Survey, 2017

Food security status of respondents

The food security status of the respondents is presented in Table 3. It was found that majority of the respondents were foo secure (56.3%), while 43.7% were food insecure. Food security of the respondents in the study area might be attributed to the increased awareness as major source of information identified in this study was the use of social media and perhaps participation of respondents in entrepreneurial activities that aid their food security.

Table 3: Distribution of respondents based on their food security status

Variable	Freq	%	Min	Max	Mean	StdDev
Food insecure (< mean)	59	43.7	13.00	34.00	26.78	5.89
Food secure (≥ mean)	76	56.3				
Total	135	100.0				

Challenging factors influencing food security

Table 4 reveals that prominent challenges influencing food security were food availability ($\bar{x}$=1.65), health status ($\bar{x}$=1.47) and high cost of food ($\bar{x}$=1.47). Locality ($\bar{x}$=1.10), religion ($\bar{x}$=1.06) and illiteracy ($\bar{x}$=0.94) were least factors that influenced food security of the respondents.

Table 4: Distribution of the elderly based on their challenging factors to food preference

Items	Not a challenge		Mild challenge		Severe challenge		Mean	Rank
	F	%	F	%	F	%		
Food availability	5	9.8	8	15.7	38	74.5	1.65	1st
Health status	9	17.6	9	17.6	33	64.7	1.47	2nd
High cost of food	9	17.6	9	17.6	33	64.7	1.47	2nd
Preparatory time	10	19.6	11	21.6	30	58.8	1.39	4th
Accessibility to food items	9	17.6	13	25.5	29	56.9	1.39	4th
Seasonality of food items	11	21.6	10	19.6	30	58.8	1.37	6th
Lack of storage facilities	14	27.5	10	19.6	27	52.9	1.25	7th
Insufficient income	14	27.5	10	19.6	27	52.9	1.25	7th
Unpredictable climate	11	21.6	21	41.2	19	37.3	1.16	9th
Culture	14	27.5	15	29.4	22	43.1	1.16	9th
Locality	14	27.5	18	35.3	19	37.3	1.10	11th
Religion	17	33.3	14	27.5	20	39.2	1.06	12th
Illiteracy	24	47.1	6	11.8	21	41.2	0.94	13th

Relationship between selected independent variables and respondents' food security challenges

Table 5 reveals that the correlation between the age (r= 0.204, p< 0.05), household size (r=0.173, p<0.05), sources of information (r= 0.219, p<0.05) and challenges to food security were significant.

Table 5: Relationship between selected independent variables and respondents' food security challenges

Variables	χ^2 value	Df	r value	p value	decision
Age			0.204*	0.018	Significant
Marital status	4.324	4		0.364	Not significant
Educational level	4.122	5		0.532	Not significant
Primary occupation	5.759	4		0.218	Not significant
Household size			0.173*	0.045	Significant
Monthly income			0.016	0.850	Not significant
Sources of information			0.219*	0.011	Significant
Knowledge			0.095	0.089	Not significant

CONCLUSION AND RECOMMENDATIONS

Most of the respondents were food secure, but prominent challenges to food security were food availability, respondents' health status, high cost of foodand food accessibility.The study recommends that home gardening be encouraged among respondents by the state government and non governmentalorganisationsso as to aid availability of and accessibility to food items; this will also help reduce amount of money spend on food by respondents.

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AGRICULTURAL EXTENSION WORKERS' PERCEPTION OF THE IMPORTANCE OF TASKS PERFORMED IN ONDO STATE AGRICULTURAL DEVELOPMENT PROJECT (ADP)

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ABSTRACT

Agricultural extension is vital in ensuring the development of the agricultural sector. Hence, there is need to ensure the effective performance of the extension workers. The purpose of the study is to determine the perception of Agricultural Extension Workers aboutthe importance of tasks performed in Ondo State ADP., Nigeria. Specifically the study ascertained the socio-economic characteristics of the respondents, determined the perceived level of importance of the tasks performed by the agricultural extension workers and determined the job working conditions influencing the performance of agricultural extension workers.Random sampling procedure was used in selecting eighty (80) extension workers in Ondo State Agricultural Development Project (ADP). Data were collected through the use of structured questionnaire and were analysed using descriptive statistics and inferential statistics. The results showed that the extension workers perceived all the twenty job tasks listed in the study as important, all the tasks had mean values equal to or above the grand mean of 3.72, implying that they will be readily motivated to engage in these activities if suitable environment is given. It also revealed that extension workers ranked provision of scholarship to extension workers to enhance their professional competencies ($\bar{x}$=3.78) and payment of leave bonus to workers ($\bar{x}$=3.71)as the top two ranking job working conditions influencing task performance. There was significant relationship between level of education (χ^2= 14.030, p=0.015<0.05) and extension workers' perception of the importance of tasks performed. Based on the above findings, efforts should be made by government to pay necessary allowances and provide scholarships for the workers to obtain additional qualifications.

Keywords: Agricultural Extension Workers, working conditions, job, Agricultural Development Project and task performance

INTRODUCTION

Agriculture in Nigeria occupies a central position amongst several sectors of the nation's economy, following its huge contribution to the Gross Domestic Product of the country. Hence, the exigent need to ensure the efficiency and effectiveness of this sector. The achievement of this is hinged and dependent on a number of factors with chief amongthem being the enhancement and strengthening of the extension sub-sector. Agricultural extension by its nature has an important role in promoting the adoption of new technologies and innovations (Jamilah *et al.*, 2010). The role of extension agents is to act as a bridge, linking community/farmers and agencies in the process of knowledge and technology transfer to rural community/farmers. Agricultural extension brings about changesin farmers attitude, knowledge and skills through education and communication (Ali *et.al,* 2012).

Working condition refers to working environment and all existing circumstance affecting labour in the work place, including; job hours, physical aspects, legal rights and responsibility. Conducive work environment ensures the well-being of employees which always enable them exert themselves to their roles with all force that may translate to higher productivity (Akinyele, 2007). The workplace environment and job working condition of employees set in place impacts employee morale, productivity and engagement, both positively and negatively (Chandrasekar, 2011). According to Heath (2006), the quality of the employees' workplace and work condition influences the motivation level and thereafter the performance of the employees within the organisation. There are many factors that affect the performance of employees in organisations. Workplace environment and job condition plays an essential role towards workers' performance and productivity in any organisation (El-Zeiny, 2013). In addition the perception of the workers on how important specific task are could determine how effectively and efficiently such tasks are performed.

Considering the established importance of agricultural extension in achieving agricultural development and food security together with the affinity of job working condition/environment and the quality of job performance of the extension worker, this study aimed to investigate the perceived importance of job performed and assess the influence of Job Working Conditions on Tasks Performed by Agricultural Extension Workers in the study area. The general objective of the study was to assess the perceived importanceof tasks performed by Agricultural Extension Workers in Ondo State Agricultural Development Project (ODSADP).

Hypothesis of the study: There is no significant relationship between selected socioeconomic characteristics of the respondents

and the perceived level of importance tasks performed by the respondents.

METHODOLOGY

The study was carried out in Ondo state. Ondo State is located in the South Western part of Nigeria. Respondents for this study were drawn from the list of extension workers gotten from the State headquarters of the Agricultural Development Programme (ODSADEP) from which 80 respondents were randomly selected for the study. A well-structured interview schedule subjected to validation by expert's judgment was used to illicit information from the respondents and gather data for the study.

Measurement of variables

The perception of the extension personnel about the importance of the job tasks performed by them was measured on a 4 point rating scale of very important = 4, important =3, fairly important =2, not important =1. Age is measured in actual age in years as at last birthday; experience was measured in actual years of working with ODSADP; Income was measured in exact amount in Naira

RESULTS AND DISCUSSION

Perceived importance of tasks performed by the respondents

Table 1 revealed that respondents rated the entire 20 job tasks listed as important. However, the top five ranked tasks perceived to be most important by the respondents were; provision of agro chemical skill training ($\bar{x}$=3.80), rendering of technical advice to farmers ($\bar{x}$=3.79), Formation of cooperative groups among farmers ($\bar{x}$=3.79), involving in leadership development ($\bar{x}$=3.78), serving as an intermediary between the researchers and the farmers ($\bar{x}$=3.76). The grand mean score was 3.72 indicating that these workers on the overall perceived the tasks listed as very important in extension service to improve their performance. This result corroborate with that of (Anyanwu, 2000) who reported in similar studies in Kogi and Imo State ADPs, that the tasks performed by field extension workers are very crucial in the extension services to improve the competency and performance of extension workers.Teaching rural and urban clientele on how to use their resources to solve their problems and persuasion of farmers to adopt new technologies and new ideas, ranked least ($\bar{x}$=3.63 and $\bar{x}$=3.53 respectively) This is probably because the extension workers assume that this task demands more than their physical or professional competencies but rather has affinity with the psychological and cognitive judgement and appraisal of relative advantage supposed by the clientele.

Table 1: Perceived importance of tasks performed by the respondents (n=80)

Tasks Performed by extension worker	VI	I	SI	NI	Mean	SD	Rank	Remarks
Provision of agro chemical skill training to improve farmers understanding.	58 (72.5)	22 (27.5)	2 (2.5)	-	3.80	0.449	1st	Important
Rendering of technical advice to farmers to boost their knowledge towards new agricultural practices.	63 (78.8)	17 (21.2)	-	-	3.79	0.412	2nd	Important
Formation of cooperative groups which provide various services among farmers.	63 (78.8)	17 (21.2)	-	-	3.79	0.412	2nd	Important
Involving in leadership development which serves as a means of motivating clientele in the rural area.	62 (77.5)	18 (22.5)	-	-	3.78	0.420	4th	Important
Serves as an intermediary between researcher and farmers to increase the level of work performed by the researchers.	61 (76.2)	19 (23.8)	-	-	3.76	0.428	5th	Important
Helping in cultural practices advice on crop	60 (75.0)	20 (25.0)	-	-	3.75	0.436	6th	Important
Creating awareness on innovation to improve the standard of living of farmers.	62 (77.5)	16 (20.0)	-	-	3.75	0.490	6th	Important
Linking of farmers with sources of farming inputs	60 (75.0)	20 (25.0)	-	-	3.75	0.436	6th	Important
Involving in personal contact with farmers during training and visit programme to boost relationship	54 (67.5)	26 (32.5)	-	-	3.74	0.471	9th	Important

Tasks Performed by extension worker	VI	I	SI	NI	Mean	SD	Rank	Remarks
(TandV).								
Formation of women groups to allow interaction among rural women.	59 (73.8)	21 (26.2)	-	-	3.74	0.443	9th	Important
Food utilisation demonstration to farmers for proper understanding.	59 (73.8)	20 (25.0)	1 (1.2)	-	3.74	0.532	9th	Important
Selection of contact farmers to increase agricultural production.	60 (75.0)	19 (23.8)	1 (1.2)	-	3.73	0.470	12th	Important
Provision of adult education service to enable farmers to become literate	58 (72.5)	22 (27.5)	-	-	3.73	0.449	12th	Important
Helping the farmers to broaden their existing knowledge.	57 (71.2)	23 (28.8)	-	-	3.71	0.455	14th	Important
Demonstration of improved technology to improve the understanding of farmers towards new agricultural practices.	55 (68.8)	25 (31.2)	-	-	3.69	0.466	15th	Important
Educating clientele on good health practices.	55 (68.8)	25 (31.2)	-	-	3.69	0.466	15th	Important
Appropriate record keeping of various activities carried out on the farm.	53 (66.2)	27 (33.8)	-	-	3.68	0.476	17th	Important
Assisting the subject matter specialist (SMS) in disseminating information to farmers.	64 (80.0)	16 (20.0)	-	-	3.66	0.403	18th	Important
Teaching rural and urban clientele and how to use their resources to solve their problems.	54 (67.5)	26 (32.5)	-	-	3.63	0.471	19th	Important
Persuasion of farmers to adopt new technologies and new ideas	42 (52.5)	38 (47.5)	-	-	3.53	0.503	20th	Important
Grand mean	3.72							

Source: Field survey, 2016.

VI= Very important, I= Important, SI= slightly important, NI= Not important. Mean above 3.72≥ important task.

Relationship between Socio-economic Characteristics Perception of the Importance of Job tasks Performed

The Chi-square result in Table 2 shows that level of education ($\chi 2$ =14.030, p=0.015), had significant relationships with extension workers perception of the importance of job tasks performed. It can then be said that: whether a extension worker perceives a job task important or not important is dependent on his level of education and this could be because the level of education is expected to enlighten them to their perceived job role. The implication is that extension workers with low educational status may perceive most job task not important and vice versa.There was no significant relationship between age, family size, years of experience and income of the extension workers and their perceived importance of job task performed. This infers that all these variables had nothing to do with the extension workers perception of importance of tasks performed.

Table 2: Chi-square and PPMC Relationship between Selected Socio-economic characteristics of extension workers and Perception of the Importance of Tasks Performed.

Variables	df	χ^2–value	p-value	variables	r -value	p-value
Gender	2	2.824	0.243	Age	0.101	0.372
Marital status	1	0.684	0.408	Family size	-0.173	0.125
Religion	2	6.128	0.047	Years of experience	0.073	0.522
Level of education	5	14.030	0.015*	Income	-0.062	0.585
				Grade level (cadre)	0.242	0.256

*= *Significant at 0.05,*

CONCLUSION AND RECOMMENDATIONS

The study had been able to ascertain that the extension workers attach great value and importance to various activities and task performed by them, which implies that they are heartily engaged in the activities. In a nutshell, there is no

relationship between the major job-related characteristics of the respondents years of experience grade level (cadre) and income] and their perceived importance of job task performed by the extension workers.It is recommended that minimum academic qualifications required to be recruited into the Agricultural Extension system must be strictly adhered to without compromise.

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EFFECTS OF INTEGRATED FARMING SYSTEM APPROACH ON AGRICULTURAL PRODUCTION IN KAINJI LAKE BASIN, NIGER STATE, NIGERIA

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ABSTRACT
The study examined the effects of integrated Farming System (IFS) on agricultural production in Kanji Lake Basin, Niger State. Specifically, channels of receiving information about IFS were identified and benefits of the IFS practice determined and constraints inhibiting spread of IFS were also identified. A three -stage sampling technique was used to select 150 respondents. Structured Interview Schedule was used for data collection while frequency counts, mean score and Chi-square were used for data analysis. Result revealed that 39.3% of the respondents had formal education while 50% had fishing as the primary means of livelihood. Friends and relations ranked highest with weighted mean score (WMS) of 2.9 as the major source of information on IFS, while National Institute for Freshwater Fisheries Research (NIFFR) (WMS = 2.8) ranked second highest. Finding revealed the most important constraints of IFS were high cost of inputs (WMS = 2.8) unavailability of inputs (WMS = 2.6) and complexities of the techniques of IFS (WMS = 1.9). It was recommended that extension organisations should create more awareness and train to farmers on the use of IFS techniques. Also, farmers should constitute themselves into cooperatives through which they can share knowledge and skills about integrated farming system, this will also facilitate joint purchase and use of inputs.
Keywords: Agricultural enterprises, yield, income, standard of living, IFS.

INTRODUCTION

In spite the present domination of petroleum, a non-renewable resource, as the country's sole foreign exchange earner, agriculture remain a relevant bedrock of the nation's economy. The sector currently accounts for about 42% of the nation's gross domestic product (GDP) and 88% of the non-oil foreign exchange earnings (Ayinla, 2012). It employs about 70% of the active labour force as well as provides raw materials for the Agro-allied industrial sector reported by Abiodun, (2011). However, the agricultural sector has not fulfilled the expectations of the farmers as most of them are poorly fed and have low socio-economic status. Food Agriculture Organisation (FAO, 2012) reported that most Nigerians, especially the rural dwellers who are mostly farmers earn income of less than $1 dollar per day. This low level of income, resulted into food insecurity and low calories intake among the rural dwellers. This posed a major threat and concerns to this present administration in Nigeria. FAO, (2018), reported shortage in quantity of food produce in Nigeria where about 2.9 million metric tons of milled rice areimported annually excluding estimated 600,000 metric tons suspected to enter the country illegally on an annual basis. The fisheries sector fish contributed about 3.4 percent to the country annual Gross Domestic Product GDP in 2018 reported by (NBS, 2018). In spite of all this high value, domestic fish and rice production still falls far below the total demand. As a result, the country resorted into importation of rice and fish. In addressing this, the Federal Government of Nigeria vigorously pursued policies and programme aimed at improving food production. The primary aims of any of the government programs was the attainment of self-reliance and self-sufficiency in food production and provision of raw- materials for the industries. As a result of food challenges faced by farmers there is need for adequate knowledge on Integrated farming system (IFS). Integrated farming system play a major role in increasing employment opportunities, nutrition and income of the rural populate. According to John, (2016) who's reported low awareness of integrated farming system (IFS) on the part of farmers inKanji in Niger State. This understanding therefore, provides the basis for the study to examine the effects of IFS on sustainable agricultural production in the communities in Kanji Lake Basin, Niger State, Nigeria.

The specific objectives were to;

i. identify the channels through which information about integrated farming system were disseminated to farmers in the study area,
ii. identify constraints that militating against the spread of integrated farming system in the study area.

METHODOLOGY

The study was conducted in Kainji, Niger state which lies between Latitudes 9^0N50'and 10^0N55'N, and Longitudes 4^0 25' - 4^0 45' E and between the borders of Sub - Saharan and Northern Guinea Savanna zones.

Sampling and data collection

A multi-stage sampling technique was used to select rural respondents in the study area. 3 strata from the 27 strata were purposively selected based on their high involvement in rice and fish production. 3 communities each from the strata. The final stage was proportionate random selection

of 10% of the respondents in each of the 9 communities. Thus a total of 150 respondents were selected for the study. Primary data were collected through the use of structured interview schedule.

RESULTS AND DISCUSSIONS

The channels through which integrated farming system was introduced to farmers

The result in table 1 revealed the channels through which integrated farming system was introducedto farmers along with their mean score include friends and relative (2.9), National Institute for Freshwater Fisheries Research (2.7), Extension Agents (2.1), Radio (2.0), Television (1.2), Non-governmental Organisation (1.0), pamphlets (1.0), posters (1.0) and newspapers (1.0). This report amply showed that print media such as poster, newspaper pamphlet were not used as channel of accessing information on integrated farming system. This was understandable as slightly above one-third (39.3%) of the respondents had formal education. Therefore, many of the respondents could not read and interpret information in these media. Thus friends and relations constituted the main source of information by farmers on integrated farming system with the mean score of (2.9). This was in agreement with the findings of Tologbonse*et al*. (2006) that rural households depend on friends and neighbors for agricultural information.

Table 1: The channels through which integrated farming system were disseminated

Information sources	Often	Rarely	Not used	Mean	Ranking
NIFFR	112 (74.7)	36 (24.0)	2 (1.3)	2.7	2nd
Radio	7 (4.7)	138 (92.0)	5 (3.3)	2.0	4th
Television	0 (0.0)	35 (23.3)	115 (76.7)	1.2	5th
Internet	1 (0.7)	6 (4.0)	143 (95.3)	1.1	6th
Extension agents	15 (10.0)	132(88.0)	3 (2.0)	2.1	3rd
Friends and relations	143 (95.3)	3 (2.0)	3(2.0)	2.9	1st
Newspapers/magazines	0 (0.0)	1 (0.7)	149 (99.3)	1.0	7th
Pamphlets	0 (0.0)	1(0.7)	149(99.3)	1.0	7th
Non-Governmental Organisations	0 (0.0)	1(0.7)	149(99.3)	1.0	7th

Source; field survey, 2018

Constraints militating against the use of integrated farming system

Table 2 revealed the constraints militating against the spread of integrated farming system along with the mean score. These include: high cost of inputs (2.8), inputs for integrated farming system were not available (2.6), inadequate knowledge about integrated farming system (2.6), integrated farming system is labour intensive (1.9), there are competing demand for land (1.8), staff of the extension organisation (agricultural development program ADP) were grossly incompetent to demonstrate integrated farming system technology (1.5), the population of the staff National Institute for Freshwater Fisheries Research were low to create awareness and explain IFS to farmer (1.3). It was overt that the most severe constraint includes high cost of inputs, unavailability of the inputs, and inadequate knowledge about integrated farming system. Farmers themselves should constitute themselves into cooperatives through which they can share knowledge and skills about integrated farming system. These results agreed with the findings of Wetengere, (2009) who reported that when analyzing determinants of adoption of improved maize variety in coastal lowlands of Kenya found high cost and unavailability of seed as one of factors responsible for low rate adoption. However training of farmers will be essential to increase skills and knowledge acquisition about integrated farming system

Table 2: Constraints militating against the use of integrated farming system

Constraints	Highly severe	Moderately severe	less severe	Mean	Ranking
The change agents are grossly incompetent to demonstrate integrated farming system technology	83 (55.3)	58 (38.7)	9 (6.0)	1.50	6th
NIFFR extension staff/farmers ratio is low	117 (78.0)	21 (14.0)	12 (8.0)	1.3	7th
Lack of adequate knowledge about integrated Farming system	6 (4.0)	53 (35.3)	91 (60.7)	2.56	3rd
Inputs for integrated farming system are not Available	4 (2.7)	46 (30.7)	100 (66.7)	2.64	2nd
High cost of inputs	1 (0.7)	22 (14.7)	127 (84.7)	2.84	1st

Constraints	Highly severe	Moderately severe	less severe	Mean	Ranking
The integrated farming system is culturally unacceptable	149 (99.3)	1 (0.7)	0 (0.0)	1.00	8th
There are competing demand for land and water for other economic use	41 (27.3)	94 (62.7)	15 (10.0)	1.82	5th
Integrated farming system is labour Intensive	20 (13.3)	113 (75.3)	17 (11.3)	1.98	4th

Source: Field survey (2018)

CONCLUSION AND RECOMMENDATION

The findings concluded that high cost of inputs, unavailability of the inputs, and inadequate knowledge about integrated farming systemthat integrated farming system has the potential to improve farmers' standard of living were main constraints inhibiting the spread of IFS. Based on this conclusion it is therefore recommended that NIFFR and extension organisation should increase the tempo of training the farmers on integrated farming system. Farmers themselves should constitute into cooperatives through which they can share knowledge and skills about integrated farming system, this will also facilitate joint purchase and use of inputs.

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USE OF FARM MECHANIZATION AMONG ARABLE CROP FARMERS IN EJIGBO LOCAL GOVERNMENT AREA, OSUN STATE

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ABSTRACT
Agricultural operations are time-bound; hence farm power must be supplied timely which essentially necessitates the use of agricultural mechanization. This study investigated the effect of farm mechanization on output of arable crop farmers in Ejigbo Local Government Area (LGA) of Osun State. Two stage sampling procedure was used to select 125 respondents in the study area and data collected were analyzed using frequency counts, mean, Chi-square, Pearson Product Moment Correlation and Logit regression Model. Specific objective of the study were to identify constraints to use of mechanization for farming among the respondents and identify respondents' sources of tractors used. Major constraints to use of mechanization for farming among arable crop farmers in the study area were inadequate tractors ($\bar{x}$=1.24), untimely access to tractor ($\bar{x}$=1.24), frequent breakdown ($\bar{x}$=1.22) and road problem ($\bar{x}$=1.06). The major sources of tractor among the respondents were local government ($\bar{x}$=1.50) and cooperatives ($\bar{x}$=1.35). The major activities for which the farmers used tractors were bush clearing ($\bar{x}$=1.53), ridging/heaping ($\bar{x}$=1.33), harrowing ($\bar{x}$=1.10) and ploughing ($\bar{x}$=1.10). Majority (59.2%) said the level of mechanization among the respondents was high. Sex of the farmers (p=0.000), average plot size (p=0.003), farmers' farming experience (p=0.043) and tenure security (p=0.047) significantly influence the decision of farmers to use tractors in arable crop production.It is therefore concluded that use of mechanization among the arable crop farmers was averagely high. There is need for more tractors to be made available to arable crop farmers in the study area.
Keywords: Arable, Mechanization, Uses, Constraints and Tractor.

INTRODUCTION
One of the ways of redirecting the economy globally is the formulation of appropriate agricultural policies such as mechanization. Such policies in the agricultural sector are usually targeted at attaining a guaranteed supply level, increasing the export base, protecting domestic production, price stability, product quality, product selection, land use or employment among others. Prahuddha and Babu (2010) opined that agricultural policies inNigeria have undergone four main phases: The first from 1960 to 1969; the second from 1970 to 1979, the period of the oil boom; the third from 1980 to the late 1990s, during the structural adjustment program (SAP); and the NEEDS framework of the new administrative dispensation.

The abundance of food and cheap labour in the rural settings across the nation during this period resulted in complacency on the part of the government thereby putting the enactment of a virile and strong policy in the doldrums for decades. Hence, government efforts to develop agriculture at this stage concentrated more on the production of cash crops like groundnut and cotton (in the north), cocoa and coffee (in the west); and palm produce and rubber in the east in part to satisfy the demands of our colonial administrations of cheap sources of exportable raw materials for their industrial growth. The mild food scarcity of 1960 to 1970 stirred up the government to concentrate briefly on food production.

Farm mechanization is now a necessity due to the fact that the disincentive effectofurbanizationandyouthemploymentpolicyofpoliticalofficeholdersis imparting negatively on availability of labour for farm work. Due to high cost of tractors, individual ownership of tractor among farmers is very difficult. Consequently, tractor hiring services become the most virile option available to farmers. Hence, the study ascertained the use of mechanization among arable crop farmers in Osun State.

The specific objectives were to

a) identify constraints to use of mechanization for farming activities among arable crop farmers in the study area.
b) Identify sources of tractor among arable crop farmers in the study area.

METHODOLOGY
Study area
The study was carried out in Ejigbo Local Government Area of Osun State, Nigeria. Ejigbo is a prominent town in Yoruba Land. Towns under Ejigbo are; Ola, Agunrodo, Ilawo, Araromi, Masifa. The people in the area are predominantly Yoruba by tribe, mostly peasant farmers, specializing in the cultivation of both arable crops and tree crops. Agriculture and trading are the dominant economic activities of the people in the zone.

Sampling procedure and sample size

Two stage sampling procedure was used to select 125 respondents in the study area. Five most common arable crops were identified (rice, yam, maize, cassava and cowpea) and used for the research. First stage involves purposive sampling of 3 communities with the highest number of farmers that cultivate the selected crops. Stage 2 involves random selection of 15% of the farmers that cultivate the selected arable crops in the 3 communities.

Measurement of Variables

Independent variables - Constraints to the use of mechanized farming. Sources of tractor for arable crop farming

Dependent variable - The dependent variable is the use of mechanization among arable crop farmers in the study area. Respondents were presented with list of farming activities to indicate how often they use tractor for each of the activity on a 3 point scale of always, occasionally and never with scoring of 2, 1 and 0. The mean was used to categorize their level of use into high and low. Those equal and above mean were categorized as high, while those below the mean were categorized as low.

RESULTS AND DISCUSSION

This chapter presents the data collected for the study. It also discusses the findings of the study.

Constraints limiting use of tractor

Result of constraints to use tractors among respondents on Table 7 reveals that the major constraints to use of mechanization for farming among arable crop farmers in the study area were inadequate tractors ($\bar{x}$=1.24), untimely access to tractor ($\bar{x}$=1.24), frequent breakdown ($\bar{x}$=1.22) and road problem ($\bar{x}$=1.06).

Table 7: Constraints limiting use of tractor

Constraints	Very severe		Severe		Not a constraints			
	Freq	%	Freq	%	Freq	%	Mean	Rank
Inadequate tractor	57	45.6	41	32.8	27	21.6	1.24	1st
Untimely access to tractor	57	45.6	41	32.8	27	21.6	1.24	1st
Frequent Breakdown	55	44.0	43	34.4	27	21.6	1.22	2nd
Road Problem	44	35.2	44	35.2	37	29.6	1.06	3rd
Fuel Scarcity	45	36.0	40	32.0	40	32.0	1.04	4th
High cost of hiring tractor	32	25.6	50	40.0	43	34.4	0.91	5th
Lack of technical knowledge	15	12.0	63	50.4	47	37.6	0.74	6th
Grand Mean							**1.06**	

Sources of tractors used by farmers

Result of analysis of sources of tractors used by arable crop farmers in the study area on Table 8 reveals that the sources through which the farmers get tractors were Local Governments ($\bar{x}$=1.50), Cooperative society ($\bar{x}$=1.35), NGOs ($\bar{x}$=1.28) and private owners ($\bar{x}$=1.26),

Table 8: Sources of tractors used by arable crop farmers

Sources	Always		Occasionally		Not at all			
	Freq	%	Freq	%	Freq	%	Mean	Rank
Private owners	55	44.0	48	38.4	22	17.6	1.26	4th
NGO	55	44.0	50	40.0	20	16.0	1.28	3rd
Local Government Area	71	56.8	45	36.0	9	7.2	1.50	1st
Cooperative societies	63	50.4	43	34.4	19	15.2	1.35	2nd
Grand Mean							**1.35**	

Source: Field data analysis, 2016

Level of use of tractor

Result of analysis of activities respondents uses tractor for on Table 9 reveals that the major activities for which arable farmers uses tractors were bush clearing ($\bar{x}$=1.53), ridging/heaping ($\bar{x}$=1.33), harrowing ($\bar{x}$=1.10) and ploughing ($\bar{x}$=1.10).

Table 9: Distribution of activities respondents uses tractor for

Activities	Always		Occasionally		Not at all			
	Freq	%	Freq	%	Freq	%	Mean	Rank
Bush clearing	83	66.4	25	20.0	17	13.6	1.53	1st
Harrowing	66	52.8	6	4.8	53	42.4	1.10	3rd
Ploughing	66	52.8	6	4.8	53	42.4	1.10	3rd

Activities	Always		Occasionally		Not at all			
	Freq	%	Freq	%	Freq	%	Mean	Rank
Planting	45	36.0	0	0.0	80	64.0	0.72	7th
Spraying	55	44.0	8	6.4	62	49.6	0.94	5th
Harvesting	40	32.0	2	1.6	83	66.4	0.66	8th
Ridging/heaping	74	59.2	18	14.4	33	26.4	1.33	2nd
Fertilizer application	55	44.0	8	6.4	62	49.6	0.94	5th
Grand Mean							**1.02**	

Categorization of level of use of tractors among the arable crop farmers

Result of analysis on Table 10 reveals that level of use of tractor among majority (59.2%) of the respondents was high, while it was low among 40.8%. This implies that the level of use of tractor was high among the arable crop farmers in the study area.

Table 10: Distribution of categorization of level of use of tractors among the arable crop farmers

Level	Frequency	Percentage
Low	51	40.8
High	74	59.2
Total	125	100

Min = 2.00, Max = 11.00, Mean = 5.2, Std. = 2.13

CONCLUSIONS AND RECOMMENDATIONS

The study investigated the use of farm mechanization among arable crop farmers in Ejigbo local Government Area, Osun State. Consequent upon empirical evidence in the study, it could be affirmed that use of mechanization among the arable crop farmers was averagely high.

Based on the findings of this study, the discussion involved and the conclusions thereafter drawn, the following recommendations are proposed:

- Tractors should be subsidized by government so that more farmers can acquire it for their production.
- The tractor hiring units in the state should have appropriate repair and maintenance culture to attain reasonable life spans of tractors and implements.

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USE OF CELL PHONES AMONG SELECTED FOOD CROP MARKETERS IN IBADAN METROPOLIS

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ABSTRACT
The introduction of mobile phone services in Nigeria has eased the conduct of business activities including agriculture by reducing hitches in the communication system. This study investigated the use of mobile phones among selected food crop marketers in Ibadan metropolis. A multi-stage sampling procedure was used to select 120 respondents in the study area and data collected were analyzed using frequency counts, mean, Chi-square and PPMC. Specific objective of the study were to ascertain respondents' knowledge of basic uses of cell phones and to identify the constraints faced by respondents in the use of cell phones for their marketing activities. All the marketers were aware that the green button on the phone can be used for answering and dialing calls, almost all the respondents were aware that cell phone can be used for storing people's name and number (99.5%), sending SMS (97.5%), checking time (95.5%) and listening to radio (95.0%). The major constraint faced in the use of mobile was poor network ($\bar{x}$=1.58). All the respondents were using cell phone to call and also save names and phone numbers. Furthermore, the level of use of cell phone was high (67.5%). Mobile phone network in the study areas should be improved to enable more marketers to use mobile phone.
Keywords: Cell Phones, Food Crop, Network, Uses, Trading and Marketers

INTRODUCTION

The revolution of cell phones in Nigeria has its history with the humble days of the pay phone when people stood on long queues at the phone booths with hand full coins waiting to make essential calls. Communication via telephone then heavily dependent on The Nigeria Telecommunication (NITEL), a government owned institution (now non-existence) established in 1985 which monopolized the telecommunications market for many years with its very limited network coverage.

The relevance of the use of mobile phones for communication in the agricultural sector should not be under played as agriculture is significant to the economic growth of any nation. Sanusi (2010), in a key domestic macro-economic and financial development report indicated that For agriculture to meet up with the expectations stated in the financial report, it requires the efficient functioning of a set of interrelated services in its production and delivery of produce; one of such, is the availability of telecommunication services that would relieve the complex process of communication within the sector.

Marketing in agriculture involves in its simplest form, the buying and selling of agricultural produce and there is no adequate marketing of such produce without good marketing information essential to all interested parties - farmers, traders, and consumers alike (Shepherd, 1997).Mobile phone use has contributed substantially to reducing rural-urban divide, increasing agricultural production and improving market linkages, something other ICTs – including the internet/web have been unable to do. This has become a success story of the last decade (CTA, 2009).

For successful marketing of food crops to achieved, exchange of information is required to trace agricultural commodities and organise the transportation of these goods from producers to consumers. Overa (2004) tells the story of how to alternative to telephone calls in long-distance exchange of information has been personal travels, the use of messengers/intermediaries of letters, drawing out the fact that physical travel is cumbersome, stressful, time consuming with a high risk of accidents and is such as expensive communication method.

While current research suggest that the cellular phone coverage and adoption have had positive impacts on agricultural and labour market efficiency and welfare in certain countries, empirical evidence is still somewhat limited (Aker and Mbiti, 2010). Therefore, the study assessed the use of cell phones among selected food crop marketers in Ibadan metropolis.

The specific objectives were to;

a) determine the knowledge of the respondents about basic cell phone applications.
b) ascertain the constraints faced by the respondents in the use of cell phones

METHODOLOGY

Study area- The study was conducted in Ibadan metropolis. The city of Ibadan is the second largest in Africa and was founded in 1829. The name Ibadan was derived from *"Eban-Odan"* meaning near the grass land which provided farm lands for the early settlers. Ibadan is the capital of Oyo State, a South West state in Nigeria that covers a total land mass of 27,249 square kilometer bounded by Ogun State in the South, Kwara State

in the North, parts of Ogun State and Benin Republic in the West and Osun State in the East.

Sampling procedure and sample size - Multi-stage sampling procedure was used in selecting respondents for the study. Stage 1 involved purposive selection of three markets (Bodija, Oja-Oba and Orita-Merin) in the study area because these markets are large and well known for food items. In stage 2, five food items association (Yam, Yam flour, Maize/Millet, Beans and Tomatoes/Pepper sellers) were purposively selected out of the fifteen that were available in the three markets; this is because the five food items have been identified to have high patronage and consumption rate in the city. In the third and last stage, 5% of members of each association were randomly selected to a total of 120 respondents for the study.

Measurement of Variables

Independent Variables - Knowledge of respondents about basic cell phone applications. Constraints faced by the respondents in the use of cell phones

Dependent variable - The dependent variable in the study is the level of use of the cell phone technology among the selected marketers. The respondents were asked to indicate their use of cell phone on a three point scale of always, sometimes and never with scoring of 2, 1 and 0 respectively. The mean scores was computed, the result was used to categorize the respondents level of use into high and low.

RESULT AND DISCUSSIONS

Knowledge of respondents about basic cell phone applications

Table 1 shows that all (100%) the respondents were knowledgeable about the main function of the green button on cell phones which is essentially used to dial out or answer calls. An impressive percentage (above 50.0%) responded correctly to all items in the table. This implies that most of the respondents are knowledgeable about the use of cell phone applications which might be as a result of the fact that majority of them are educated.

Table 1: Distribution of respondents' knowledge about basic cell phone applications

SN	Cell Phones Application Knowledge	True	False
1	The green button on the cell phone can be used for dialing and answering calls	100	0.0
2	There is provision for sending and receiving (SMS) on cell phones	97.5	2.5
3.	Some cell phone have radio facilities	95.0	5.0
4	Cell phone have time clocks	95.5	5.0
5	Browsing with cell phones is very possible	60.7	39.3
6	Calculators are available on cell phones	94.5	5.5
7	Some cell phone have cameras for taking pictures	88.1	11.4
8	There is touch light facility on some cell phones	94.5	5.5
9	It is possible to transfer files from one cell phone to another	63.2	36.8
10	Activities can be captured using a video recording on cell phones	74.1	25.9

Source: Field Survey, 2016

Constraints faced by the respondents in the use of cell phones

Table 2 shows that the only constraint faced by majority (59.7%) of the respondents was poor network. Other constraints identified by less than average of the respondents were high call charges/rates (16.9%), prone to deception (7.5%), theft/loss (7.5%), quality of handsets/technical faults (5.5%) and erratic power/inability to charge hand set (3.0%). This corroborates the finding of Akinola (2012) that poor network is the major problem facing the use of mobile phone in South west Nigeria.

Table 2: Distribution of constraints faced by respondents in the use of cell phones

Items	Very severe		Severe		Not a constraint		Mean	Rank
	Freq	%	Freq	%	Freq	%		
Poor network.	80	66.7	29	24.2	11	9.1	1.58	1st
High call charges/rates	67	55.8	24	20.0	29	24.2	1.32	4th
Prone to deception	33	27.5	44	36.7	43	35.8	0.92	6th
Theft/loss	50	41.7	62	52.5	8	6.7	1.36	3rd
Technical faults	60	50.0	45	37.5	15	12.5	1.38	2nd
Erratic power	45	37.5	55	45.8	20	16.7	1.21	5th
Grand mean							**1.30**	

Source: Field Survey, 2016

Distribution of level of use of cell phone in transacting marketing activities

The result of analysis of Table 3 reveals that the major activities the respondents use cell phone for included making call ($\bar{x}$=2.0), storing of names and numbers ($\bar{x}$=2.0), checking of time ($\bar{x}$=1.9), radio ($\bar{x}$=1.7), calculators ($\bar{x}$=1.7), sending and receiving SMS ($\bar{x}$=1.6), touch light ($\bar{x}$=1.6) and calendar ($\bar{x}$=1.3). These are activities with mean above the grand mean of all the activities (15 items). This implies that cell phone is been used by the marketers for so many purposes.

Table 3: Distribution of level of use of cell phones

	Always		Sometimes		Never		Mean	
Items	**Freq**	**%**	**Freq**	**%**	**Freq**	**%**		
To make call	120	100.0	0	0.0	0	0.0	2.0	1st
Sending and receiving SMS	90	75.0	4	3.3	26	21.7	1.6	6th
Radio facilities	90	75.0	25	20.8	5	4.1	1.7	4th
Storing people's name and number	120	100.0	0	0.0	0	0.0	2.0	1st
Calendar	55	45.8	45	37.5	20	16.7	1.3	8th
Time clocks	116	96.6	2	1.7	2	1.7	1.9	3rd
Calculators	90	75.0	25	20.8	5	4.1	1.7	4th
Touch light	90	75.0	25	20.8	5	4.1	1.6	6th
Grand mean							**1.1**	

Categorization of Level of use of cell phone in transacting marketing activities

Table 3 shows that majority (67.4%) of the respondents had high level of use of mobile phone applications, while 32.3% had low use of mobile phone applications. This shows that use of mobile phone application among the marketers is high.

Table 3: categorization of respondents by level of cell phone use

Level of cell phone use	Frequency	Percentage
Low	39	32.5
High	67	67.5
Total	120	100.0

Source: Field Survey, 2016

CONCLUSIONS AND RECOMMENDATIONS

The study investigated the use of cell phone among selected food crop marketers in Ibadan metropolis. Consequent upon empirical evidence in the study, it could be affirmed that the level of use of mobile phone application among the respondents is high, which may be due to the high knowledge about mobile phone application among the people.

Based on the findings of this study, the discussion involved and the conclusions drawn, the following recommendations are proposed in ensuring that mobile phone application is used to enhance marketers' activities:

- Network service providers should be encouraged to improve on the network service in the study area
- extension workers should design information technology training programs for marketers, focusing on data related services that mobile phone can provide e.g internent browsing, mobile banking, bulk messaging etc.

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PERCEIVED EFFECTS OF HERDSMEN-FARMERS' CONFLICT ON FARMING ACTIVITIES IN IJEBU-EAST LOCAL GOVERNMENT AREA OF OGUN STATE, NIGERIA

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ABSTRACT
The study assessed the perceived effects of herdsmen-farmers' conflict on farming activities in Ijebu-East Local Government Area of Ogun State, Nigeria. Multi-stage sampling procedure was used to select 160 farmers. Data collected were analyzed using descriptive statistics and probit regression. The result revealed that majority (70%) of the respondents were male, married (90%), with mean age of 45 years. The farmers claimed that major cause of the conflict was damage of crops by cattle and their herders (96.3%) The result also showed that most perceived effects of these conflicts was reduction of farm output (97.5%). Result of the probit regression showed that age (z= -0.027: p≤0.05), years of farming experience (z=0.024: p≤0.05), size of land (z=0.007: p≤0.05) and primary occupation (z=0.066: p≤0.05) had significant relationship with perceived effects of herdsmen-farmers' conflict on farming activities. Hence, the study concluded that farming activities are greatly affected by the conflicts and could be a threat to food security. The study therefore recommended that, rural traditional institutions should set up committees to continually organise trainings for the farmers and herders on the need for peaceful coexistence and ways of carrying out their enterprise activities without infringement on one another.

Keywords: Conflict, Farmers, Loss of produce, Herders, Education

INTRODUCTION

Agriculture occupies a prominent place in the economy of Nigeria by providing the means of livelihood and economic sustenance for majority of the population. The agricultural sector accounts for about 22% of the Gross Domestic Product (GDP) in the first quarter of 2019 and employs about two-third of the labour force (Mesike *et al*., 2009; National Bureau of Statistics [NBS], 2019). The sector is divided into crop production, livestock, forestry, and fishery subsectors. Out of these subsectors, the crop production subsector (which is driven by the farmers) and livestock subsector (which is mostly owned by the Fulanis) are of great importance to the economic potential of the country (Fabiyi and Otunuga, 2016). This is because out of the 22% contribution of the agricultural sector to the GDP of the country, the crop subsector contributes 85% of the agricultural GDP which is followed by the livestock subsector (NBS, 2019).

Farmers need land for crop production and Fulani herdsmen also need land and resources from land to feed their animals, however the need for this limited resource by both groups of actors is contradictory and have often led to competition. This is due to the fact that land which is probably the most important resource used by these two groups for their day to day activities is needed at varying thresholds and for different purposes (Rashid 2012). Competition for land by pastoralists and farmers coupled with scarcity of resources and adverse climatic changes all act as precipitant in pastoralist-farmer conflicts (Blench, 2004). The conflicts between herdsmen and farmers have remained the most preponderant resource-use conflict in Nigeria (Ajuwon, 2004 cited in Rashid, 2012; Fasona and Omojola, 2005) as it has demonstrated high potential to exacerbate the insecurity and food crisis particularly in rural communities where most of the conflicts are localized, with reverberating consequences nationwide (Babagana *etal*., 2019).

Ogunwande and Akinrinola (2017) submitted that between 2005 and 2010, about 280 death cases were recorded; 7,000 hectares of farms were destroyed; 1,300 cattle were lost and 7,000 communities were deserted. This conflict which has been observed in sedentary farming communities like Nassarawa, Ogun, Kaduna and Benue States has led to disruption of socioeconomic, religious and educational activities, promo2005ted political instability and threatened national unity (Kasarachi, 2016; Okoli and Addo, 2018) It is in line with this that the study intend to understand the effect of agricultural conflict of farming activities.

METHODOLOGY

The study used multistage sampling procedure to select respondents for the study. In the first stage, four (4) farming villages namely, Imushin, Ife, Igan and Ilese were purposively selected due to high incidence of crop farmers-herdsmen conflict. The second stage involved random selection of 40 farmers from each of the villages to make a total of 160 respondents. Interview schedule was used to elicit information from the farmers. Descriptive statistics such as frequency distribution, percentages and mean were used to present the objectives while probit

regression analysis was used to determine the effect of crop farmers and herdsmen conflict on farming activities.

RESULTS AND DISCUSSION

Socioeconomic characteristics of the farmers

The result in Table 1 reveals that majority (90.0%) of the respondents were married. This indicates that farming is a very important source of livelihood. This implies that disruption in this means of livelihood due to conflict has capability of increasing the incidence of poverty among farming households. Most (70%) of the respondents were male which indicates dominance of men in farming. The mean age of farmers was 44.9 years indicating that majority of the respondents are within their active years. This could contribute to reaction to the invasion of cattle herdsmen in farmlands since they have the energy to react. The mean years of education is 4.69 years revealing a very low level of literacy. More than half (56.3%) engaged in farming as their primary occupation. This is an indication that disruption of farming activities can encourage diversification to other means of livelihood, hence reducing the amount of people producing food for the populace. Mean years of farming for the farmers was 23 years. This indicates a high level of experience among the farmers. The mean farm size was 3.04 hectares which were mostly rented (96.3%). This is in line with the findings of Mgbenka, Mbah and Ezeano (2016) who reported that most of the farmers in Nigeria are small scale farmers.

Table 1: Descriptive analysis of personal characteristics of the sampled respondents

Characteristics	Mean value	Modal categories
Marital status		Married
Age	44.88 years	
Years spent in formal education	4.7 years	
Farm size	3.04 hectares	
Primary occupation	Farming	
House hold size	5.39	
Years spent in farming	23 years	

Source: Field Survey (2018)

Effects of herdsmen-farmers' conflict

Table 2 shows that conflict between crop farmers and cattle herders had very high effect on loss of farm produce and loss of income and indebtedness which ranked 1st, 2nd and 3rd respectively. This situation poses threat of food insecurity and increased poverty among farmers as a result of loss incurred from the insufficient food produced in the country and as well the loss of income which has the potential of preventing re-investment into agricultural production, hence, reduced amount of food available.

Table 2: Extent of effect of crops farmers and cattle herders' conflict

EFFECT	Very high effect	High effect	Low effect	Rank
Loss of farm produce	93.8	5.0	1.3	1st
Inability to repay loan	63.8	13.8	22.5	4th
Inability to feed family	61.3	17.5	21.3	5th
Social insecurity	55.0	26.3	18.8	6th
Loss of income	81.3	17.5	1.3	2nd
Indebtedness	68.8	11.3	32.5	3rd

Source: Field Survey (2018)

Probit regression of factors influencing effect of conflict on farming activities

Rahji and Fakayode (2009) reported pseudo R^2 values of 0.25 and 0.3145 respectively as representing a relatively good-fit. The result, all at 5% level of significance except for farm size at 10% showed that younger farmers are more likely to be affected by the conflict than older farmers. This could be because younger farmers might be discouraged due to the disastrous effects of the conflict and as such might want to leave farming and go into other businesses. The marginal effect result showed that a decrease in the age of farmers by 1 year will increase the effect of conflict by 172%. Years of farming experience was positively significant, thus indicating that farmers who had spent more years in farming will more likely be affected by the conflict. This could be due to the loss of crop, loss of revenue and other disastrous effects associated with conflict. The result of the marginal effect showed that an increase in the years spent by farmers on the farm by 1 year will likely increase the effect from conflict by 52%.

Farm size was positively significant; this suggests as the total cropland owned by farmers increased, the effect from conflict also increased. The result of the marginal effect showed that an increase in farm size by one extra hectare will likely increase the effect from conflict by 66%. Lastly, that of primary occupation implies that respondents who had farming as their major occupation will likely be more affected by conflict than those with other occupations. The result of the marginal effect showed that respondents who are farmers will likely be more affected by farmers-herders conflict by 31%.

Table 3: Probit regression of the factors influencing effect of conflict

Variable	Coefficient	z	P>|z|	Marginal effect
Marital status	-0.6891	-1.07	0.286	-0.2023
Sex	-0.3186	-0.83	0.409	-0.0935
Age	-5.8825**	-2.21	0.027	-1.7272
Years of education	-1.4706	-1.17	0.242	-0.4318
Household size	-1.3577	-1.32	0.187	-0.3986
Years of experience	1.7625**	2.26	0.024	0.5175
Farm size	2.2534***	2.71	0.007	0.6616
Primary occupation	1.0496*	1.84	0.066	0.3082
Constant	11.0167	2.48	0.013	
Prob>chi^2	0.0117			
Pseudo R^2	0.2252			

Source: Field survey 2018 **Significant at 5% * Significant 10%

CONCLUSION AND RECOMMENDATIONS

Based on the findings, the study concluded that, farming activities are greatly affected by the conflicts and could be a threat to food security. It is recommended that, rural traditional institutions should set up committees to continually organise trainings for the farmers and herders on the need for peaceful coexistence and ways of carrying out their enterprise activities without infringement on one another.

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ASSESSMENT OF SOCIAL CAPITAL STATUS OF AGE GRADES IN ABIA STATE, NIGERIA

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ABSTRACT
The growth and development of most rural communities is often dependent on the activities of indigenous social groups. The efficiency of these groups is often hinged on their social capital status and their ability to function collectively. The study therefore, assessed the social capital status of age grades in Abia State, Nigeria with special considerations on their network and membership, trust and solidarity, reciprocity, norms and values. Multi-stage sampling procedure was employed in the selection of 90 respondents from 3 local government areas in the State that had functional age grades. Data were collected using questionnaire/interview schedule and analysed using descriptive (percentages, mean) statistics. Results revealed membership of age grades was mostly (67.8%) compulsory for every adult male, 67.8% believed most members could assist them financially and 98.9% believed most members would assist in times of emergency. The result also showed that age grades had high ($\overline{x}$=2.14) frequency of interaction with other groups, high ($\overline{x}$=3.22) level of trust and solidarity, high ($\overline{x}$=4.76) level of reciprocity and high ($\overline{x}$=4.59) level of compliance with norms and values. The study concluded that the age grades had high level of social capital which enabled them work collectively as teams to achieve their goals and also meet responsibilities expected of them by their communities. It therefore recommends that communities should encourage the formation of age grades and boost social capital to assist in community development.
Keywords: Social capital, age grade, norms and value

INTRODUCTION

Rural communities are continually teaming up to form social groups that can be used in enhancing the well being of the people. The age grade is a social group made up of people of about the same age with the difference ranging from between three to five years and sometimes between seven and ten years. Age grades have served as very important tools in community development in capacities such as local security, law enforcers, cleaning and clearing village roads and squares, serving as farm hand /labour source to members and provision of rural infrastructure such as roads, schools, etc (Anyanwu, 2016; Ndukwe, 2015; Mben Age Grade, 2014). They also serve as network of assistance to members.

Social capital is a necessary resource for every team work. Putnam (2000) referred to social capital as those characteristics of social groups that enhance the smooth functioning of a society by encouraging coordinated actions. It encourages individual and group actions that arise from networks of relationship, reciprocity, trust and social norms. Social capital is a resource that is acquired through involvement in social activities (Nyqvist, Victor, Forsman and Cattan, 2016). The benefit of social capital is not for the individuals alone but also for the communities. It is multi-dimensional and come in different combinations and possible constructs for its measurement include: networks and membership, reciprocity, norms, social cohesion, collective action, trust and solidarity, goodwill, commitment, information and communication (Tajuddin, 2011; Nyqvist *et al*, 2016; Grootaert, *et al*., 2004; Putnam, 2000).

Social capital has been reported to be of immense benefit to individuals, their social groups and the community at large (Nyqvist *et al*, 2016). It helps in the smooth running of social groups, fostering collective action and enhancing team play. Age grades as social groups, are saddled with enormous responsibilities and require social capital to achieve their goals. This study therefore, assessed the social capital status of the age grades which help them function effectively and carry out collective actions as a team. The specific objectives were to:

i. examine the membership and network of interaction of age grades in the study area;
ii. ascertain the level of trust among age grade members;
iii. determine their level of reciprocity and
iv. ascertain their level of compliance with norms and values

METHODOLOGY

This study was conducted in Abia State, Nigeria. Multistage sampling procedure was employed in the selection of 90 respondents for the study from three local government areas (LGA) in the study area with functional age grades. Data for the study were collected using questionnaire/ interview schedule and corroborated through focus group discussions. Percentages and mean scores were used in analysing the data

RESULTS AND DISCUSSIONS

Membership and network of interaction of age grades in the study area

The result on Table 1 revealed that the mode of membership into age grades in the study area was mostly by birth (compulsory) (67.8%), the average size per age grade was 151 registered members, and a large number (47.8%) of the respondents, had farming as their primary occupation. Also, majority (93.3%) of the respondents had one form of formal education or the other and a good number (46.6%) of the age grade members perceived that all their members were of equal economic status, 67.8% believed most of their members would assist them financially when necessary while 98.9% believed that most of their mates would come to their aid if there was an emergency

The implication of this is that the age grades like in most African settings, where safety nets are inadequate, provide reciprocal assistance to their members Amzat and Razum (2014). They rally round and give assistance to the needy knowing that they may need same assistance some day.

Table 1: Distribution of respondents based on membership and network of interaction

Membership and network	(n =90)	
	Frequency	Percent
Mode of membership		
Born into group	61	67.8
Required to join	19	21.1
Voluntary choice	9	10.1
Others	1	1.1
Mean size of age grade	151	
Diversity of membership (Socio-Economic characteristics)		
Occupation		
Farming	43	47.8
Trading	18	20.0
Civil Service	23	25.6
Artisan	6	6.7
Different levels of Education		
No formal Education	6	6.7
Primary	35	38.9
Secondary	32	35.6
Tertiary	17	22.8
Perceived difference in economic status most group members		
Mixed	23	25.6
Higher than you	7	7.8
Lower than you	18	20.0
Equal with you	42	46.6
Age grade members who can give financial assistance		
No one	5	5.6
One or two	8	8.9
Three or four	16	17.8
Five or more	61	67.8
Age grade members can help in Emergency		
No	1	1.1
Yes	89	98.9

Source: Field survey, 2017

Age grade's interaction with other groups

This was measured on a three point scale of always (2), sometimes (1) and never (0) and the result on Table 1b revealed that the age grades interacted more with groups within their communities ($\overline{X}$=1.33) than with groups outside their communities ($\overline{X}$=0.94). This result implies that age grades in the Study area were homogenous and had more of bonding network than bridging or linking network. This is likely to make assessing information and resources from outside the community more difficult Claridge (2018).

Table 1b: Distribution of respondents based on frequency of their group's interaction with other groups

Group interaction	$(\overline{X})$	Std dev
With groups within community	1.33	0.474
With groups outside the community	0.94	0.676
Grand mean	1.14	

Source: Field survey, 2017
Decision: ≥ 1.05 = High, <1.05 = low

Level of trust

The result on level of trust presented in Table 3.0 revealed that age grade members trusted each other and would confide in each other without fear of betrayal ($\overline{X}$=4.43) and disagreed with the statement that they did not trust each other in matters of borrowing and lending ($\overline{X}$=2.20). Although the caution on alertness ($\overline{X}$=3.04) was greater than the benchmark mean of 3.0 which is neutral, the level was low. The implication is that the groups are able to function, and achieve results, because members trust each other and the system they are in. Gleenson (2015) stated that trust is a prerequisite for success in relationship and team work and the level of trust is directly proportional to productivity, performance and profitability

Table 3.0: Distribution of respondents based on level of trust

Trust	$\overline{X}$	Std dev
Members confide in each other with no fear of betrayal	4.43	1.058
Members have to be alert or someone would take advantage of them	3.04	1.232
Members generally do not trust each other in matters of lending and borrowing	2.20	1.442

Source: Field survey, 2017
Decision: ≥ 4.00 = high level of trust, 3.50 – 3.99 = moderate level of trust, 3.05 – 3.49 =low level of trust

Age grades' level of reciprocity

On Table 4.0 is the result on level of reciprocity. It can be deduced from the grand mean score of 4.76 that there is high level of reciprocity among age grades and age grade members in Abia state, Nigeria. This implies that the members of the age grades come to each other's aid and that of the community, expecting same to be done for them in their time of need. At the Focus Group Discussion in these communities, discussants revealed that participation in age grade activities was a-give-and-take situation.

Table 4.0: Distribution of respondents based on level of reciprocity

Reciprocity	$\overline{X}$	Std dev
There is mutual support/ dependency among members of my age grade	4.76	1.035
I am always willing to help members of my age grade who are in need because I know they will do same for me if the need arises	4.78	0.950
Members of my age grade believe that what is good for the community is good for them	4.67	0.884
Members of my age grade support community based projects and other local economic efforts that benefit the community	4.71	0.564
Members of my age grade cooperate to support the local economy	4.88	0.735
Grand mean	**4.76**	

Field survey, 2017
≥ 4.00 = high level of reciprocity,
3.50 – 3.99 = moderate level of reciprocity,
3.05-3.49 =low level of reciprocity

Compliance to norms and values

Result in Table 5.0 revealed that age grades members in Abia state have high level of compliance ($\overline{X}$=4.59) with norms and values that guide their actions. By implication, age grades are properly constituted groups with constitutions and bye-laws stating the acceptable behaviours and corresponding punishment for defaulters. Corroborating this, Udeze (2009) reported that age grades served both as pressure groups and constituted authorities for checks and balances on their members and the society in general.

Table 5.0: Distribution of respondents based on compliance with norms and values

Norms and values		Std dev
Members of my age grade value our relationship	4.79	0.750
Offending members of my age grade are sanctioned appropriately without bias	4.48	0.748
Whatever the age grade does to one person, it does to others based on constitution	4.67	0.525
Members of my age grade believe in each other and the oneness of the group	4.43	0.761
Grand mean	**4.59**	

Source: Field survey, 2017
≥ 4.00 = high level of compliance with norms and values,
3.50 – 3.99 = moderate level of compliance with norms and values,
3.05-3.49 =low level of compliance with norms and values

CONCLUSION AND RECOMMENDATIONS

Age grades in Abia state have very high social capital status, as a result they are able to pull resources together and achieve great results collectively. It is therefore recommended that community leaders should encourage mates and peer groups from very young ages to have healthy affiliations and competitions that can help them develop bonds and boost social capital to assist in community development.

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RURAL DWELLERS' PERCEPTION OF GREEN PRACTICES IN OKE-OGUN AREA OF OYO STATE, NIGERIA

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ABSTRACT
The continuous deterioration of the natural environment has raised the issue of protecting the ecosystem which has in turn resulted in ethical consumption known as green consumerism. With the concept of green behaviour increasingly gaining attention among stakeholders, empirical evidences on rural dwellers perception of green behaviour is scanty. Hence, this study investigated rural dwellers' perception of green practices in Oke-ogun area of Oyo state. A total of 133 respondents were selected through multistage sampling procedure. Interview schedule was used to collect data on respondents' socio economic characteristics, awareness of green practices, perceived constraints to adopting green practices and perception of green practices. Data were analysed, using both descriptive and inferential statistics. Findings show that the mean age of respondents was 46± 14.1 years. Most (57.9%) of the respondents were male, married (70.5%),had farming as their main income generating activity (60.4%) with a mean years of education of 7.9±4.6 years. Awareness of green practices was low (57.3%). Inadequate knowledge of green practices (1.88±0.37) and low income (1.37±0.56) were major constraints to adopting green practices. Most (60.4%) had unfavourable perception of green practices. Age (r =-0.547), years of formal education (r = 0.625), awareness (r= 0.726) and perceived constraints (r=-0.215) were significantly related to perception of green practices. The disposition of rural dwellers towards green practices was unfavourable. Hence, the study recommends the sensitization of rural dwellers on the components and benefits attached to adopting green practices. .
Keywords: Green practices, perception, rural dwellers

INTRODUCTION
Man in his quest to meet his daily needs has continued to alter the environmentthrough anthropogenic activities ranging fromillegal tree falling, land clearing, overgrazing andreliance on biomass for fuel. All these further result in serious degradation of the ecosystem.The Oke-Ogun area which falls within the derived savanna has continued to experience environmental degradation as a number of forest reserves that exist have been significantly degraded by uncontrolled anthropogenic activities such as fuel wood exploitation and charcoal production (Eniola and Odebode, 2014). The populace who largely depend on agriculture are facing a numberof converging environmental trends that leads to unsustainable production and degradation of natural resources. One of the ways in addressing these environmental problems is the adoption of green practices. Green practices are sustainable environmental practices aimed at conserving the environment and natural resources. The biggest benefit in applying green practice is to improve the quality of life by providing more sustainable environmental quality. However, the concept of green practice in rural areas has received very little attention by both researchers and the governments, even when it is obvious that environmental degradation has a devastating effect on agriculture. The multifarious interactions of people with the natural environment make it crucial to examine the link between environmental issues and people's perceptions of the environment (Gray,et al.,2010).Despite the numerous highlighted measures of green practice perceptions and multiple studies in various parts of the planet, very little is known about how the rural poor particularly in developing country like Nigeria conceptualize, live with, and respond to pressing environmental issues facing them.

The objectives of the study are to:

1. assess the level of awareness of green practices among rural dwellers in Oke-Ogun area of Oyo state
2. identify the perceived constraints to adopting green practices among rural dwellers in Oke-Ogun area of Oyo State.
3. determine the perception of green practices among rural dwellers in Oke-Ogun area of Oyo State.

METHODOLOGY
The area is located within the Guinea savannah zone. The area is recognized as the 'food basket' of the Southwestern Nigeria, having an annual rainfall ranging between 700-1100mm. The population of the study comprised of all rural dwellers in Oke-Ogun area of Oyo State.A Muti-stage random sampling technique was employed for the study. The first stage involved a random selection of two Local Government Areas (Saki-West and Kajola) from the ten Local Government Areas in the zone. The second stage was a random selection of four villages from each of the selected Local Government Areas. The third and final stage

was systematic sampling of households from each of the selected villages so that we had a total of 133 respondents

RESULTS AND DISCUSSION

Socio economic characteristics of respondents

Results of the analysis in Table 1 revealed an average age of 46± 14.1 years.This implies that respondents in the study area are within the middle age category and have the strength and vigor to be engaged in livelihood activities. Table 1 also reveals that most (57.9%) of the respondents were male while the remaining 42.1% were female. The average year of formal education among rural dwellers was7.9±4.6 years, which suggests that most of the respondents had at least primary education and as such may know how to read and write.Data revealed that respondents engaged in a wide range occupation as their primary income generating activity which included farming (60.0%), processing (16.5%), trading (13.5%) and artisans (9.6%), thus establishing that most of the respondents were farmers.

Table 1: Distribution by socio economic characteristics of respondents

Socio economic variable	Freq.	%	Mean
Age			
21-30 years	24	18.0	46± 14.1 years
31-40 years	27	20.3	
41-50 years	62	46.7	
Above 50 years	20	15.0	
Sex			
Male	77	57.9	
Female	56	42.1	
Years of formal education			
0	61	45.9	
1-6	49	36.8	7.9±4.6 years
7-12	20	15.0	
Above 12	3	2.3	
Occupation			
Farming	80	60.4	
Processing	22	16.5	
Trading	18	13.5	
Artisans	13	9.6	

Source: Field survey, 2019

Level of awareness of green practices

Table 2 shows that more than half (57.3%)of the respondents had low level of awareness of green practices, while only 42.7% had high awareness. The results point out the existence of a gap in rural dwellers' understanding of the anthropogenic nature of the current environmental issues as they fail to conform to the scientific consensus on green practices.

Table 2: Distribution of respondents by level of awareness of green practices

Level	Freq.	%	Minimum value	Maximum value	Mean
Low (0-4)	76	57.3	0	7	5.0±1.4
High (5-7)	57	42.7			

Source: Field survey, 2019

Constraints to adopting green practices

Data available in Table 3 reveals that inadequate knowledge($\bar{x}$=1.88),lack of income ($\bar{x}$=1.37) and poverty ($\bar{x}$=1.26) were major constraints to adopting green practices.

Table 3:Constraints to adopting green practices

Constraints	Severe	Mild	Not a constraint	Mean	Rank
Inadequate knowledge	89.5	9.0	1.5	1.88	1st
Low income	40.6	55.6	3.8	1.37	2nd
High skill required	16.5	35.3	48.1	0.68	4th
Cultural beliefs	7.5	22.6	69.9	0.38	6th

Constraints	Severe	Mild	Not a constraint	Mean	Rank
Poverty	57.9	10.5	31.6	1.26	3rd
Inadequate information on green practices	12.0	25.6	62.4	0.50	5th

Source: Field survey, 2019

Level of perception of green practices

Table 4 shows that most (60.4%) of the respondents had unfavourable perception of green practices, while 39.6% had favourable perception. This may be attributed to the low level of awareness of green practices.

Table 4: Distribution by respondents' perception of green practices

Level	Freq.	%	Minimum value	Maximum value	Mean
Unfavourable	80	60.4	15	39	27.9±4.6
Favourable	53	39.6			

Source: Field survey, 2019

Test of relationship between selected personal characteristics and perception of green practices

Table 5 shows that significant relationship exists between age and perception of green practices($r = 0.547$, $p < 0.05$). This suggests that as age of respondents' increases, they tend to manifest an unfavourable disposition towards green practices. Years of education was also significantly related to respondents' perception of green practices ($r = 0.625$, $p < 0.05$). This implies that the higher the level of education, the more rural dwellers manifest favourable disposition towards green practices.

Test of relationship between respondents' level of awareness of green practices and perception of green practices

Table 5 reveals a significant relationship between respondents' level of awareness of green practices and their perception of green practices. This suggests that an increase in level of awareness of green practices would result in a favourable perception of green practices.

Test of relationship between perceived constraints to adopting green practices and perception of green practices

Table 5 indicates a negative and significant relationship between perceived constraints to adopting green practices and respondents' perception of green practices. ($r = -0.215$, $p < 0.05$). This implies that the more constraints to adopting green practices, the more respondents' tends to manifest an unfavourable perception of green practices.

Table 5: Correlation analysis of independent and dependent variables

Variable	r	p	Decision
Age	-0.547	0.002	Significant
Years of formal education	0.625	0.000	Significant
Awareness of green practices	0.726	0.000	Significant
Perceived Constraints	-0.215	0.023	Significant

CONCLUSION AND RECOMMENDATIONS

This study found that the level of awareness of the use of green practices was low which in turn reflected in an unfavourable perception of green practices. The study therefore recommended the need to fostering public awareness of the importance of environmental conservation among rural dwellers in Oke-Ogun area of Oyo state.

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CHANGES IN FOOD PRICES AMONG HOUSEHOLDS IN RURAL AND URBAN COMMUNITIES IN OGUN AND OYO STATES, NIGERIA

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ABSTRACT
The study assessed changes in food prices, food security and nutritional status of households in rural and urban communities in Southwest Nigeria. Data for this study were obtained through the aid of a structured questionnaire. A multistage sampling procedure was employed to select 320 households from Ogun and Oyo States of Southwest Nigeria. Data were analyzed using descriptive and inferential statistics. Results revealed that 18.8% and 25.0% of the households in the rural areas (RAs) and urban areas (UAs) of Ogun State were between 41-50 years of age, compared to 21.2% and 33.7% in Oyo State. Cassava flour and yam tuber witnessed the highest price percentage increase in RA and UA of Ogun State (60.9% and 59.9% respectively). In Oyo State, yam tuber witnessed the highest price percentage increase in both RA and UA of Oyo State (41.3% and 66.4%). Furthermore, results revealed that 22.5% were food secure in RA of Ogun State, only 15% in RA of Oyo State. On the other hand, 76.3% were food secure in UA of Ogun State compared to 71.3% in UA of Oyo State. Anthropometric result revealed that 82.6% of the respondents in the RAs of Ogun State had normal weight compared to 79.3% in the RA of Oyo State; 96.1% and 93.1% in UA of Ogun and Oyo States respectively. In conclusion, variation exists in the percentage of households affected by increase in the prices of food items between rural and urban communities and across Oyo and Ogun States. More households are food secure in urban with higher normal weight compared to rural communities. In order to improve food security and nutritional status in UAs and RAs, food distribution channel should be well integrated to reduce food prices.
Keywords: Food prices, Food security, Nutritional status, Households.

INTRODUCTION
Food prices are a primary determinant of consumption patterns, and high food prices may have important negative effects on nutritional status and health, especially among poor people (Rosemary *et al.,* 2013). High food prices has made most households food insecure and vulnerable (Brinkman *et.al*., 2010). According to Brinkman (2010), the population groups most vulnerable to high food prices are those who spend a large share of their income on food, buy more food than they sell (net buyers), and have few coping strategies at their disposal. Rising food prices can have a major impact on food and nutrition security as these push the most vulnerable households further into poverty and weaken their ability to access adequate food (Gustafson, 2013). These hardships can force poor households to sell off assets or forego other essentials that create a long-lasting poverty trap that becomes ever harder to escape.

While food prices have increased drastically, households' income has not increased proportionately, thereby depriving household of their savings, negatively affecting income, nutrition and health of poor households. Households therefore find it difficult to provide their basic household requirements in terms of food, nutrition and adequate health care. In view of the above, it was imperative to embark on a study that examines the changes in food prices, households' access and source of information about food prices, as well as households' food security and nutritional status.

METHODOLOGY
The study was carried out in South-Western part of Nigeria. A multistage sampling procedure was employed to select three hundred and twenty households from Ogun and Oyo states. Data were obtained through the aid of a well structured questionnaire. The independent variables were: households' socioeconomic characteristics, food prices, access to information about market food prices, and were measured using descriptive statistics. The dependent variables were food security status and nutritional status. Food security status was measured using the United State Department of Agriculture's (USDA) food security approach and nutritional statuswas measured using anthropometric measures (Body Mass Index).

RESULTS AND DISCUSSION
Change in prices of common food items
The mean change in food prices between 2014 and 2017 is revealed in Table 1. The study revealed that all the food items considered for this study experienced a percentage increase over the years. In Ogun state, cassava flour and garri witnessed the largest percentage increase over the years in the RA with 60.9% and yam tuber with 59.9% in the UA. On the other hand, local rice witnessed a percentage decrease of 1.1% in RA of Oyo, with yam tuber witnessing the highest percentage increase in both RA and UA (41.3% and 66.4% respectively). It was observed that UA witnessed the highest increase in food prices than RA, with Ogun state witnessing higher food prices

than Oyo state. A higher price of food items in UA compared to RA could be due to series of interventions (handling, processing, packaging, transport, storing, marketing etc.) that takes place at the RA before getting to the UA (Armar-Klesu 2000) and also low percentage of households in UA involved in agricultural activities. Increase in food prices is likely to have impact on food consumption patterns of the households, thereby having significant effect on their food and nutrition security.

Table 1: Changes in Prices Agricultural Food Produce

	Ogun state						Oyo state					
	Rural			Urban			Rural			Urban		
Agricultural farm produce	Price in 2012/ unit (N)	Present price /unit (N)	% change	Price in 2012/ unit (N)	Present price (N)	% change	Price in 2012/ unit (N)	Present price/ unit (N)	% change	Price in 2012/ unit (N)	Present price/ unit (N)	% change
Yam tuber	363.44	893.69	59.3	424.36	1058.34	59.9	62.31	106.17	41.3	68.37	113.80	66.4
Cassava flour	221	565.80	60.9	242.91	602.44	59.7	234.31	271.39	13.7	219.67	265.61	17.3
Garri	203.54	520.08	60.9	230.29	560.29	58.9	169.97	186.22	8.8	168.13	179.88	6.5
Yam flour	330.81	769.10	57.0	412.94	805.74	48.8	380.06	402.56	5.8	393.16	485.62	19.0
Local rice	953.34	1431.85	33.4	1018.7	1549.21	34.2	255.30	252.44	-1.1	249.67	261.62	4.6
Cowpea (brown)	382.56	926.67	58.7	429.01	1018.11	57.9	287.18	373.65	23.1	299.37	367.70	18.6
Cowpea (white)	388.13	864.14	55.1	400.33	966.77	58.6	223.41	280.00	20.2	227.59	271.60	16.2

Awareness and Sources of Information about food prices

The awareness and sources of information about food prices are shown in Table 2. All the respondents indicated that they know the prices of food items in the market. Local sources (that is, through friends and family) are the major source of information (100%). Respondents reported that they also get information about market days from radio programs such as *Sajenwogba on Paramount FM, Oju-oja on Sweet FM* in Ogun state and *Ojo-oja on Fresh FM in Oyo state.* Results of the study indicating high level of awareness of respondents about food most especially via local sources confirmed that information is mostly disseminated in the rural area mainly by friends and family members through local markets.

Table 2: Awareness and Sources of Information about Food Prices

	Ogun		Oyo	
	Rural	Urban	Rural	Urban
Awareness about food prices				
Yes	80(100.0)	80(100.0)	80(100.0)	80(100.0)
No	0(0.0)	0(0.0)	0(0.0)	0(0.0)
Sources of information				
Tv	1(0.5)	34(13.5)	0	10(4.7)
Radio	14(6.9)	31(12.4)	16(8.3)	45(20.9)
Newspaper	0(0.0)	24(9.6)	0(0.0)	0(0.0)
Local sources	80(38.8)	80(31.9)	80(41.0)	80(37.2)
Conferences	31(15.0)	4(1.6)	19(9.7)	0(0.0)
Market	80(38.8)	78(31.1)	80(41.0)	80(37.2)
N	**206**	**251**	**195**	**215**

Figures in parentheses are in percentage

Food security status

The description of the food security status of the households is shown in Table 3. The food security status was classified into high food security, marginal food security, low food security and very low food security based on household responses to the 18-items of the USDA food security module. Results revealed that 22.5 percent of HH in RA of Ogun state were highly food secured compared to 15.0 percent in RA of Oyo state; and 76.3 percent HH in UA of Ogun state compared to 71.3 percent in Oyo state. This implies

that urban areas were more food secured than rural areas and this is contrary to expectations that people in rural areas whose predominant occupation is farming, with lower food prices are always food secured.

Table 3: Households' Food Security Status

	Ogun			Oyo			Pooled		
	Rural	Urban	Total	Rural	Urban	Total	Rural	Urban	Total
Food security status									
High	18(22.5)	61(76.3)	79(49.4)	12(15)	57(71.3)	69(86.3)	30(18.7)	118(73.8)	148(46.2)
Marginal	21(26.3)	15(18.8)	36(22.5)	18(22.5)	13(16.3)	31(38.8)	39(24.4)	28(17.5)	67(20.9)
Low	20(25.0)	4(5.0)	24(15.0)	22(27.5)	7(8.7)	29(36.2)	42(16.3)	11(6.9)	53(16.5)
Very low	21(26.3)	0(0.0)	21(13.1)	28(35)	3(3.7)	31(38.7)	49(30.6)	3(1.8)	52(16.4)

Figures in parentheses are in percentage

Nutritional status

The Body Mass Index of every member of the households that were 18 years and above were measured, as presented on Table 8. The table shows that only 15.9 percent were underweight in rural areas of Ogun state compared to 17.9 percent in Oyo state; and 1.8 percent in urban area of Ogun state compared to 4.9 percent in Oyo state. This result supports the findings of Torlesse *et al.,* (2003) who opined that most undernourished children live in rural areas. It also supports finding of Khor *et al.,* (2003) who reported that the prevalence of stunting was high among children in poor rural areas. This result implies that nutritional status of households is dependent on change in price of food items in the market and invariably determines the nutritional status of the households.

Table 4: Nutritional status of households

Nutritional status	Ogun state		Oyo state	
	Rural	Urban	Rural	Urban
Underweight	53 (15.9)	5 (1.8)	57 (17.9)	12 (4.9)
Normal	276 (82.6)	273 (96.1)	253 (79.3)	230 (93.1)
Overweight	5 (1.5)	4 (1.4)	9 (2.8)	5 (2.0)
Obese	0 (0.0)	2 (0.7)	0 (0)	0 (0)

Figures in parentheses are in percentage

CONCLUSION AND RECOMMENDATION

Results of this study revealed that prices of food stuffs across rural and urban areas showed significant variations over time, with a higher increase in urban areas. These changes have a significant effect on the food consumption pattern of the households, and in the long run affect the food security status as well as the nutrition status. The urban areas were more food and nutritional secured than the urban areas. It is therefore recommended that food distribution channel (farm site to selling point) be well integrated to reduce food prices.

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INTENSIVE CHICKEN MANAGEMENT PRACTICES: A TRAJECTORY TO ENVIRONMENTAL ISSUES IN SOUTHWEST NIGERIA

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ABSTRACT
Agriculture contributes majorly to greenhouse gas (GHG) emissions principally from methane and nitrous oxide with meat and dairy products accounting for approximately half of food-generated GHG emissions. A study on influence of selected intensive chicken management practices on GHG emissions in Southwest Nigeria showed patterns at which these practices contribute to environmental issues. Extension officers and livestock researchers were interviewed to provide information on the practices in the study area; this was corroborated with identification of same, by selected farmers. The ambient air quality within and around chicken farms in the area was monitored using a combination of in-situ instrumental measurements and sampling with Gilian pump/impinger containing absorbing solution (at 4.0 LPM for 20 minutes) and subsequent analysis in the labouratory showing gases emitted on different farms at varying distances of 25m and 100m from the farms. There were no reported difference in the air Suspended Particulate Matter but was evident in the CH_4 and NH_3 content of the air corroborating previous data ($t= 3.22$, $p=0.03$). Environmental-friendly-alternative practices were suggested by experts in livestock management and climate change issues, but farmers had constraints in the knowledge, attitude and practice of these alternatives in Southwest Nigeria. Environmental issues can be curtailed if environment-friendly-alternatives recommended by researchers are introduced through appropriate extension methods to substitute for traditional ways of managing chicken. There is need to consciously raise awareness of environment issues in the short-run among early career researchers and in the long run a deliberate campaign in schools to focus young minds into investigative enquiries on the environment and how best society should adapt as environmental changes that occur are most often irreversible.
Keywords: Chicken Management Practices; Greenhouse Gas Emissions, Trajectory

INTRODUCTION
Agriculture, but particularly livestock keeping is among the most climate-sensitive economic sectors thereby making rural poor communities to be more vulnerable to adverse effects of the environment (FAO,2006). Chicken management is an aspect of poultry management which draws on and contributes to the environment in the ways that are of concern to the environment. Chicken enterprises may include table egg production, broiler meat production, breeder stock and hatchery, raising replacement pullets, etc. There is scanty information about how the chicken management practices might contribute to climate change and issues of the environment. Regardless of the size of enterprise, some factors are pertinent to a successful chicken management practices *viz.* proper feeding, good housing management and sanitation. Other management practices include utilisation of equipment; the production of eggs and table birds; brooding practices, incubation practices, housing, vaccinations, management and housing, management of administration of drugs, slaughtering practices, management of unused feed, and marketing of chicken products (Oluyemi, 2000). Agriculture is a major contributor to greenhouse gas (GHG) emissions both at the national and international levels principally from methane and nitrous oxide. It is becoming clear that meat and dairy products are the foods carrying the greatest environmental burden, accounting for approximately half of food-generated GHG emissions (European Commission, 2006; Jan Kramer *et al*., 1999) and indeed 18% of global GHG emissions (FAO, 2006). An understanding of how chicken farmers, extension officers and agricultural researchers perceive the relationship between chicken management practices and environment is a worthy contribution. The study assessed the influence of selected chicken management practices on environmental issues and considered the frequently used intensive chicken management practices and the alternative practices; the Greenhouse gases emitted on intensively managed farms and the extent to which the environmental issues are attributable to management practices of chicken as well as the relationship between farmers' awareness and their perceived influence of the management practices on the environment.

METHODOLOGY
Study area
The study was carried out in Oyo and Ogun States, southwest Nigeria. Thepurposive sampling method was used to select329 commercial chicken farmers from the list of poultry farmers provided by the ADPs in the 2 states. Some 30 researchers and extension agents working with the farmerswere also selected for interview. Soil, air and water samples were taken from six chicken farms (three from each state), from the list of the sampled farms, and at varying distances of 25m and 100m from each farm as the crow fly. The air

sampled was analysed for its content of Methane (CH_4), Ammonia (NH_3).The ambient air quality at 0m, 25m and 100m from three chicken farms was monitored using a combination of in-situ instrumental measurements and sampling with Gillian pump/impinger containing absorbing solution (at 4.0 LPM for 20 minutes) and subsequent labouratory analysis were done.This was corroborated with information on the environment as being affected by intensive care of chicken management from farmers, extension officers, livestock researchers and secondary data. Data obtained were analyzed using descriptive statistics.

RESULTS AND DISCUSSION

Frequently used intensive chicken management practices and environmental - friendly alternatives

Result in Table 1 shows that there are several chicken management practices listed by the extension agents, corroborated by researchers that are yet to be practiced in the study area.

Table 1: Frequently used intensive chicken management practices and alternatives

Chicken Management Practices	Alternatives
Incubation Practice	Use of natural Incubation practice
Brooding Practice	Conversion of waste to wealth; Use of electricity
Deep litter management	Composting; Conversion of litters to gases for cooking
Faecal disposal	Composting; Conversion of litters to gases for cooking; conversion of waste to wealth; Drying and packaging as fertilizers
Waste disposal in battery cages	Animal feed recycling; Use of absorbent
Fumigation	Use of herbs; Use of organic fumigants
Mgt of administration of drugs	Use of herbs
Slaughtering	Use of biodegradable materials
Draining	Use of waste treatment plant
Defeathering	Genetic manipulation by breeding featherless bird; Hydrolyzing the feather
Evisceration	Proper disposal of waste; Use as feed to fish
Washing	Proper disposal of waste
Chilling	Use of environmental chilling machines
Refrigeration	Use of environmental friendly refrigerators
Packaging	Biodegradable materials; Proper disposal of waste
Mgt of wastes at sales point	Proper construction of the sales point and disposal of waste

Source: Field Survey, 2015

The interview report indicated thatfactors like finances, unavailability of the alternatives; conflicts; low level of adoption of the farmers; efficacy management practices; cost of installation of some of the equipment; farmers acceptance; illiteracy of farmers; inadequate waste management facilities; non effectiveness of the alternatives; and lack of training were the constraints faced by the farmers.

Greenhouse gases emitted on intensively managed farms and contribution of environmental issues to management practices of chicken

Preliminary reports from previous study by the researcher shows that the differences in the air Suspended Particulate Matter in Ogun and Oyo states was not significant but there were significant differences in the CH_4 and NH_3 emitted (Osuntade, 2014). All these corroborated with the perceived influence of the chicken management practices on the environment by the farmers. It is not enough that the chicken farmers had a perception that there were negative influences of the selected chicken management practices on the environment but the analysis carried out by experts in the study confirmed their perception. This agrees with Oyetoro (2008) that opined that human activities have impacts on air and the environment.

Relationship between farmers' awareness and their perceived influence of the management practices on the environment

The study revealed that there exists a significant relationship between the awareness of environmental problems and the farmers' perception of the influence of chicken management practices on the climate. This invariably showed that farmers' awareness of the happenings of problems in the environment can affect their perception. The farmers' would have been exposed to the causes of environmental degradation and this will positively affect the way they perceive their agribusiness activities' influence on the environment.

Influence of selected chicken management practices on environmental issues

This study observed that the average gases emitted fall between the averages of 2.4 and 3.2ppm for the two gases in the points observed.

This is a bit far from the IPCC projections which states that Greenhouse gases will become hazardous to human health when they are between 10-25ppb for CH_4 and NH_3. There is therefore need to raise awareness among stakeholders in the chicken business. These gases do not stay dormant in the atmosphere but there are mediations by the nature that reduces the gases. If the poultry activity increases, there are increases in the CH_4 and NH_3content in the air; and if the source of the pollution stops, the pollution itself will stop.

CONCLUSIONS AND RECOMMENDATIONS

The study found out that there are possible environmental friendly alternatives to these practices but there are constraints that make the alternative practices not easily practices among the chicken farmers in the rainforest Nigeria. These constraints include financial, illiteracy of farmers, lack of training for the farmers. Projections in Greenhouse gases could be possible based on the assumptions that, there are no mediations to reduce the gases accumulation in the air; Stock size remaining the same over the period of years; No availability of green vegetation to take up the content of the gases in the air; There is no washing away of the nitrate in the nitrogen cycle by rain and no new innovations to mediate the release of the gases. There should also be enlightenment programmes on the health hazards that people that are working in the chicken farms and those that are living few kilometres away from the farms. These enlightenment programmes should also reiterate policy issues that will suggest that chicken farms should not be located in residential areas because of the hazardous effects that siting chicken farms around residential areas can cause with the release of harmful and toxic gases.

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ECONOMIC ANALYSIS OF POST-HARVEST LOSSES AMONG PLANTAIN MARKETERS IN OSUN STATE, NIGERIA

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ABSTRACT
The study analyzed the factors influencing post-harvest losses (PHLs) among plantain marketers in Osun State, Nigeria. It described the socio-economic characteristics and estimated the Marketing Margin (MM) of the plantain marketers. These were with a view to assessing the economics of losses in the marketing of the plantain in Osun State towards enhancing their livelihood. Multi-stage sampling procedure was used to select 165 wholesalers and 111 retailers of plantain. Data were gathered through well-structured interview schedule and analyzed using appropriate descriptive and inferential statistics. Findings revealed that majority of wholesalers and retailers (74.77% and 96.97%) were female and married(79.28% and 87.28%). They are in their active age as reflected with a mean age of 41.42±9.26 for wholesalers and 39.07±7.35 for retailers. Results obtained from analysis of MM showed that wholesalers experience high level of MM (40%) suggesting that fruit marketing was a profitable business. It was concluded that plantain marketing is a profitable business if PHLs is reduced in the study area. It is therefore recommended that marketers should be educated on fruit handling while the transportation module should aim at reducing PHLs thereby increasing the returns on investment.
Keywords: Economics analysis, Post-harvest losses, Plantain marketers, Marketing margin and Wholesaler

INTRODUCTION
Plantain (*Musa paradisiaca*)is an important staple food for both rural and urban populace. It is a very good source of carbohydrates, proteins, mineral and vitamins no matter what forms it is consumed in addition to the numerous medical properties (Hontoet *al.*, 2007). However, Adenijiand Ayandiji, (2014) asserted that seasonal glut during the peak periods of harvest from September to February (akes the crop vulnerable to high postharvest losses. Kwami and Nitty, (2014) posited that short shelf life, poor post-harvest and poor handling practices account for the high rate of plantain postharvest losses.Post-harvest losses (PHLs) of fruit is the quantitative and qualitative loss at any stage along the commodity value chain which includes the change in the edibility and wholesomeness which prevents its final consumption (Adeoye, *et. al*., 2009)

The broad objective of the study was to examine the economics of losses in the marketing of plantain in Osun State, Nigeria. The specific objectives are to

(i) describe the socio-economic characteristics of the plantain marketers in Osun State;
(ii) estimate the marketing margin to plantain marketers and

METHODOLOGY
The study was conducted in Osun State, Nigeria and it has six administrative zones. Multistage sampling procedure was used to select respondents for the study. The first stage involved the purposive selection of one LGA from each of the administrative zone of Osun State Development Programme (OSADEP) based on high concentration of community markets where plantains are prominently traded. The second stage involved a random selection of three community markets from each of the LGAs where there was availability of plantain marketers, making a total of eighteen (18) community markets. At the last stage, proportionate sampling was used in selecting 111 wholesalers and 165 retailers in all the selected community market. In all, a total of two hundred and seventy-six (276) plantain marketers were selected and interviewed for this study. Data were gathered through well-structured interview schedule and analyzed using descriptive statistics and marketing margin analysis

RESULTS AND DISCUSSION
Socioeconomic characteristics of plantain marketers
The results of analysis as presented in Table 1 showed that majority (74.77%) of the plantain wholesalers and 96.97 percent of retailers interviewed were female. This confirms Adewumi *et al.* (2009) that plantain marketing is dominated by female. The mean age of wholesalers was 41.42±9.26 years while retailers mean age was 39.07±7.35 years. This confirms Adewumi*et. al*,. (2009) findings stated that women were young and active.

More than two third (79.28% and 87.27%) of the female plantain marketers were married. More than half of the wholesalers (59.72%) and retailers (58.80%) had household size of between 5 and 10 persons. This contradicts Olajide and Olonibua (2019) findings that plantain marketers had between 1 to 5 persons. Most of the fruit traders had secondary school education. Majority (68.99%) of wholesalers had been in fruit business for more than 16 years while few (40.11%) of the

retailers have been in fruit business for eleven years.

Table 1: Socio-economic and demographic characteristics of fruit marketers

Variables	Wholesalers (n = 111)		Retailers (n = 165)	
	Frequency	Percentage	Frequency	Percentage
Gender				
Male	28	25.23	5	3.03
Female	83	74.77	160	96.97
Age (years)				
<30	14	12.61	26	15.76
31 – 40	50	45.05	69	41.82
41 – 60	45	40.55	79	47.88
> 60	2	1.80	0	0
Mean/ Standard deviation	41.42±9.26		39.07±7.35	
Marital Status				
Single	12	10.81	17	10.30
Married	88	79.28	144	87.27
Widowed	11	9.91	1	0.61
Divorced	0	0	3	1.82
Household size				
None	6	4.17	1	0.46
< 5	42	29.17	67	31.02
5 – 10	86	59.72	127	58.80
11 – 15	10	6.94	0	8.80
> =16	0	0	2	0.93
Mean	6.03		6.09	
Standard deviation	2.69		2.90	
Years of formal education				
None	25	17.36	42	19.44
1 – 6	26	18.06	57	26.39
7 – 12	73	50.69	104	48.15
13 – 18	20	13.89	13	6.02
Mean	8.36		7.39	
Standard deviation	4.70		4.70	
Years of marketing experience				
≤6	10	9.01	40	24.24
7 – 11	16	14.41	67	40.61
12 – 16	42	37.84	26	15.76
≥16	43	38.74	32	19.39
Mean	16.41		11.86	
SD	8.02		6.82	

Source: Field survey, 2018

Estimation of Marketing Margin of Plantain Marketers

Percentage marketing margin for plantain in Table 2 revealed that wholesalers had a higher marketing margin (40%) than the retailers (35%). This indicates that marketing of plantain was sustainable, dependable and more profitable among the plantain wholesalers.

Table 2: Percentage distribution of the mean purchasing and selling prices for plantain in the study area

Type of marketers/fruit	Mean Purchase price (N)	Mean Selling price (N)	Marketing margin (N)	(%)
Plantain wholesalers	13,985.07	19,509.70	5524.63	39.50
Plantain retailers	16,642.61	22,391.04	5748.43	34.54

Source:Field survey, 2018

CONCLUSIONS AND RECOMMENDATIONS

Plantain marketing is a profitable business venture in the study area. It is therefore recommended that awareness programme should be organised for the marketers to educate them on post-harvest handling especially during marketing of plantain. Lastly, transportation module should be

design to reduce PHLs thereby increasing the returns on investment.

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ANALYSIS OF GENDER ROLES IN MARKETING OF FISH IN OGBA/EGBEMA/NDONI LOCAL GOVERNMENT AREA, RIVERS STATE

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ABSTRACT
The study analyzed gender roles in marketing of fish in Ogba/Egbema/Ndoni Local Government Area of Rivers State. The specific objectives were to examine the activities of gender in marketing of fish; the effects of gender participation, extent of gender involvement in fish marketing and to ascertain obstacles encountered by fish traders in the study area. A total of 120 respondents were selected from 12 communities in the study area using the two stage sampling procedure. The data were collected using structured interview schedule. Collected data were analyzed using descriptive tools such as mean and percentage. Findings from gender activities in fish marketingindicated that66.7% each of the males were involved in fish marketing and transportation of fish and 90% of the females were engaged in selling of dried fish. Gender involvement in marketing of fish indicated that there was gender involvement in fish marketing (x = 3.9), fish drying (x = 3.9), frozen fish selling (x = 3.30) and wholesale fish (x = 3.85). The major obstacles to fish marketing was lack of capital (x = 4.14), insecurity issues (x=4.00) and transportation problems (x = 3.92). The study recommends that government and banks in the study area should grant soft loans to fish traders.
Keywords: Gender roles, marketing of fish, Ogba /Egbema/Ndoni LGA

INTRODUCTION

Fisheries production have many enterprises, some of them are fish rearing, fish feed formulation, fish hatching, fish processing and fish marketing. Each enterprise can be run as an independent business, unit or incorporated into a company; fish marketing is an ancient activity which emanated after fishing or catching fish (es). Fishing is a form of livelihood that has passed through generations in riverine and coastal communities. Fish trading seem to be a major income generating activity in fishing communities. Fish trading directly and indirectly influence the standard of living of the fishing communities positively. It also offers opportunity for the communities to empower their people and build basic infrastructures in the areas. The role of gender in participation in agriculture calls for in-depth analysis on socio- economic impact in the society. Fish marketing or trading whether in the life or processed form is an occupation of different people to generate income, employment and boast the standard of living in the fishing communities. Fish marketing or trading could be influenced by gender role existing within the fishing area. These gender roles are geared by culture, norms, practices and laws operating or allowed to exist in the area. In some areas, fish marketing is an occupation for the women folk and some inherited the enterprise from their mothers (Adewumi, 2016).

The specific objectives are to:

i. identified the types of gender activities in fish marketing in the study area;
ii. examine the extent of gender involvement in marketing of fish;
iii. determine the effect of gender participation in fish marketing; and
iv. ascertain the obstacles encountered by gender in marketing of fish in study area.

METHODOLOGY

The area of the study is Ogba/Egbema/Ndoni Local Government Area. The headquarters is Omoku. There are 180 registered fish traders in ONELGA (ONELGA Council, 2019). A sample size of one hundred and twenty (120) respondents was drawn through a two stage sampling procedure. First, 12 communities where there are predominant fish marketers /traders were purposively selected from the 66 communities that are in ONELGA. Secondly, ten (10) fish traders were selected through simple random sampling from the twelve (12) selected communities. Primary data were collected through detailed structured interview schedule, personal interview and discussion. The data collected were analyzed using descriptive tools (mean, and percentage).

RESULTS AND DISCUSSION

The results in Table 1 showed that 67.9% of the men were involved in fish marketing while 33.2% of the women participated. This report is in line with Weeratunge *et a*l. (2011) that fish marketing is predominately a male activity though women also engaged in fishing. In fish processing and cleaning, 97.2%of the women were involved while 2.8% of men also engaged in fish processing and cleaning. This finding is in line with Branch *et al.* (2002) that most women get involved in fish processing and cleaning. Majorities (81.7%, 100% and 90.9%) of the women were involved in selling of frozen, dried and fresh fish in the study area respectively.

Table 1: Gender Activities in Fish Marketing in the Study Area

Marketing activities n-120	Frequency		Percentage	
	M	%	F	%
Fish marketing	20	66.7	10	33.3
Fish processing/cleaning of fish	2	2.8	70	97.2
Selling of frozen fish	15	18.3	67	81.7
Selling of dried fish	-	0	80	90.00
Selling of fresh fish	5	9.1	50	90.9
Transportation of fish	20	66.7	10	33.3
Selling fried fish	2	6.3	30	93.7
Sale fish in retailer form	-	0	60	70.00
Sale fish in wholesale	35	66.3	23	39.7

Source: Field Survey, 2019, F = Female; M=male.

The result on extent of gender involvement in marketing of fish indicated that both male and female were involved in fish marketing (x = 3.9), rearing (x = 3.36), fish processing (x = 3.2), transportation (x = 3.23), fish retailing (x = 3.6) fish drying (x = 3.9), frozen fish selling (x = 3.3) and wholesale fish (x = 3.85) (Table 2). This finding agrees with Agbebi and Fagbote (2012) that men and women engaged in different fish marketing activities to reduce poverty and enhance family up keep.

Table 2: Mean response on extent of gender involvement in marketing of fish

Gender involvement	**M Mean**	**F Mean**	**Weighted Total**	**Total Mean**	**Decision**
There are gender equality in marketing	3.85	3.95	468	3.90	Accepted
There is no gender equality in fish rearing	3.00	3.72	403	3.36	Accepted
There is gender equality in fish processing	3.02	3.38	384	3.20	Accepted
Transport has gender equality	3.20	3.26	389	3.23	Accepted
In fish retailing there is gender equality	4.20	3.00	432	3.60	Accepted
Dried fish selling has gender equality	3.95	3.85	468	3.90	Accepted
Fresh fish selling has gender equality	2.85	2.75	336	2.80	Accepted
In frozen fish selling there is gender bias	3.40	3.20	396	3.30	Accepted
In whole sale fish selling there is gender equality.	3.80	3.90	462	3.85	Accepted
Grand Total	3.48	3.46		3.47	Accepted

Source: Field Survey, 2019 > 2.50 = Reject; <2.50 = Accept M-male; F- female

Table 3 indicated that gender participation allows family members to contribute to family up keep (73.3%), create opportunity for investment (68%), healthy competition among men and women is encouraged (63%) . This finding agrees with that of Offor, Ibeagwa and kemefuna (2016) that given equal opportunity to men and women in the marketing of fish youth unemployment problems would be solved.

Table 3: Effect of gender participation in fish marketing, n=120

Effect of Gender participation	M	F	Total Frequency	Total %
Allows men and women to have their means of income	40	28	68	56.7
It creates sectional unemployment	28	30	58	48.3
Family members to contributes to the family up keep	38	50	88	73.3
Community peace and development is strengthen	29	30	59	49.2
Cause division among men and women in the fish business encourage	28	20	48	40
Healthy competition among men and women is encouraged	30	45	75	63
Creates opportunity for investment	41	40	81	68

Source: Field survey 2019; %= percentage; Multiple responses M- Male; F-Female.

Obstacles to gender involvement in marketing of fish are: lack of capital (x = 4.14), insecurity problems(x = 4.00) preservation problems (x = 3.92), rapid fish spillage (x = 3.6). The finding is also in line with Preez (2018) that if the barriers to fish marketing are removed Nigerian women could be empowered through fish marketing.

Table 4: Obstacles to gender involvement in fish marketing

Obstacles	M Mean	F Mean	Weighted Total	Total Mean	Remark
Lack of capital	4.28	4.00	497	4.14	Accepted
Gender decimation	2.75	2.85	336	2.80	Rejected
Insecurity problem	3.80	4.20	480	4.00	Accepted
Poor patronage by opposite gender	2.67	2.67	320	2.67	Rejected
Poor fish processing	3.95	3.85	468	3.90	Accepted
Transportation problem	3.35	3.05	403	3.36	Accepted
Insufficient storage facilities					Accepted
	3.40	3.00	384	3.20	Accepted
Problem of pests	3.55	3.65	396	3.30	Accepted
Rapid fish spoilage	3.55	3.65	432	3.60	Accepted
Preservation problems	4.42	3.42	470	3.92	Accepted

Source: Field Survey, 2019 < 3.0 = Reject; > 3.0 = Accept M- Male; F- Female.

CONCLUSION AND RECOMMENDATIONS

There are fish marketers in the study. Men and women are engaged in the marketing of fish and certain aspects of the fish marketing were left for particular group of persons through not by culture or by law but attitude of the people. Gender involvement was enhanced. Obstacles identified to fish marketing business were lack of capital, insecurity, poor fish processing, transpiration, fish spoilage and preservation problems. Based on the findings from the study, the following recommendations were made, they are: Government and stakeholders in the study area should work with security apparatus in the state to reduce the case of insecurity and extension workers in the study area should organise workshop for fish marketers on various aspects of fish preservation.

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ASSESSMENT OF WOMEN INVOLVEMENT IN LOCUST BEANS PRODUCTION AS A LIVELIHOOD ACTIVITY IN EJIGBO, OSUN STATE, NIGERIA

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ABSTRACT
The study assessed the involvement of women in the production of locust beans as a livelihood activity. Specifically, the study ascertained the locust beans processing activities in which the women were involved, determined the profitability of locust beans and the constraints faced in the production. A two-stage sampling technique involving purpose selection of the two most predominant locust bean processing communities in Ejigbo was used to select a total of 120 respondents for data collection. Data collected were analysed using frequency counts, percentages, means and standard deviation as well as correlation analysis for inferential statistics. The results showed that the women actively take charge of most of the processing activities up to the point of marketing of locust beans produced. Their net profit was found to be ₦1,499.36 per production cycle with benefit cost ratio of 1.84. The most pressing constraints identified includes high time demand (3.98±0.16) and high cost of firewood (3.93±0.29) among others. Results of hypothesis test showed that age (r=0.456), household size (r=0.256) and years of experience (r=0.453) were significantly associated with the involvement in locust beans processing activities. It was concluded that women actively engaged in locust beans processing as a profitable livelihood activity despite its time consuming nature and increasing inputs' cost. It was recommended that labour and time saving technologies should be encouraged for reducing the drudgery of the processing activities.
Keywords: Livelihood, Production, Involvement, Women, Processing activities

INTRODUCTION
Parkia biglobosa is an important economic tree legume of considerable multipurpose importance described to combine two of Africans' greatest needs which are food and tree cover (Farayola *et* al. 2012; Shao, 2002). Ifeanyieze *et al.,* (2016) observed the growing interest in natural food ingredients like locust bean as additives in consumer diets. This espouses the viability of the locust beans enterprise in rural food production and livelihood.

Worthy of note is the gender specificity of the locust bean production enterprise for rural women's livelihood. This stems from the operation of the labourious processing activities up to the final marketing of locust beans by the rural women. Ifeanyieze *et al.* (2016) noted that the production has not increased substantially owing to associated problems and poor standardization measures for products' marketing. It might even be hard to guarantee if income from products sale adequately compensates all the resources invested in the processing activities. Adisa *et al.* (2014) indicated that the locust beans processors are somewhat associated with poverty despite its high demand. This makes it imperative for the investigation of the economic value of women's involvement in the enterprise. As such, this study was poised to generate evidence on the profitability of involvement vis-à-vis the constraints to the processing of locust beans. This study specifically described the socio-economic characteristics of women involved in locust bean production; ascertained their level of involvement in the activities, determined the profitability of locust beans processing as a livelihood activity and identified the constraints faced.

The hypothesis set for this study is presented in the null form as follows: There is no significant relationship between the socio-economic characteristics of women and their involvement in locust bean production.

METHODOLOGY
The study population was the women processors of locust beans in Ejigbo town of Osun State Nigeria. Sampling was done with the use of a two-stage sampling technique from areas predominated by known expert producers. A total of 120 respondents were selected and data collection was done with the use of validated interview schedule. Data collected were analyzed with frequency counts, percentages while the enterprise profitability index was measured with Cost and return analysis (Ti), Gross Margin (GM) and Benefit Cost Ratio (BCR).

RESULTS AND DISCUSSION
Socioeconomic characteristics of locust beans producers
Results in Table 1 shows that the mean age of the processors was 46.57±12.4years. Majority (75%) were married with mean household size of 6±2. Majority (73.3%) had no formal education reflecting high illiteracy level among the processors and probable implication for low level of awareness and accessibility to labour saving technologies for enhanced efficiency and productivity. More so, majority (71.7%) had locust bean processing as their main occupation with mean years of experience and average annual

income of 16.38±10 and ₦142,483.33±55,029.74, respectively. This corroborates the view of Adisa *et al.* (2014) that locust beans producers were often poor. Furthermore, locust beans processing skills was mainly inherited from the parents (68.3%), while few (19.2%) acquired the skill from their friends and 12.5% underwent apprenticeship in acquiring the skill.

Table 1: results of respondents' socio-economic characteristics (n=120)

Variable	Frequency	Percentage
Age		
Mean and SD = 46.6 ± 12.4 years		
Marital status: Single	5	4.2
Married	90	75.0
Widowed	25	20.9
Educational status:Primary	20	16.7
Secondary	10	8.3
Tertiary	2	1.7
No formal education	88	73.3
Household size		
Mean and SD = 6 ± 2 people		
Main occupation:Locust bean processing	86	71.7
Artisan	3	2.5
Trading	2	1.7
Farming	29	24.2
Annual income		
Mean + SD = ₦142,483.33 ± 55,029.737		
Source skill acquisition:Parent	82	68.3
Friend	23	19.2
Apprenticeship	15	12.5
Years of experience		
Mean and SD =16.38 ± 10.09 years		

Source: Field survey, 2018

Level of women involvement in locust bean processing

Results in Table 2 shows that majority (66.7%)of the women were highly involved in the processing activities, while a fifth (20.8%) were involved at a medium level and only 12.5% fell within low involvement level. This upholds that the women processors actively expend their personal energy in fuelling the labourious processing activities limiting production expenses and optimal resource utilisation for greater returns. This finding corroborates those of Farayola *et al.,* 2012; and Oyerinde and Daramola (2004) among others that women were highly involved in the processing and marketing of locust beans.

Table 2: Results of level of involvement in locust bean processing (Mean = 2.68 ± 0.46)

Level	Frequency	Percentage
Low (Less than 2.22)	15	12.5
Medium (2.22 - 3.14)	25	20.8
High (above 3.14)	80	66.7

Source: Field survey, 2018

Profitability of locust bean production

The results in Table 4 shows the budgetary analysisof locust bean processing. It was shown that the enterprise variable costs (raw locust bean seeds, firewood, transportation and labour cost) and fixed cost (depreciation on fixed capital and assets such as mortar and pestle and pots) make up the total cost estimated as ₦1,775.83 and the total revenue was ₦3,275.00. The gross margin was ₦1,737.34, while the net income was ₦1,499.17 per production cycle. The benefit-cost ratio (BCR) of 1.84 implies that every ₦1 investedyielded₦0.84 profit. This establishes that the enterprise is profitable. This simulates the finding of Oyerinde and Daramola (2004) that locust bean production generates dependable income for rural households.

Table 4: Cost and return estimates of locust bean production per processing cycle (n=120

Item	Average value (₦)	Proportion (%)
Average total revenue (3 Congos per cycle)	3,275.00	
Variable cost: 3congos of seeds	808.83	45.5
Firewood	150.00	8.4
Transportation cost	250.00	14.1
Others	328.83	18.5
Total cost	**1,775.83**	
Profit (TR-TC) for a cycle	1,499.17	
Average no of production cycles per month	13.07	
Average monthly net profit	189,504.2	
Average annual net profit	2,274,050.4	
BCR(Benefit Cost Ratio)	1.84	
Gross margin (TR-TVC)	1,737.34	

Source**:** Field Survey, 2018

Constraints faced in processing activities

Results in Tables 5 shows the most pressing constraints as high time-consuming nature of the activities (3.98 ± 0.16), scarcity and high cost of firewood (3.93 ± 0.29) and poor production capacities (3.58 ± 0.62).This substantiates established factors for low productivity which Farayola *et al.* (2012) blamed on use of rudimentary, time consuming and labourious tools and methods. Furthermore, inadequate link to high level market (3.12 ± 0.39) was noted as highly severe, while lack of access to training on improved methods (2.31 ± 0.63) among others were identified as severe.

Table 5: Results of constraints to women involvement in locust bean processing (n=120)

Constraints	Mean	Std. dev.	Ranking
Time-consuming	3.98	0.16	1st
Scarcity and high cost of firewood	3.93	0.29	2nd
Poor production capacities	3.58	0.62	3rd
Inadequate access to high level market	3.12	0.39	4th
Inadequate access to training on improved methods	2.31	0.63	5th
Increasing cost of locust bean seeds	2.28	0.61	6th
Water scarcity during dry season	2.21	0.59	7th
The high cost of transportation	2.15	0.46	8th
Poor finance base as enterprise seed money	1.98	0.59	9th

Source: Field Survey, 2018 Scale: highly severe=4, severe=3, less severe=2, not severe=1

Hypothesis testing

Results in Table 6 shows that age (r=0.456; P< 0.05), household size (r=0.256, P< 0.05), and years of processing experience (r=0.453; P< 0.05) had significant and positive relationships with the women involvement in locust bean processing activities. This means that the older and more experienced the processor gets, the higher their involvement in locust beans processing activities accordingly.

Table 6: Result of correlation analysis showing relationship between selected socio-economic characteristics and level of involvement in locust bean processing

Variables	Correlation coefficient (r)	P-value	Decision
Age	0.456**	0.000	S
Years of education	0.504	0.126	NS
Household size	0.256**	0.005	S
Years of experience	0.453**	0.000	S
Income	0.677	0.120	NS

Source: Field Survey, 2018

** Correlation is significant at 0.05 level (2-tailed).

CONCLUSION AND RECOMMENDATIONS

This study concludedthat uneducated rural women profitably explore the locust beans processing activities for their livelihood despite the limitations posed by the high level of drudgery involved and increasing inputs' costs. High involvement of the women for servicing the labour requirement is strategic for limiting expense on needed labour requirement and optimal resource utilisation for greater returns on their

efforts.Overall, the proceeds of their involvement in locust beans production stipulates the processing activities as viable livelihood activities contributory to rural economy. As such, it is recommended that labour saving technologies that could preserve the traditional valued taste and aroma should be advocated. This is imperative for motivating the teeming unemployed to venture into locust bean productionfor their livelihood. Aside this, better marketing channels should be evolved for improved earnings.

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EXTENSION AGENTS' COMPETENCY NEEDS IN RURAL DEVELOPMENT ACTIVITIES IN SOUTHWEST NIGERIA

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ABSTRACT
The study identified and prioritised the competence needs of extension agents in rural development activities. Specifically the study determined the levels of knowledge and skills of extension agents in rural development activities, determined their competency needs in rural development activities and prioritised the identified needs based on available opportunities in the job environment to practise the competencies. The study was carried out in southwestNigeria. Lagos, Oyo and Ondo states were randomly selected for the study. A multi-stage sampling technique was used to select a total of 382 respondents for the study. Data were collected using questionnaire and analysed using appropriate statistical toolwhile Criticality Function Model was adapted to identify the competence gaps. The study revealed that the knowledge of the agents was highest in adoption of agricultural technologies ($\bar{x}$= 3.48) but lowest in understanding gender/vulnerable group in development ($\bar{x}$= 2.12). Also, the skill of the agents was highest in community organisation and group dynamics ($\bar{x}$=3.01) but lowest in triangulation using rural appraisal tools ($\bar{x}$=2.23). Community driven development approach and understanding gender/vulnerable issues in development were among the leading competency needs from LL quadrantwhile community driven development approach ($\bar{x}$ = 3.41) and planning for social safety net ($\bar{x}$ = 3.29) ranked highest respectively on the priority list of identified competency needs. The study concluded that the job environment of the agents does not provide equal opportunities to practise the identified needs thereforecompetency needs favoured by available opportunity for use within the job environment should be prioritised.
Keywords: Competency needs, Extension agents, Agricultural technologies, Agricultural Development Programmes (ADPs)

INTRODUCTION
The concept of rurality is a very complex one to define. However, experts in the field had tried to paint a graphical picture of what rural area is in every continent and nation of the world. According to Late Professor Joseph Ade Alao, the first president of Nigerian Rural Sociological Association, rural area in Nigeria is a place where small ruminants and poultry of all kinds can sleep on the main roads for hours without vehicular disturbance. According to Ekong (2003), the conception of rural development during the colonial era is that of improving the productivity of the export cash crop sector and maintaining a watchdog attention on the problems of the peasant economy in food production among others.

Agricultural extension is one of the approaches that had been tried to achieve rural development (Williams cited in Adeokun, Oladoja and Olanloye, 2011). This approach to rural development is limited because agricultural development alone will not translate into rural development because it takes a concerted effort across different sectors of the rural life to bring about rural development.

The extension agents are somehow limited in their knowledge and skill in rural development activities. Many of the agents working in the field of agricultural development had no background in agricultural extension or rural sociology (Alabi, 2014). Investment on education and training could help improve the knowledge and skill of the agents in these rural development activities.However, appropriate needs analysis that reveals accurate performance gaps is needed to give the training direction and ensure its success (Williams cited in Alabi, 2014).

The work environment of the extension agents should be considered in determining the contents of training programmes so as not to keep developing in them the competence that the work environment do not provide opportunity to practice.What is the level of knowledge and skill of the agents in rural development activities?What are the competence needs of the agents in rural development activities? The study therefore seeks to answer these questions and others.

The broad objective of the study is to determine the competence needs of extension agents in Southwest Nigeria in rural development activities. The specific objectives are to:

1. determine the levels of knowledge and skill of the extension agents in rural development activities in Southwest, Nigeria;
2. determine the competence needs of the agents in rural development activities in Southwest, Nigeria; and
3. prioritise the identified competence needs based on the opportunities available in their work environments to practise the activity.

METHODOLOGY

The study area is Southwest, Nigeria. The zone comprised of the states of Ekiti, Ondo, Osun, Oyo, Ogun and Lagos with a combined population of 27, 722, 432 people according to 2006 population (NBS, 2011). The population of the study comprised of all the agents in the service of Agricultural Development Programme (ADP) in all the Southwest states. A multi-stage sampling approach was followed to select 415 respondents for the study. All the agents selected were given a copy of the questionnaire but only 382 copies were returned. The questionnaire for the study comprised of levels of knowledge and skill in selected rural development activities. The knowledge and skill of the agents in these activities were measured on a Likert type scale of 1 being No knowledge/No skill and 5 being Very high knowledge/Very high skill. Data collected were summarised using frequency, mean and standard deviation while Criticality Function model (Hershkowitz, 1973) was adapted to identify the competence gaps.

RESULTS AND DISCUSSIONS

Level of knowledge of extension agents in rural development activities

Result in Table 1below revealed the mean values of knowledge of agents in selected rural development activities. From the table, extension agents recorded the highest mean score in the activity *adoption of agricultural technology*(3.48) while the least mean scoreswere recorded in the activities: *community driven development approach and understanding gender/vulnerable group issues (2.12).*This result revealed that extension agents had insufficient knowledge in most of the rural development activities listed.

Table 1: Level of knowledge of ADP extension agents in rural development activities

Rural development activities	Mean scores			
	Oyo	Lagos	Ondo	Southwest
Adoption of agricultural technology	3.16	3.85	3.43	3.48
Role of social mores and tradition in development work	2.94	3.18	3.39	3.17
Utilising local leaders in rural development work	3.21	2.98	3.33	3.17
Use of participatory rural appraisal tools	2.48	2.38	2.37	2.41
Triangulation using qualitative data collection methods	2.52	2.53	2.27	2.44
Understanding gender/vulnerable group issues in development	2.08	2.15	2.14	2.12
Mainstreaming gender/vulnerable group in development activities	2.24	2.18	2.19	2.20
Community organisation and group dynamics	3.02	3.49	3.27	3.26
Community driven development approach	2.18	2.18	2.14	2.12
Planning for social safety net	2.28	2.37	2.28	2.31
Implementing social safety net	2.71	2.66	2.41	2.59

Level of skill of extension agents in rural development activities

Results in Table 2 below revealed the mean scores of skill of agents in rural development activities listed. As seen in the table, the agents only recorded mean value greater than 3.00 in just one activity *community organisation and group dynamics (3.01)*. Specifically, the findings of the study showed that they had less than 2.50 mean score in six of the listed rural development activities. The results of the study imply that agents in Southwest Nigeria possess inadequate skill in directing the activities that could bring about rural development in the study area.

Competence needs of extension agents on rural development activities

Based on the 2 x 2 matrix generated by the grand mean scores of knowledge and skill of the agents in rural development activities, nine out of the 11 rural development activities were in the LL quadrant. This is presented in Figure 1 below. This implies that if extension agents will be able to contribute more meaningfully in the rural development space, their proficiency in these identified competency needs must be improved.

Table 2: Level of skill of extension agents in rural development activities

Rural development activities	MEAN SCORES			
	OYO ADP	*LAGOS ADP*	*ONDO ADP*	*SOUTHWEST ADP*
Adoption of agricultural technology	2.94	2.54	3.19	2.89
Role of social mores and tradition in development work	2.86	2.83	3.13	2.94
Utilising local leaders in rural development work	2.97	2.49	3.11	2.86
Use of participatory rural appraisal tools	2.45	2.36	2.30	2.37

Triangulation using qualitative data collection methods	2.27	2.20	2.23	2.23
Understanding gender/vulnerable group issues in development	2.48	2.50	2.52	2.50
Mainstreaming gender/vulnerable group in development activities	2.43	2.31	2.44	2.39
Community organisation and group dynamics	3.10	2.75	3.17	3.01
Community driven development approach	2.45	2.38	2.63	2.49
Planning for social safety net	2.43	2.38	2.48	2.43
Implementing social safety net	2.51	2.38	2.55	2.48

High knowledge-Low skill quadrant (HL)	**High Knowledge-High skill quadrant (HH)**
Adoption of Agricultural Technology ***(3.48/2.89)***	*Community organisation and group dynamics****(3.26/3.01)***
Community driven development approach ***(2.12/2.49)*** *Understanding gender/vulnerable issues in development* ***(2.12/2.50)*** *Mainstreaming gender/vulnerable group in development activities* ***(2.20/2.39)*** *Use of Participatory Rural Appraisal tool* ***(2.41/2.37)*** *Triangulation using qualitative data collection methods* ***(2.44/2.33)*** *Planning for Social Safety Net* ***(2.31/2.43)*** *Implementing Social Safety Net* ***(2.59/2.48)*** *Utilising local leaders in rural development work* ***(3.17/2.86)*** *Role of social mores and tradition in development work* ***(3.17/2.94)***	
Low knowledge-Low skill quadrant (LL)	**Low knowledge-High skill quadrant (LH)**

0 **2.97** **5**

Figure 1: 2 x 2 Quadrant matrixesshowing the competency needs of extension agents

Prioritization of identified competence needs of the agents

Result in Table 3 below showed that community driven development approach (3.41) ranked first and planning for social safety net and implementing social safety net (3.29) ranked second on the list. This implies that emphasis should not just be on the identified competencies but importance should also be attached to the various opportunities in their work environment to practise the competencies.

Table 3: Priority list of the identified competence needs based on opportunity in the work environment to practise them

Rural development competencies	**Mean**	**Rank**
Community driven development approach	3.41	1st
Planning for social safety net	3.29	2nd
Implementing social safety net	3.29	2nd
Use of participatory rural appraisal tools	3.25	4th
Triangulation using qualitative data collection methods	3.15	5th
Understanding gender/vulnerable group issues in development	3.15	5th
Mainstreaming gender/vulnerable group in development activities	3.14	7th

CONCLUSION AND RECOMMENDATIONS

The study concludes that knowledge and skill of the agents in rural development in Southwest Nigeria is inadequate. Also, the job environment of the agents does not provide equal opportunities to practise the identified needs therefore competency needs favoured by available opportunityfor use within the job environment should be prioritised. Based on the conclusions of the study, the study recommends that the in-service training programmes for the agents in rural development activities should focus on the identified competence needs.

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ADOPTION OF IMPROVED TECHNOLOGIES ON PLANTAIN PRODUCTION AMONG FARMERS IN OGBA/EGBEMA/NDONI LOCAL GOVERNMENT AREA OF RIVERS STATE, NIGERIA

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ABSTRACT
The study examined adoption of improved technologies technology on plantain production among farmersin Ogba/Egbema/Ndoni local government area of Rivers State. Specifically, the study identified types of available improved technologies on plantain production; sources of information on improved technologies; examined the extent to which available improved technologies were adopted by plantain farmers and ascertained the hindrances to availability and adoption of improved technologies on plantain production in the study area. A sample size of one hundred and twenty (120) plantain farmers was selected through a multistage sampling procedure. Data were collected through a structured interview schedule. The results showed that the types of improved technologies available in the study area are mulching (x=2.67), weeding (x=3.01) and pruning (x=2.92). Source of information on the improved technologies on plantain production were: cooperative Societies (40%) and radio (30.0%). The farmers adopted de-suckering (3.71) and new varieties selection (3.09). The major hindrance to the availability and adoption of improved technologies on plantain production was high cost of improved technology (3.30). The study recommended that farmers should be encouraged to use improved technologies in order to increase plantain production in the study area.
Keywords: Adoption, Improved Technologies, Plantain Production

INTRODUCTION
The cultivation of crops has been bridged in recent times with development in science and technology. Varieties of these crops have been improved in quantity and quality through genetic programmes, and better farming system and practices. One of the crops with remarkable diversity is plantain *(Musa paradisiaca*) which originated from South East Asia but today is intensively grown in humid forest (Olumba and Rahji, 2014). There are varieties of plantain delicacies, namely fired plantain, roasted plantain, plantain flour, plantain paste, plantain chips and plantain blended food in many parts of Nigeria. Plantain is cultivated traditionally as a component of the multistory cropping system in homestead and intercropping with food and tree crop on the outlying (distant) farms (Oso, Ayodele, Ademiluyi and Hajiki, 2011). These traditional production systems are characterized by low productivity and therefore the increase demand for plantain fruits lead to price galloping in the local markets and food insecurity. Meeting the needs for local consumption and attempt to export plantain means that there is need for commercial plantain production. In recent years the cultivation of plantain has witnessed a lot of improved technologies to boost its production. Some of them include preparation of planting materials, propping, trimming, and pruning of suckers.

Objectives of the studyspecifically are to:

i. identify types of improved technologies on plantain production available in the area;
ii. determine the sources of information on improved technologies by plantain farmers;
iii. examine the extent of adoption of improved technologies on plantain by plantain farmers; and
iv. ascertain the hindrances to availability and adoption of improved technologies on plantain production among plantain farmers in the study area.

METHODOLOGY
The study area was Ogba/ Egbema/ Ndoni Local Government Area, Rivers State. A sample size of one hundred and twenty (120) plantain farmers was drawn from the population of 180 using a multi stage sampling procedure. In the first stage, two (2) districts (ethnic) namely Ogba and Egbema were selected from the study. Secondly, four (4) communities were selected from each district (ethnic) making it eight (8) communities and in the third stage fifteen (15) plantain farmers were selected using simple random sampling technique.Structured interview schedule was used to generate data for the study. Descriptive and inferential statistics were used to analyze data collected.

RESULTS AND DISCUSSION
Findings in table 2 showed that some technologies are ready available among the plantain farmers. They are de- suckering(x=3.23) newvarieties selection (x=3.09), weeding *(*x=3.01) and spacing techniques *(x*=3.08). This finding agreed with Akinyemi et al. (2010) who stated that the use of traditional knowledge and skills influences plantain production.

Table 1: Availability of Improved technologies to plantain farmers

Improved Technologies n=120	Weighted Total	$\bar{X}$	Decision
New varieties selection	371	3.09	HA
De- budding	212	1.77	FA
Hot water treatment	230	1.92	FA
Sucker multiplication	190	1.58	FA
Sucker cleaning	150	1.25	FA
Tissue culture	130	1.08	FA
Propping	120	1.00	FA
Spacing techniques	369	3.08	HA
Timely planting	250	2.08	FA
Fertilizer application	250	2.08	FA
Mulching	320	2.67	HA
Weeding	361	3.01	HA
Earthen up	356	2.97	HA
Pruning	350	2.92	HA
Agro- chemical application	330	2.75	HA
De suckering	388	3.23	HA
Improved harvesting	183	1.53	FA
Grand mean		**2.23**	**FA**

Source: Field Survey ,(2019) >2.50=Highly Available; <2.50= Fairly Available

Table 2 showed that cooperative societies (40.%) provided dominant source of information follows by radio (30%), and churches (16.6%). This finding agrees with Olojede and Ukoha (undated) who observed that lack of information influence the cultivation of plantain.

Table 2: Source of Information on improved technologies to Plantain farmers

Source of Information	Frequency	Percentage
Co- operation societies	48	40.0
Churches	20	16.6
Mosques	0	0.0
friends/neigbours	13	10.9
Extension Agents	8	6.6
Town Union/ meetings	10	8.4
Chief s/ Oba/ Town Criers	8	6.6
Radio	36	30.0

Source: Field Survey, 2019
Multiple responses

Extent of adoption of improved technology

The extent to which plantain farmers adopted improved technologies on plantain production as shown in Table 3 indicated that de-suckering (x=3.23), new varieties selection (x=3..09), spacing technique (x=3.08), weeding (x=3.01), earthen up (x=2.97), pruning (x=2.91), agro-chemical application (x=2.75), mulching (x=2.67), timely planting (x=2.08) and fertilizer application (x=2.08) were adopted by plantain farmers. The findings agreed with Olojede and Odoemelam (2018) that improved plantain technologies utilised by farmers were spacing technique, weeding and agro-chemical application.

Table 4: Extent of adoption ofimproved technologies by plantain farmers

Improved technologies	Weighted total	$\bar{x}$	Remark
New varieties selection	371	3.09	HA
De - budding	212	1.77	FA
Hot water treatment	230	1.92	FA
Sucker multiplication	190	1.58	FA
Sucker cleaning	150	1.25	FA
Tissue culture	130	1.08	FA
Propping	120	1.00	FA
Spacing techniques	369	3.08	HA
Timely planting	250	2.08	FA

Improved technologies	Weighted total	$\bar{x}$	Remark
Fertilizer application	250	2.08	FA
Mulching	320	2.67	HA
Weeding	361	3.01	HA
Earthen up	356	2.97	HA
Pruning	350	2.91	HA
Agro- chemical application	330	2.75	HA
De suckering	388	3.23	HA
Improved harvesting techniques	183	1.53	FA
Grand Mean		**2.24**	**FA**

Source: Field survey (2019)>2.50 =Highly Adopted; <2.50 =fairly adopted

Hindrances to Availability and Adoption of Improved Technologies for Plantain Production

Result in Table 4 showed the hindrances to availability and adoption of improved technologies by plantain farmers to include: low farmer's acceptance of plantain technologies (x=3.71), extension officers not visiting farmers (x=3.61), high cost of improved technologies (x=3.30), complicated nature of the improved technologies (x=2.70), communication problem/barriers (x=2.50) and problems created by insecurity (x=3.50). These findings agreed with Weyori, Amare and Waibel (2017) who observed that innovation system, extension factors and different actors affect the availability of improved technologies.

Table 4: Hindrances to availability of improved and adoption technology on plantain production

Hindrances (n= 120)	Weighted Total	$\bar{x}$	Decision
Low farmer's acceptance technology	445	3.71	Accepted
Extension officers not visiting farmers	433	3.61	Accepted
High cost of improved technology f or plantain cultivation	396	3.30	Accepted
Complication nature of the improved technologies f or plantain cultivation	320	2.70	Accepted
Communication problem/ Barriers	300	2.50	Accepted
Poor demand f or plantain Product	180	1.50	Rejected
Problems created by insecurity	420	3.50	Accepted
Grand mean		**2.97**	Accepted

Source: Field survey (2019)>2.50 =Accepted; <2.50 =Rejected

CONCLUSION AND RECOMMENDATION

There are few available improved plantain technologies at the disposal of farmers. The farmers got the information on the improved technology from cooperative societies and radio. Few of the modern improved technologies were adopted by the farmers. However, low farmer's acceptance of plantain technologies, extension officers not visiting farmers, and high cost of improved technologies were hindrances to farmers adopting the improved technologies on plantain production. Based on the findings, the study recommended that leaderships of cooperative society should collabourate with extension officers to organise training and re- training of their members.

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UTILISATION OF SKILL SET AMONG EX- AGRIPRENEURIAL TRAINEES OF AGRICULTURAL SCHOOL PROGRAMME IN OSUN STATE, NIGERIA

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ABSTRACT
Charitable organisations compliment government efforts in training young Nigerians in modern and sustainable agricultural practices. A potent means of assessing the role of this training outlets is the utilisation of skill set by its ex- agripreneurial trainees. Using multistage sampling procedure, the last seven sets of ex-trainees were purposively sampled and a proportionate sampling resulted in the sampling of 97 respondents. Data were collected using questionnaire and analysed with descriptive and inferential statistics. Majority (74.2%) of the ex-trainees were male, are young (38 years), made an average monthly income of ₦ 46,618 and had an appreciable length of experience (11 years) as an entrepreneur. Effectiveness of training received was high (75.3%), benefits derived from the utilisation of skill set was high (71.1%) and the utilisation of skill set was high (61.9%). Significant relationship existbetween effectiveness of training received (r=0.380), benefits derived from the utilisation of skillset (r=0.314), characteristics of an entrepreneur possessed (r=0.380) and utilisation of skill set. It is recommended that this training template is sustained and adapted by other training outlets owing to its effectiveness and the sustainability potentials it confer.
Keywords: Utilisation**,** Skill set, Ex-agripreneurial trainees, Charitable organisations, Agricultural School Programme

INTRODUCTION

The agricultural sector has a multiplier effect on any nation's socio-economic and industrial fabric because of the multifunctional nature of the sector. It has the potential to be the industrial and economic springboard from which the country's development can take off. Indeed more often than not, agricultural activities are usually concentrated in the less developed rural areas where there is critical need for rural transformation, redistribution, poverty alleviation and socio-economic development (Stewart, 2000). Sadly, agricultural production in Nigeria is still mainly characterized by multitude of small scale farmers scattered over wide expanse of land area, with small holdings ranging from 0.05-3.0 hectares, poor access to modern input and credit, poor infrastructure, land and environmental degradation, inadequate research and extension service and poor response to technology adoption strategies with poor return on investment (Manyong*et al;* 2005).

The government had established various support institutions to reduce unemployment and eliminate poverty through entrepreneurship specially structured to provide financial succor and to assist SMEs to contend with some of the hurdles along their growth path. Some non-governmental (charitable) organisations are also carrying out the responsibility of providing relevant skills needed by entrepreneurs in their line of endeavor. The Leventist Foundation through its Agricultural School programme is an example of such organisations that is presently offering this service. Skill set is a particular category of knowledge, abilities, and experience necessary to perform a job. Specific skill set areas includes human relations, research and planning, accounting, leadership, management, and computer skills. You can job-hunt by matching your skill set to a certain profession, or enhance your skill set to further your career progression but then the utilisation of these skill set remain paramount in the scheme of things.

The success of any endeavor can only be adjudge sustainable only when it beneficiaries apply to productive use the skills imparted. In view of the above sought to access theUtilisation of Skill Set among Ex- Agripreneurial Trainees of Agricultural School Programme in Osun State, Nigeria.

The study was guided by the following objectives:

1. ascertain the effectiveness of the training received;
2. identify the benefits associated with utilisation of entrepreneurial skillset;
3. ascertain the ex-trainees possession of entrepreneurial attributes;
4. determine the utilisation of skill set by the ex-trainees.

METHODOLOGY

The population of the study consist of all ex-trainees that participated in theAgricultural School ProgrammeOsun state in the last seven years because they operated under the same curriculum**.** Using multistage sampling procedure, a total of 97 respondents were sampled. Data were collected using questionnaire and analysed with descriptive and inferential statistics.

RESULTS AND DISCUSSION

Effectiveness of training received

Table 1 reveals that a significant proportion (75.3%) of the respondents adjudged the effectiveness of the training received as high. With this response, it implies that the respondents were able to put the skill set received to productive use. It further suggests that the training received from the Agricultural School Programmewere applied to solving the myriads of challenges they routinely face as an agripreneur and also address other challenges attached to their endeavor. This view is also shared by Chabuf*et al*. (2004) that if the beneficiaries of development interventions are empowered to the point that virtually all responsibility for sub-project selection, implementation and supervision is transferred to them, the beneficiaries gain discretion over their development decisions.

Table 1: Categorization of respondents according to effectiveness of training received

Level of effectiveness	Frequency	Percent
High	73	75.3
Low	24	24.7

Source: Field Survey, 2019

Benefits derived from the utilisation of skill set

Table 2 reveals that a significant proportion of the respondents adjudged that the benefits they derived from the utilisation of the skill set was high. This further affirms that the training received was relevant to their business endeavors and put to productive use. Some of the benefits derived includes but not limited to; opportunity to learn and gain knowledge on the job, control and flexibility over your own time, confidence gained from knowing that one can achieve something independently among others.

Table 2: Categorization of respondents according to benefits derived from utilisation of skill-set

Level of benefits derived	F	%
High	69	71.10
Low	30	30.92

Source: Field Survey, 2019

Attributes of an entrepreneur possessed

Table 3 reveals that a significant proportion (84.53%) of the respondents fall under the high category for attributes possessed by an entrepreneur. With this statistics it shows that substantially the respondents were equipped with the necessary will power needed to address the dynamic nature of their enterprise and the challenges faced by any promising agripreneur in our environment. This view is consistent Chell (2013) that risk propensity which is known as an entrepreneurial trait or personality characteristic can be regarded as a skill.Prominent among the attributes of an entrepreneur possessed include the following but not limited to been passionate about one's job, ability to identify market demands and target them etc.

Table 3: Categorization of respondents according to attributes of an entrepreneur possessed

Level of attributes possessed	F	%
High	82	84.53
Low	15	15.46

Source: Field Survey, 2019

Utilisation of skill set acquired

Table 4 shows that a notable proportion (61.85%) of the respondents adjudged the utilisation of entrepreneurial skill set as high. This portrays that the respondents are conveniently putting the training (skill set) received to use. It can also be deduced that they are finding the skill set practically relevant to their entrepreneurial endeavor. Suffice to say that the mandate of the establishment is achieved with the utilisation of skill set by ex-agripreneurial trainees.

Table 4: Categorization of respondents according to utilisation of entrepreneurial skillset

Level of utilisation	F	%
High	60	61.85
Low	37	38.14

Source: Field Survey, 2019

Hypothesis testing

Table 5 reveals that significant relationship exist between effectiveness of training received (r=0.380), benefits derived from the utilisation of skill set (r=0.314), attributes of an entrepreneur possessed (r=0.380) and utilisation of skill set by ex-agripreneurial trainees. This establishes that with effective training received respondents will be able to utilise their skillset. The data suggests that with increase in the benefits derived from the utilisation of skill set, the ex-trainees will further utilise their skill set. The possession of the attributes of an entrepreneur will further spur the respondents to defy the odds associated with their enterprises and still utilise their skill set.

Table 5: Relationship between variables and the utilisation of entrepreneurial skillset.

Variable	R	P
Effectiveness of training received	0.314	0.002
Benefits derived from the utilisation of skill set	0.380	0.000
Attributes of an entrepreneur possessed	0.380	0.000

Source: Field Survey, 2019

CONCLUSION AND RECOMMENDATIONS

Effectiveness of training received, benefits derived from the utilisation of skill set and the utilisation of skill set were high. Effectiveness of training received, benefits derived from the utilisation of skillset and characteristics of an entrepreneur possessed had relationship with utilisation of skill set. It is recommended that this training template is sustained and adapted by other training outlets owing to its effectiveness and sustained utilisation of its post training outcomes.

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ASSESSMENT OF POVERTY LEVEL AMONG FARMING HOUSEHOLDS IN OGBOMOSO SOUTH LOCAL GOVERNMENT AREA OF OYO STATE, NIGERIA

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ABSTRACT
The study assessed the poverty level among farming households in Ogbomoso South Local Government Area of Oyo State. It identified the causes, determined the depth and severity of poverty. Multistage sampling procedure was used to select 110 respondents from 22 households in 5 out of the 10 wards in the LGA. Primary data were collected using validated interview schedule. Multiple regression analysis was used to examine the effects of selected variables on household poverty. Results showed that the mean age of respondents was 47 years while the mean years of education was 8 years. Poverty incidence was estimated at 50.9 percent while poverty depth and severity were estimated at 14.7 percent and 2.15 percent, respectively. The major causes of poverty were lack of access to farm machinery (79.1%), poor road network (70.9%), non-accessibility to storage facilities (60.9%) and lack of credit facilities (59.1%). Multiple regression analysis showed that age (t=-0.759), household size (t=0.576) and farm size (t = -1.344) of the respondents were significant predictors of poverty among the farming household. The study concluded that nearly half of the farming households were below poverty line and thus recommended that government should formulate policies aimed at reducing poverty through provision of good roads and credit facilities to farming households
Keywords: Poverty, Poverty depth, Poverty severity, Farming households, Assessment

INTRODUCTION

Nigeria has vast and abundant agricultural resources, yet the incidence of poverty is more pronounced especially in the rural areas where the bulk of agricultural production takes place (World Bank, 2005). Research efforts have focused on poverty and determinants of poverty in the general populations until last decade when attention started shifting to specific populations especially the faming households (Ogwumike and Akinnibosun, 2013; Oyinbo, 2016; Adepoju, 2019). Few of the studies on farming households concentrated on determinants without assessing the poverty situations of the farming households except for the work of Ogwumike and Akinnibosun (2013).

Despite the efforts of government and non-government agencies in alleviating poverty, Nigeria has the highest number of people living in extreme poverty with nearly 50 percent of its estimated 180million population (World Bank, 2014). For any policies or programmes aimed at reducing poverty to be effective, it is important to first assess the poverty conditions and levels of specific segments of the population for a proper understanding of the challenges posed by the incidence of poverty. In the light of the above, the study carried out an assessment of poverty situations among farming households in Ogbomoso South Local Government Area of Oyo State using poverty measures derived by Foster-Greer-Thorbecke.

The study assessed the poverty level among farming households in Ogbomoso South Local Government Area of Oyo State; identified the causes and determined the depth and severity of poverty. It also examined the influence of demographic and socioeconomic characteristics of the respondents on poverty.

METHODOLOGY

Multistage sampling procedure was used to select a total of 110 respondents from 22 households in 5 out of the 10 wards in the LGA. Primary data were collected using validated interview schedule. The dependent variable is poverty level. Poverty line was constructed to categorize the respondents into poor and non-poor groups using the two-third mean per-capita income as the benchmark. The independent variables were household's head age, sex , level of education and family size, years of farming experience, and membership of agricultural union. Data management and analysis were carried out using the SPSS software. The Foster-Greer-Thorbecke (FGT) model was used in analyzing poverty indices. Multiple Regression analysis was used to examine the effects of selected variables on household poverty.

RESULTS AND DISCUSSION

The mean age of the sampled respondents was 47 years. Majority (77.3%) of the respondents were male which implies that male farming household heads were more than female in the study area. A greater proportion (74.5%) of the respondents was married. Data on level of education of the respondents reveals that 31.8 percent had no formal education. The mean farming experience is about 19.5 years indicating that the farming households had spent a good number of years on farming practices and are more likely to perform better using the wealth of experiences they have gathered over the years. The

farm size still confirms the peasant nature of the study area where majority (68.2%) of the respondents farmed on less than 1 acre of land with the mean farm size of 0.80 acre. Majority (60.9%) of the respondents are not in any agricultural based group.

Table 1: Distribution of respondents according to their demographics characteristics (n=110)

Characteristics	Frequency	Percentage (%)
Age		
≤30	7	6.4
31-40	25	22.7
41-50	43	39.1
51-60	21	19.1
Above 60	14	12.7
Mean/sd	47.1/10.7	
Sex of household head		
Male	85	77.3
Female	25	22.7
Marital status		
Single	8	7.3
Married	82	74.5
Divorced/widowed	20	18.2
Education status		
No formal education	35	31.8
Primary	21	19.1
Secondary	35	31.8
Tertiary	19	17.3
Farm size (acres)		
Below 1	75	68.2
1-5	35	31.8
Mean/sd	0.80/0.6	
Nativity		
Yes	85	77.3
No	25	22.7
Member of Agricultural based group		
Yes	43	39.1
No	67	60.9

Source: Field Survey, 2018

Causes of poverty among farming households.

The five most ranked causes of poverty are lack of access to farm machinery (79.1%); No strong political voice (71.8%); lack of access to good roads (70.9%) and portable water (68.2%); and no access to storage facilities (60.9%).

Table 2: **Distribution of the respondents according to causes of poverty in the study area (n=110)**

*Variables	Frequency	Percentage (%)	Ranks
Non-accessibility to Farm machinery	87	79.1	1st
Non-accessibility to Political voice	79	71.8	2nd
Poor/ Lack of Good road	78	70.9	3rd
Non-accessibility to Water supply	75	68.2	4th
Lack of storage facilities	67	60.9	5th

Source: Field Survey, 2018
**multiple responses

Level of Poverty among farming households using Foster Greer and Thorbecke (FGT) model

The incidence of poverty (P0) in this study was 0.509 indicating that 50.9 percent of the sampled farming household heads were actually poor based on the poverty line. This finding agreed with that of Anyanwu (2013) which stated that poverty in Nigeria is largely a rural phenomenon. P1 (poverty depth) among the farming households was 0.147, implying that an average poor farming households would require 14.7 percent of the poverty line to get out of poverty. The value P2 (poverty severity) was 0.022, indicating that the poverty severity of poor farming households was

2.15 percent. This result means that farmers need about 2.15 percent increase in per capita income to push them away from severe poverty. In Table 4, Multiple regression analysis showed that age (t = -0.759), household size (t = 0.576) and farm size (t = -1.344) of the respondents were significant predictors of poverty among the farming household.

Table 3: Distribution of respondents according to poverty level and measures (n =110)

Poverty indices	Measures	Percentage
Poor	56	50.9
Non- poor	54	49.1
Poverty incidence (P0)	0.509	50.9
Poverty gap (P1)	0.147	14.7
Poverty severity (P2)	0.022	2.15
Poverty line	₦135030.75	
Average income	₦202547.27	

Source: Field Survey, 2018

Table 4: Regression analysis showing factors influencing poverty among farming households in the study area

Variables	**β**	**Std. Error**	**t-value**	**p-value**
(Constant)	-0.241	0.129	-1.859	0.000
Age	-0.002.	0.003	-0.759	0.037**
Sex	-0.082	0.055	-1.497	0.714
Household size	-0.007	0.011	0.576	0.008***
Education In Years	0.002	0.004	0.023	0.441
Farming Experience	0.001	0.003	0.269	0.763
Farm Size	-0.054	0.040	-1.344	0.043**
Education Status	-0.007	0.019	-0.355	0.355
Income	4.791E-06	0.000	17.908	0.069*
R^2=0.841; Adj. R^2= 0.829				
F stat=66.868 (p<0.001)***				

N.B: *** Significant at 1%, ** Significant at 5%, * Significant at 10%
Source: Field survey, 2018

CONCLUSION AND RECOMMENDATION

The study concluded that nearly half of the farming households were below poverty line. Age of respondents, household size and farm size were significant predictors of poverty among the farming households. The major causes of poverty are lack of access to farm machinery, lack of access to good roads and portable water and lack of storage facilities. To alleviate poverty in the study area, Government should provide good roads and grant credit facilities to enable farming households to purchase necessary farm machinery and build storage facilities.

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ASSESSMENT OF WATER CONSERVATION ATTITUDE AMONG RURAL FARMERS IN EKITI STATE, NIGERIA

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ABSTRACT
This paper explores the attitudes of rural farmer's in Ekiti state to water conservation during water scarcity. A total of 120 rural farmers were purposively selected for the study. A structured interview schedule was used to elicit information from them. Data were analysed using descriptive statistics. The result of the findings show that the major drivers of water conservation attitude of the respondents in the study area include situational factors such as Awareness of climate /seasonal variability(90.0%), personal factors such as previous experiences of water scarcity (87.5%)The result also shows that the barriers to water conservation include the availability of alternative water sources (90%) as well as Cost of device and retrofitting(70%).Also from the findings, majority of the farmers especially women have positive attitude towards water conservation as they agree to the positive attitudinal statements provided.However, the result of chi square analysis shows a relationship (r= -0.348, P-value=0.000) between respondents household size and water conservation attitude.T.test was employed to test for difference between water conservation attitude of the male and female respondents.(χ^2=15, p-value=0.000, df=1)which established a significant difference. The result implies that females are more conscious of water use than males and have positive attitude to water conservation than male respondents.The study recommends sensitization on positive water conservation attitude to the male gender to ensure water security and sustainability in the rural areas of Ekiti state.
Keywords: Water conservation attitude, Water-conservation barriers, Water conservation strategies, Waterscarcity

INTRODUCTION

Rural areas are primarily characterized by farming; successful farming depends on sufficient access to water. But water shortages in many parts of the world are already a major constraint to farming. In many developing countries, including Nigeria, the water shortage issue and its effects on small-scale farmers are a reality. Rural populations in the country still depend a lot on their water needs on rivers, streams, lakes and shallow wells. Some of these resources will dry during the dry season and households will have to invest substantially to provide water of doubtful qualities. Rural farmers are poor, and cannot afford to extract and conserve water by means of advanced agricultural tools. Attitudes, beliefs and actual behavior are particularly relevant as water conservation initiatives often include pressure on residents to reduce household water use through undertaking more sustainable water use practices (Willis*et al* 2011). Therefore households' attitudes, beliefs and behavior play important roles in water conservation patterns in the homes. The attitudes, belief can influence the usage of water while cleaning the home and carrying out domestic chores (Marandu, Moeti and Joseph, 2010).Water conservation attitude are highly complex processes that are influenced by many factors, including seasonal variability and water availability (Arouna, *et al* 2010).Past research suggests that attitudes and perceptions also influence water conservation attitude (Clarke and Brown, 2006). For example, attitudes about water pricing and allocation of water for recreation are known to influence water conservation (Syme*et al*., 2000). Even when conservation program benefits farexceed their costs, negative attitudes toward them can be a major barrier (Ward et al., 2007).Randolph and Troy (2008) claim that climate change and ecological crises have had little effect on the actual water conservation attitude of individuals, households and communities. Contrarily, Clark and Finley (2006) conclude that awareness of climate change and global warming was a significant factor in a person's intention to conserve water. However, there is a dearth of information on the various water conservation attitudein Ekiti state, and how they respond or cope with water scarcity. It is on this note that this study sought to look into the following objectives. (i) identify the socio-economic characteristics of the rural farmers. (ii) determine the barriers to water conservation (iii) determine the drivers of water conservation (iv) identify attitude to water conservation among the rural farmers.

Hypothesis H_0= there is no significant difference between male and female, and their attitude to water conservation
Hypothesis H_1= there is no significant relationship between the socio-economic characteristics of the farmers and water conservation attitude

METHODOLOGY

Study area - Ekiti State is located at the Western part of Nigeria and was carved out from the old Ondo State in October 1996 by the Military Government under General SaniAbacha. The area lies between longitude of 2^0 3^1 and 6^0 00^1 East and

Latitude 6^0 2^1 and 8^0 3^1 North. It comprises of 16 Local Government Areas (LGAs) and Land areas of 6356km^2, with population of 2,737,186 people (NPC, 2006). The State is mainly an upland zone, rising over 250 metres above sea level. The people of Ekiti are basically agrarians and the land of Ekiti is buoyant in agricultural resources with Cocoa as its leading cash crop.

Data collection and analysis - A multi-stage sampling procedure was used to select the respondents. *At the first stage*, three (3) Local Government Areas were randomly selected from Ekiti State. *At the second stage*, four (4) rural communities was randomly selected from each of the Local Government Areas making twelve (12) communities. *At the final stage*, five (5) rural women and five (5) rural men was randomly selected from each community.Thus, a total of 120 rural dwellers was interviewed for the study.A well-structured questionnaire and interview schedule was used to elicit information from the respondents.The data collected was described using descriptive statistics (such as frequency counts, percentages, standard deviaton and mean). Chi square was used to test for difference between male and female respondents and attitude to water conservation.

RESULTS AND DISCUSSION

Table 1 below shows the socio-economic characteristics of the respondents. 50% of the participants were male and 50% were female. The average age was 36.6. 57.5% of the participants are married, 1.7% are divorced, 4.2% are widowed, 36.7% are single. For religion, 76.7% are Christians while 23.3% of the respondents are Muslims. 46.6% have primary education, 53.4% have secondary education. Findings also reveal that about 20.8% of the households have between 1-4 residents, 71.7% have 5-10 residents, 5.9% have 11-15 residents, while 1.7% have more than 16 residents.

Table 1: Socio- economic characteristics of respondents

Characteristics	Frequency	Percent
Gender		
Male	60	50
Female	60	50
Total	**120**	**100**
Age		
<30	33	27.5
30-40	58	55.8
41-50	16	13.4
51-60	4	3.4
Religion		
Christian	92	76.7
Muslim	28	23.3
Total	**120**	**100**
Marital Status		
Single	44	36.7
Married	69	57.5
Divorced	3	1.7
Widowed	5	4.2
Total	**120**	**100**
Education		
Primary	56	46.6
Secondary	64	53.4
Total	**120**	**100**
Family Size		
1 –4	25	20.8
5 –10	86	71.7
11-15	7	5.9
>16	2	1.7
Total	**120**	**100**

Source: Authors Fieldwork, 2019

Table 2 below using linkert scale reveal that 90% agrees that situational factors such as awareness of climate seasonal variability is one of the major drivers of water conservation,personal factors such as previous experiences of water scarcity (87.5%) and lack of confidence in various water supply sources available in the study area (90%). This agrees with Clark and Finley (2006)

who concluded that awareness of climate change and global warming was a significant factor in a person's intention to conserve water.

Table 2: drivers of water conservation

Drivers	**Agree (%)**
Situational factors	90.0
Personal factors	90.0
Economic factors	87.5

Source: Authors Fieldwork, 2019

Identifying the barriersto water conservation activities is one of the most important aspects of safeguarding sustainable water use. Table 3 below also shows that the barriers to water conservation include the availability of alternative water sources (90%), as well as Cost of device and retrofitting(70%). Also Distrust in water authority (90%)as well as Time constraints(69.2%).

Table 3 Barriers to water conservation

Barriers	Agree (%)
Availability of alternative water sources	86.7
Distrust in water authority	90.0
Time constraints	69.2
Cost of device and retrofitting	75.0

Source: Authors Fieldwork, 2019

Table 4shows the mean and standard deviation of respondent's agreement levels with water use attitude statements provided. The respondents indicated their category of water use as high, moderate and low.

Table 4

Attitudinal statements on water conservation	**Mean**	**Standard deviation**
Personal hygiene:Using very little water while brushing teeth, hands and bathing	1.3833	0.48824
Laundry: Laundering full loads, Hand washing several items at the same time, and using the rinse water from one group of items as the wash water for next	1.3167	0.46713
Kitchen: washing many dishes,or many fruits in a basin to conserve water,Avoiding unnecessary rinsing of dishes, wiping dishes with duster cloth or using a scraper to minimize rinsing	1.3500	0.47897
House and yard cleaning: Cleaning floors with a broom and avoiding frequent floor mopping	1.2750	0.44839
Using gray water from washing machines for cleaning yards, or flushing toilets		
Vegetable gardening: Watering vegetable garden only in the evening or morning	1.3333	0.4338
Watering vegetable garden less frequently		

Source: Authors Fieldwork, 2019

Table 5 shows the Test of relationship between the socio-economics characteristics of respondents and water conservation attitude

Table 5

Variables	**r**	**p-value**	**Decision**
Age and Water conservation Attitude	0.079	0.392	Not Significant
Household size and Water conservation Attitude	-0.348	0.000	Significant
Level of Education and Water conservation Attitude	0.034	0.713	Not Significant
Volume of water use and Water conservation Attitude	0.161	0.078	Not Significant

Significance level=0.05

Table 5 above summarizes the result of the chi square. The result reveals no significant relationship, (r=0.079, p-value=0.392, r=0.034, p-value=0.713, r=0.161,p-value=0.078) between respondents age, level of education, and volume of water use and water use attitude. However, the results shows a relationship (r=-0.348, p-value=0.000) between respondents household size and water conservation attitude. This implies that respondent's household size will determine their attitude to water conservation.

Table 6 summarizes the result of the relationship between gender and water conservation attitude using chi-square. The result reveals that there is a significant relationship between gender and their attitude to water conservation. (χ^2=15, p-value=0.000, df=1). The result implies that females are more concious of water conservation than males and have positive attitude to water savings than males

Table 6

Variables	χ^2	Df	p-value	Decision
Relationship between gender and Water conservation attitude	15.00	1	0.000	Significant

CONCLUSION AND RECOMMENDATION

Correct perception of water usage is the key factor that affects water conservation behavior. Situational factorsuch as awareness of climate seasonal variability is one of the major drivers of water conservation as well aspersonal factors such as previous experiences of water scarcity. Barriers to water conservation include the availability of alternative water sources, Cost of device and retrofittingas well as Distrust in water authority.This paper also reveals that respondent's household size will determine their attitude to water conservation, meaning for instance, the higher the number of household size, the lower their water use attitude.Females are more conscious of water use than males and have positive attitude to water conservation than male respondents. The study recommends sensitization on positive water conservation attitude to the male gender to ensure water security and sustainability in the rural areas of Ekiti state.

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DETERMINANTS OF RURAL WOMEN INVOLVEMENT IN EXPLOITATION OF NON-TIMBER FOREST PRODUCTSIN SOUTHWESTERN NIGERIA

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ABSTRACT
The study adopted a multivariable analysis based on Ordinal Logit Regression (OLR) to examine the determinants of rural women involvement in exploitation of Non-Timber Forest Products (NTFPs) in selected forest communities in Southwestern Nigeria. Specifically, the study examined socioeconomic characteristics determinants of rural women involvement in NTFPs and investigated forest-related variables associated with level of involvement of women in NTFPs.The study design was cross-sectional and utilised multistage sampling procedures in selecting a sample of 320 respondents from 37 forest reservesin Ondo, Ogun and Osun States. The overall level of involvement showed that 38.4percent of the women have low level of involvement in the exploitation of NTFPs. Socioeconomic variables associated with level of involvement in exploitation were age of respondents (OR=0.87; $p<0.05$), level of education (OR=2.77; $p<0.01$), external orientation (OR=1.12; $p<0.05$) and marriage type (OR=7.14; $p<0.01$). Forest-related variables associated with levels of involvement weresource of NTFP collection (OR=2.75; $p<0.01$); government laws and policies regarding NTFPs (OR=0.25; $p<0.01$), proximity to market (OR=0.51; $p<0.05$) and postharvest handing of NTFPs (OR=1.62, $p<0.05$). In the full model of the OLR, three socioeconomic variables and four forest-related variables jointly influence level of involvement in NTFPs (Likelihood Ratio Chi Square=162, $p<0.001$). The study concluded that there is a need to address socioeconomic and forest-related variables associated with level of involvement in NTFPs for greater involvement in NTFPs in order to alleviate rural poverty in the forest communities.
Keyword: Rural women; Level of involvement; Non-Timber Forest Products (NTFPs), Exploitation; Determinants

INTRODUCTION
Trade in Non-Timber Forest Products (NTFPs)has a long history in contributing substantially to the livelihood of rural women especially as a means of subsistence for the rural households. In Nigeria NTFP trade hasprogressed from just a means of subsistence at the household level and sales at local market to international cross boundary (Jimoh, 2006).Collection and selling of NTFPs is therefore not only an important source of income by increasing their purchasing power but also provides medicine and contributes to food security in the household (Chikamai and Kagombe, 2002; Jimoh, Amusa and Azeez, 2012). NTFPs is thus a sector that offers great promise for women, but to enhance the effectiveness of poverty reduction programmes, opportunities for greater involvement of women are essential (IFAD, 2008). However the potentials of NTFPs in enhancing livelihood outcomes among rural women in most sub-Saharan Africa have not been fully harnessed unlike other parts of the world including Asia where tremendous success has been recorded (Ogunbanjo and Aina, 2013).

The available literature on exploitation of NTFPs have focused on prevalence and collection (Jimoh,Amusa and Azeez, 2012; Jimoh and Haruna, 2007; Ayeloja and Ajewole, 2006) and conservation strategies of forest products (Belcher, Ruíz-Pérez and Achdiawan , 2005) as well as the importance of NTFPs (Ayeloja and Ajewole, 2006). Evidence is scarce on the level of involvement of rural women's exploitation of NTFPs as a livelihood choice, in terms of increase in income; increased wellbeing and reduced vulnerability. In the light of the above, the study examined rural women's level of involvement in the exploitation of NTFPs and determined socioeconomic and forest-related variables influencing level of involvement.

METHODOLOGY
This study adopted a multistage sampling procedure to select 320 respondents from four forest reserves in Ogun, Osun and Ondo based on the size of the forest reserves. Structured interview schedule was administered on women who collect or trade in at least one NTFP to gain data about the following: socio-economic characteristics of the women, types and categories of NTFPs, marketing channels, benefits of NTFPs, limitations of NTFPs collection and income from NTFPs. The data were collected between the months of February and March, 2017 by the researcher and a team of 14 well trained interviewers using the Open Data Kit in Android devices.

The study analyzed three models of ordered logistic regression to examine the simultaneous effects of the independent variables on the dependent variable. The dependent variable has more than two outcomes – low involvement, moderate involvement or high involvement and a

meaningful sequential order where a value is indeed 'higher' than the previous one. The Logit (log odds) of cumulative probabilities are modeled as linear functions of predictor variable(s):

$$\ln\left(\frac{P(y \le k \mid x)}{1 - P(y \le k \mid x)}\right) = \alpha_k + \beta_1 x; k = 1,..., K-1$$

The predictor variables in this study include the socioeconomic and the forest variables. Three models of ordinal logistic regression analysis were used in this study, guided by the objectives of the study.

Model 1 socioeconomic variables only
Model 2 forest-related variables only
Model 3 socioeconomic variables + forest-related variables

RESULTS AND DISCUSSION

Level of involvement in the exploitation of NTFPs

Result in Figure 1 showed that 38.44 percent of the women have low level of involvement in the exploitation of NTFPs, 31.87 percent were moderately involved in the NTFP business while 29.69 percent of the respondents were ranked high on the level of involvement scale.

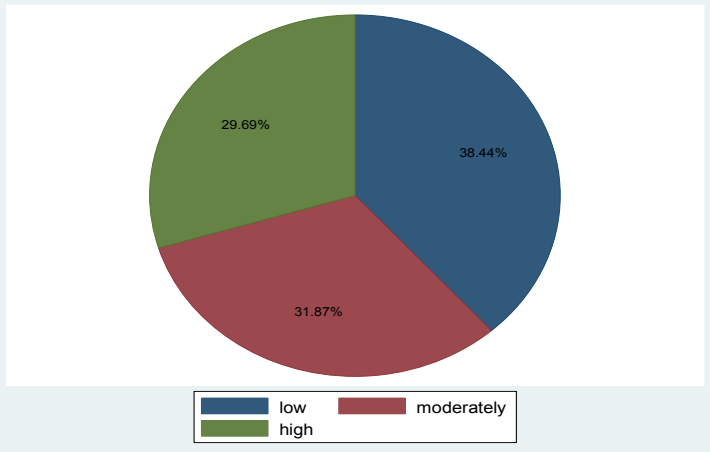

Fig 1: Level of Involvement in the exploitation of NTFPs
Source: Field survey, 2017

Multivariate Analysis

Socioeconomic variables, forest-related variables and level of involvement in the exploitation of NTFPs

The Full Model presents the adjusted odd ratios from ordered logistic regression analysis of the effects of forest related variables on level of involvement of NTFPs controlling for socioeconomic variables in the model. The probability ($p<0.001$)-value) associated with the overall Likelihood Ratio Chi Square of 108.77 in this shows that the model fits well in explaining the joint effect of the socioeconomic variables and forest-related variables on respondents' level of involvement in the exploitation of NTFPs.

With the introduction of socioeconomic variables, the forest related variables that are significantly associated with level of involvement include availability of NTFPs, demand for NTFPs, access to resources and average number of hours of collection of NTFPs per week. Among the socioeconomic variables that remain significantly associated with level of involvement in NTFP are age of respondents and marital union. The probability ($p<0.001$)-value) associated with the overall Likelihood Ratio Chi Square of 162.14 is small, showing that the Model 3 fits well in explaining the adjusted odds of involvement in NTFPs according to forest-related variables when socioeconomic variables have been controlled for.

Table 1 (Full Model): Socioeconomic characteristics, forest-related variables and level of involvement in the exploitation of NTFPs

Variables	OR	Standard Error	Z	P>|Z|	95% confidence interval	
Age	0.8397	0.0644	-2.28	0.023	0.7224	0.9759
Age square	1.0017	0.0009	1.99	0.046	1.0000	1.0034
Highest Education						
None (RC)	1.0000					
Primary	3.3699	1.2525	3.27	0.001	1.6264	6.9823
Secondary	2.7756	1.1069	2.56	0.010	1.2702	6.0652
Higher	0.1972	0.2002	-1.60	0.110	0.0270	1.4424

Variables	OR	Standard Error	Z	P>|Z|	95% confidence interval	
Marital Union						
Monogamous	1.0000					
Polygnous	7.1497	2.2012	6.39	0.000	3.9106	13.0718
Years in NTFP trade	1.0776	0.0184	4.37	0.000	1.0421	1.1142
External orientation						
No	1.0000					
Yes	2.5204	1.2736	1.83	0.067	0.9361	6.7857
Number of children						
<=4	1.0000					
5+	1.0154	0.2880	0.05	0.957	0.5823	1.7705
Access to resources						
Social Relations	1.0000					
Permission	3.8168	1.3768	3.71	0.000	1.8821	7.7401
Free	3.0497	1.6084	2.11	0.034	1.0848	8.5740
Others	2.0417	0.9909	1.47	0.141	0.7886	5.2859
Availability of NTFPs						
Decreased	1.0000					
No change	0.1732	0.0920	-3.30	0.001	0.0611	0.4908
Increased	0.3061	0.1629	-2.22	0.026	0.1079	0.8687
Demand for NTFPs						
Decreased	1.0000					
No change	2.5699	1.6714	1.45	0.147	0.7182	9.1945
Increased	5.9159	3.7532	2.80	0.005	1.7060	20.5139
Number of collection hours						
<=10 hrs	1.0000					
11-19 hrs	0.6156	0.2218	-1.35	0.178	0.3037	1.2474
20-29 hrs	3.4798	1.5132	2.87	0.004	1.4839	8.1604
30hrs or more	3.7909	1.9636	2.57	0.010	1.3735	10.4632
Ordered logistic regression : Number of obs = 320; LR chi2(11) = 162.14; Prob> chi2 = 0.001						

Source: Survey, 2018

CONCLUSION AND RECOMMENDATION

Socioeconomic variables associated with level of involvement in exploitation were age of respondents, level of education, external orientation, religion and marriage type. Forest-related variables associated with levels of involvement wereavailability of NTFPs, demand for NTFPs, access to resources and average number of hours of collection of NTFPs per week.There is need for concerted efforts to encourage rural women for greater involvement in exploiting NTFPs as a means of livelihood because of varieties of benefits attached to it which could reduce rural poverty. More enlightenment programmes should be organised by the government for the rural women for awareness creation on the income generation opportunities that abound in NTFP sector.

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ASSESSMENT OF FACTORS INFLUENCING THE ADOPTION OF IMPROVED GROUNDNUT VARIETIES AMONG FARMING HOUSEHOLDS OF JIGAWA STATE NIGERIA

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ABSTRACT
This research was undertaken to investigate the factors that influence the adoption of improved groundnut varieties among farming households in Jigawa State Nigeria. Primary data were obtained through the use of well-structured questionnaire from a sample size of 227adopters of improved groundnut varieties. The data were analyzed using descriptive statistics and Logit regression. The result shows that SAMNUT 24 was identified as the variety planted by a larger proportion (about 61%) of the pooled sample. Forty two percent (42%) of the respondents planted SAMNUT 23, 29% planted SAMNUT 22 and SAMNUT 18 was the least.The results further reveals that the factor that significantly influenced the adoption of improved groundnut varieties in the study area were found to be agro-ecology (<0.01), education (p<0.05), membership of cooperative society (p<0.1), household income (p<0.05), and extension contact (p<0.1).In conclusion and recommendation therefore the adoption of developed groundnut varieties should be promoted by public, private and non-governmental organisation so as to increase more output of the farmers.
Keywords: Factors, Adoption and Varieties

INTRODUCTION
Agricultural growth depends more and more on yield-increasing technological change and it is believed that the adoption of new agricultural technology, such as the high yielding varieties (HYV) that led to the Green Revolution in Asia could lead to significant increases in agricultural productivity in Nigeria (World Bank, 2008). This is in line with Muzari et al (2012) who opined that agricultural technology development is an essential strategy for increasing agricultural productivity achieving food self-sufficiency and alleviating poverty and food insecurity among smallholder farmers in sub-Saharan Africa.

Prior to Nigeria's independence in 1960, groundnuts were a success story of the agricultural sector of the northern part of the country; though it suffered serious setback following the disappearance of the famous pyramids in Kano, groundnut farming is still one of the popular practice in the country (Bashir, 2012). The production of groundnut in Nigeria fluctuated over the years from 1,565,000 tonnes in 1961 to 611,000 tonnes in 1985 and subsequently increased to 2,636,230 tonnes in 2010 (FAO, 2012).

The broad objective of the study was to assess thefactors influencing the adoption of improved groundnut varieties among farming households of Jigawa state Nigeria.The specific objectives of this study were to:

i. Identify the various types of groundnut varieties planted in the study area;
ii. Determine the factors that influence the adoption of groundnut varieties in the study area

METHODOLOGY
Multi-state sampling technique was employed in selecting the groundnut farming households in the study area.The first stage was a purposive selection of 4 local government areas from the state ADP zones, namely: (Dutse, Gumel. Kaugama and Sule-Tankarkar),selected on the basis of being the most prominent groundnut producing areas of the state. Secondly, 8 villages (Kandi, Kudai, Gumel, Baikarya, Dalarilugu, Gararu, Sule-Tankarkar and Tsalle) were purposively selected (two places from each Local Government) on the basis of their high intensity of groundnut production. Thirdly out of the sample frame of 2270 respondents, a simple random sampling through the use of table of random numbers was employed in selecting 10% of the groundnut farming households to give a sample size of 227.Primary data were obtained through the use of well-structured questionnaire administered to household heads using well trained enumerators. Descriptive statistics and Logit regression were employed for the data analysis.

RESULTS AND DISCUSSION
Typology of improved groundnut varieties planted in the study area.

Six groundnut varieties namely; SAMNUT 14, SAMNUT 18, SAMNUT 21, SAMNUT 22, SAMNUT 23 and SAMNUT 24 were identified as the improved groundnut varieties planted in the study area. Also the results indicated that (61%) of the respondents cultivate SAMNUT 24 and the least important improved groundnut variety in the study areas was SAMNUT 18 with 22%s of the respondents cultivating.

Study Area

State	Improved groundnut verities	*Frequency	Percentage
Jigawa	SAMNUT 24	138	60.7
	SAMNUT 23	95	41.9
	SAMNUT 22	65	28.6
	SAMNUT\21	59	25.9
	SAMNUT 18	50	22.0
	SAMNUT 14	52	22.9

Factors influencing adoption of improved groundnut varieties in the study area.

The major drivers of adoption of improved groundnut varieties in the study area were found to be, Ecology, Education membership of cooperative societies, household income and extension contact. Age of household head, farming experience, credit, farm size and household size were found to be insignificant in influencing adoption of improved groundnut varieties in the study area.Agro-ecology was positively related to groundnut farming households' adoption of improved groundnut varieties and was significant at 1% probability level. The odd ratio of 0.003 indicates that a unit increase in diversities of agro ecological zones will tend to increase the probability of the groundnut farming households' adoption of improved groundnut varieties by a magnitude of 0.003.

Education was positively related to groundnut farming households' adoption of improved groundnut varieties and was significant at 5% probability level. The odd ratio of 0.018 indicates that a unit increase in the educational level of the groundnut farming households will increase the probability of adoption of improved groundnut varieties by a magnitude of 0.018.Membership of cooperative societies was found to be positive and significant at 10% probability level with an odd ratio of 0.063 which suggests that a unit increase in years of participation in cooperative societies by the groundnut farming households will increase the probability of the groundnut farming households adoption of improved groundnut varieties by a magnitude of 0.063.

House income was negatively related to the probability of groundnut farming household that adopted improved varieties and was significant at 5% probability level. The odd ratio of 0.043 indicates that a unit increase in the income of the groundnut farming households will have the tendency of reducing their adoption of reducing their adoption of improved groundnut varieties by a magnitude of 0.043.Extension contact was negatively related to the probability of groundnut farming household that adopted improved groundnut varieties. The result was significant at 10% probability level with an odd ratio of 0.059 that indicates that a unit increase in extension contact will decrease the probability of the groundnut farming households' adoption of improved groundnut varieties.

Table 3: Logit regression estimates of factors influencing the adoption of Improvedgroundnut varieties.

Variable	Coefficient	Standard error	T-Value	Exp(B)
Constant	-1.301*	0.778	-1.673	0,094
Age	0.001	0.017	0.072	0.942
Agro-ecology	0.399***	0.132	3.026	0.003
Farming experience	0.024	0.018	1.361	0.174
Education	0.062**	0.026	2.359	0.018
Household size	-0.004	0.029	-0.123	0.902
Farm size	-0.031	0.033	-0.949	0.343
Credit	-0.452D-04	0.484D.04	-0.933	0.351
Cooperative Society	0.535**	0.288	1.857	0.063
Household income	-0100D-05**	0.494D-06	-2.025	0.043
Extension contact	-0.063**	0.033	-1.887	0.059

Log Likelihood ratio test -139.7271
Pseudo R-square 0.11
Percentage predictions 0.67

CONCLUSION

It was concluded that the factors responsible for influencing the adoption of improved groundnut varieties were farming experience, education and membership of co-operative societies, household income and extension contact.

RECOMMENDATIONS

It is recommended that farmers should be encouraged to join cooperative societies so as to

foster their interaction and exchange of ideas on improved groundnut varieties towards facilitating adoption of the varieties. Efforts should be intensified on improving education of the farmers through effective extension as this will enhance the adoption of improved groundnut varieties by the farmers in the study area.

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IMPACT OF COMMUNITY BASED AGRICULTURE AND RURAL DEVELOPMENT PROJECT ON PARTICIPANTS INCOME IN KADUNA STATE

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ABSTRACT
This study was designed to assess the Impact of Community Based Agriculture and Rural Development Project (CBARDP) on the participants Income in Zaria and Igabi Local Government Areas of Kaduna State, Nigeria. The objectives of the study were to: describe the socio-economic characteristics of the respondents, determine the impact of the project on the participants' income. A multi-stage sampling technique was employed to select a sample size of 185 respondents from a sample frame of 1852. Structured questionnaire was used to elicit primary data. Descriptive statistics and chow test were utilised for data analyses. Findings revealed that; majority (70.0%) of the participating farmers were females and 27.0% of the participating farmers attended postsecondary school, 85.0% of the non-participating farmers were also females with average age of 41 years and 91.0% married, having a household size between 6-10 persons and 32% of the non-participating farmers having an educational attainment of primary. The Chow test analysis revealed that the Chow F = 1.98, while F table value at 5 degree of freedom with sample size of 185 was 1.97 at $p<0.05$ level of probability implying a significant impact of CBARDP project on income of the participants in the study area. In conclusion and recommendation the Project had positive impact on the participants' income and should be scaled out to other non participating Local government areas of the State.
Keywords: Income, rural and participants

INTRODUCTION
Previously, government embarked on various reform programmes with a view to increase food production. These programmes include among others: Farm Settlement Scheme established in 1960, National Accelerated Food Production Programme 1972, Agricultural Development Projects 1972, Nigerian Agricultural and Co-operative Bank 1973, Operation Feed the Nation 1976, River Basin Development Authority 1976, Directorate of Food, Roads and Rural Infrastructures 1986, National Directorate of Employment 1987, National Agricultural Land Development Authority 1988 and Food Security and Poverty Alleviation Programme 1999. All these programmes have significant merit, but the facts remain that none singly or collectively have addressed the felt needs of the farmers to any significant and sustainable extent (Ladele, 1990; Idachaba, 2000 and Ijere, 1992).

Recently, the Federal Government of Nigeria prepared and adopted a new National Rural Development Strategy in 2001, Project Implementation Manual (2006). The strategy aimed at improving livelihood and food security through a process of Community Based Agriculture and Rural Development Project (CBARDP). The strategy called for a community driven development approach that ensures the active participation of beneficiaries at all levels of decision making. The project counterpart funds were from the African Development Bank (AFDB) contributing 81%, the Federal Government of Nigeria 3%, five participating states: Kaduna inclusive, contributing 6% respectively to their own state projects. The nine selected LGAs from each State; contributing 9% each while the project sites (participants) 1%.

The broad objective of the study was to assess the impact of Community Based Agriculture and Rural Development Project (CBARDP) on the participants income .The specific objectives were to:

i. describe the socio-economic characteristics of the participating farmers and the non-participating farmers.
ii. determine the impact of CBARDP on the income of participating farmers and non-participating farmers in the study area.

METHODOLOGY
A multistage sampling procedure was employed to get the respondents. In the first stage, two Local Government Areas were selected purposively, based on proximity and financial constraints out of the nine CBARDP benefiting LGAs in Kaduna State, Zaria and Igabi Local Governments. At the second stage three villages were selected from each Local Government Area, because they were the participating villages making a total of six villages. These are Igabi, Gwaraji and Gwada in Igabi LGA, Kofar-Galadima, Kugu-Dutsen Abba and Aba Wuciciri from Zaria LGA. Thirdly, out of the1852 sample frame of respondents, 10% was randomly selected, which formed the sample size of 185 for this study. Primary data were collected through the administration of a structured questionnaire by enumerators. Descriptive statistics and chow test were utilised for the analysis.

RESULTS AND DISCUSSION

Socioeconomic characteristics

Results in Table 1 reveals that 70% of the participants in the project were females and 85% of the non-participants were also females. In addition, the results in Table 1 indicates that 42% of the participants were between the ages of 41-50 years; while 34% of the non-participants were within the range of between 21-30 years old. This implies that farmers between the ages of 41-50 participated more in the project.

Table 1: Socio-economic characteristics of the respondents

Variables	Participants		Non -participants	
	Frequency	Percentages	Frequency	Percentage
Sex				
Male	30	30.0	13	15
Female	69	70.0	73	85
Marital status				
married	96	97	74	86
single	3	3	11	13
Divorced	0	0.0	1	1
Age				
20-30	9	9.1	40	46.5
31-40	19	19.2	26	30.2
41-50	42	42.4	12	14.0
51-60	21	21.2	8	9.3
61-70	6	6.1	0	0.0
71-80	2	2.0	0	0.0
Total	**99**	**100**	**86**	**100**
Min	25		14	
Max	80		60	
Mean	47		33	

Impact of CBARDP Project on Income of Farmers

The farmer's income was calculated from crop income, Livestock income, and wages from regular employment. The mean annual income of participants from livestock (N 412,720) is higher than the mean annual income of non-participants (N276, 844) which implies that CBARDP participants realized higher income than non-participants. The results of the t-statistics in table 2 clearly shows that the difference between the annual income of the participants and non-participants is significant thereby implying that livestock production had an impact on the income of the participants. The standard deviation of the income of the participants (369, 670) is higher than that of non-participants (186,423) which imply that there is a higher variability in the income of participants than non-participants.

Table 2: Frequency distribution of livestock income of CBARDP on farmers.

Income range(N)	Participants		Non-participants	
	Frequency	Percentage	Frequency	Percentage
100, 000 - 200, 000	28	28.29	29	33.72
200, 001 - 300, 000	36	36.36	15	17.44
300, 001- 400, 000	12	12.12	10	11.63
400, 001 - 500, 000	12	12.12	18	20.93
500, 001 - 600, 000	11	11.11	14	16.27
Total	**99**	**100**	**86**	**100**
Mean	412,720		276, 844	
Minimum	74,000		51,000	
Maximum	1,300,000		780,000	
Standard deviation	369,670		186,423	

The results from Table 3 revealed that the Chow F = 1.98, while F table value at 5 degree of freedom with sample size of 185 was 1.97 at $p<0.05$ level of probability implying a significant impact of CBARDP project on income of the participants in the study area since the F calculated was greater than the F table.

Table 3: Impact of CBARDP project on income of farmers

Group Sample	R^2	Residual sum of square	N	K	F-cal	F-tab
Pooled Samples	0.29	4597871+08	185	6	1.98	1.97
Participants	0.85	2358410E+08	99			
Non-participants	0.29	196661E+08	86			

R^2 = regression coefficient, N = numbers of observation and K = numbers of parameters

CONCLUSIONAND RECOMMENDATIONS

It was concluded that due to the project intervention the farmers' income was increased to a significant level. Meaning that, CBARDP had improved the income of the participants in the study area.

It was recommended that:The project be scaled out to other non participatingareas of the state in order to record an increase on income and Extension workers should sensitize farmers on the importance of improved seeds in crop production.

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CONSTRAINTS AND BENEFITS ASSOCIATED WITH WATERMELON PRODUCTION IN OYO STATE, NIGERIA

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ABSTRACT
The study examined the constraints and benefits associated with watermelon production in Oyo state, Nigeria. Multi- stage sampling procedure was used to select 120 respondents for the study through an interview schedule. Descriptive analysis was used to describe and categorize the socio-economic characteristics of the respondents. Pearson Product Moment Correlation (PPMC) was used to test the hypothesis. The results revealed that majority (71.7%) of the respondents were married and the mean age was 39.8 years. Majority of the respondents (84.2%) acquired their farmland through inheritance and lease. The results also showed that inadequate capital ($\bar{x}$ = 2.93) and climatic factor ($\bar{x}$ = 2.88) were perceived as the major constraints to watermelon production while quick return from watermelon ($\bar{x}$ = 4.78), job creation ($\bar{x}$ = 4.28), high return ($\bar{x}$ = 4.23) and high market demand ($\bar{x}$ = 4.19) were the major benefits derived from it. Conclusively, farmers perceived that watermelon production was associated with risks and benefits. It was recommended that agricultural cooperatives should help farmers benefit from economies of scale to lower their cost of watermelon production.
Keywords: Cucumber, Constraints and Benefits

INTRODUCTION
Watermelon is a tender, warm season vegetable belonging to the family cucurbitaceae. It is highly nutritious and thirst quenching crop. It contains vitamin A and C in the form of disease fighting beta-carotene (Amao, *et. al.,* 2014). However, watermelon production has not enjoyed a high level of technological improvement such as the new hybrid seeds, fertilizers and processing (Yusuf *et. al.,* 2013). Most of the watermelon got wasted in the remote areas at this moment that poverty is on increase in Nigeria and more so that agricultural produce needs to be in abundance for consumption and remnants be exported to the neighboring countries. Also, Adetiba, (2005) and Amao, *et. al. (*2014) observed that there are shortages of horticultural produce especially fruits which are often very acute because of low level of technology in production, harvesting and storage. In view of this, the study assessed the constraints and benefits associated with watermelon production in Oyo State, Nigeria while specific objectives were to; describe the socio-economic characteristics of watermelon farmers in the study area, identify the constraints to watermelon production and identify the benefits associated with watermelon production in the study area.

METHODOLOGY
The study was carried out in Oyo state, Nigeria. Population of the study comprised farmers engaged in watermelon production in Oyo State. Multi- stage sampling procedure was used in selecting respondents. Stage 1: Oyo State Agricultural Development Program (OYSADEP) zones were identified and selected (Ibadan/Ibarapa, Ogbomosho, Saki and Oyo zone). Stage 2: Local governments in each agricultural zone were identified and listed. Stage 3: 25% of the local governments (8) were randomly selected in each of the agricultural zone. Stage 4: Using simple random sampling techniques, 120 respondents (30%) were selected from the local governments selected in stage 3. The data for the study was collected through an interview schedule and were analyzed using frequency and percentages and Pearson Product Moment Correlation (PPMC).

RESULTS AND DISCUSSION
Table 1 showed that mean age of farmers was 39.8 years. This showed that farmers are strong and agile and would be more efficient than the aged farmers in agricultural production. This agreed with the finding of Celac (2011) that farmers of this age group can influence the adoption of improved agricultural practices, which can equally influence a high level of watermelon productivity. Many (71.7%) of the respondents were married. This indicated that matured people were more involved in watermelon production in the study area probably to increase the household income. The respondents' mean income on watermelon cultivation was ₦686,440. Most of the respondents (97.5%) acquired their farm land through inheritance and purchase.

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

Variables	Frequency	Percentage	Mean
Age			
11-20	05	4.2	
21-30	34	28.3	

Variables	Frequency	Percentage	Mean
31-40	60	50.0	39.8
41and above	21	17.5	
Marital status			
Single	11	9.2	
Married	86	71.7	
Divorced	7	5.8	
Widowed	16	13.3	
Educational qualification			
No Formal Education	7	5.8	
Primary Education	19	15.8	
Secondary Education	49	40.8	
Tertiary Education	45	37.5	
Income per Ha (₦)			
<500,000	78	65.0	
500,000-1,000,000	35	20.8	₦686,440
1,000,001and above	07	14.2	
Land acquisition			
Inheritance	63	52.5	
Purchase	54	45.0	
Lease	01	0.8	
Gift	02	1.7	

Source: Field Survey, 2018

Constraints to watermelon production in the study area

Table 2 revealed that inadequate capital, lack of good seeds and climatic factor were the major constraints to watermelon cultivation. This agreed with the findings of Isibor and Ugwumba (2014) that, watermelon growth and development depend largely on climatic factor.

Table 2: Constraints to watermelon production in the study area

Constraints	Very severe	Severe	Not severe	Mean	Ranking
Inadequate capital	112(93.3)	8(6.7)	-	2.93	1st
Lack of good seed	110(91.7)	10(8.3)	-	2.92	2nd
Climatic factor	106(88.3)	14(11.7)	-	2.88	3rd
Shortage of labour	88.(73.3)	32(26.7)	-	2.73	4th
High Transportation cost	45(37.5)	63(52.5)	12(10.0)	2.28	5th

Source: Field Survey, 2018

Benefits associated with watermelon production in the study area

In Table 3, among the benefits as exposed by the mean were: quick return from watermelon, job creation, high return and high market demand. These make watermelon one of the most preferred among other vegetables. This agreed with the findings of Yusuf *et. al.,* (2013) that, watermelon is the most preferred among five other vegetables examined in Ibadan metropolis of Oyo state, Nigeria.

Table 3: Benefits associated with watermelon Production in the study area.

Benefits	SA	A	U	D	SD	Mean	Ranking
Quick return.	94(78.3)	26(21.7)	0 (0.0)	0 (0.0)	0 (0.0)	4.78	1st
Job creation.	62(51.7)	46(38.3)	2(1.7)	7(5.8)	3(2.5)	4.28	2nd
High return	27(22.5)	93(77.5)	0 (0.0)	0 (0.0)	0 (0.0)	4.23	3rd
High market demand	23(19.2)	97(80.8)	0 (0.0)	0 (0.0)	0 (0.0)	4.19	4th
Poverty reduction.	22(18.3)	98(81.7)	0 (0.0)	0 (0.0)	0 (0.0)	4.18	5th
Low start-up capital.	0 (0.0)	0 (0.0)	0 (0.0)	93(77.5)	27(22.5)	1.23	6th

Source: Field Survey, 2018
Figure in parenthesis in percentage (%)

Categorization of respondents based on benefits derived from watermelon production.

Table 4 showed the categorization of the respondents according to the general benefits derived from the cultivation of watermelon. About 1.7% and 98.3% respondents fell within low level and high level of benefits derived from watermelon cultivation respectively. This implies that respondents have been benefiting immensely from watermelon cultivation in the study area.

Table 4:Categorization of respondents based on benefits derived from watermelon production

Benefits derived	Frequency	Percentage (%)
Low benefit	2	1.7
High benefit	118	98.3

Source: Field survey, 2018 Mean ($\bar{x}$) = 18

Relationship between selected socio-economic characteristics of the respondents and the benefits derived from watermelon production.

Chi-square analysis results as indicated in Table 5, showed that marital status, educational qualification and land acquisition were significantly related with the benefits derived from watermelon production. Literacy level will greatly influence the decision making and adoption of innovation by farmers, which may bring about increase in production of the crop (Amaza, 2000).

Table 5: relationship between selected socio-economic characteristics of the respondents and the benefit derived from watermelon production.

Variable	X^2	df	p-value	Remark
Marital status	140.735	3	0.001	Significant
Education qualification	41.20	3	0.001	Significant
Land acquisition	100.667	4	0.001	Significant

Source: Field survey, 2018 $P \leq 0.05$

CONCLUSION AND RECOMMENDATION

It was concluded that watermelon production is associated with constraints which the farmers perceived as a risk to be taken just like the risk associated with every other business. The study also revealed that there are benefits associated with watermelon production, among which are health benefit and its quick income generation. It was recommended that financial institution should empower the farmers with credit facilities in order to increase their production and agricultural cooperatives should help farmers benefit from economies of scale to lower their costs of acquiring inputs and hiring services such as storage and transportation.

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CONTRIBUTIONS OF MIGRANT-TENANT-FARMERS TO FOOD PRODUCTION IN ONDO STATE, NIGERIA

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ABSTRACT
The neglect of agriculture by youths has subjected the production of some arable crops into the hands of Migrant-tenant-farmers that occupied specific areas in Nigeria. The study assessed the contributions of migrant-tenant-farmers to food production in Ondo State. Specifically, it assessed the time of sojourn, the major crops produced and the challenges to their existence. A well-structured interview schedule was employed to elicit information from 180 respondents in the study area. The data collected were analyzed using descriptive statistics and Chi-square analytical tool. The result of the study shows that most of the migrant-tenant-farmers (80%) have been farming for more than ten years. Yam(70%), palm oil (65%)and cocoa (57%) were the common crops produced by them. The constraints to their existence were neglects by extension agents (85.4%), inadequate credit facilities (76%), lack of health infrastructures (76.8%), poor market accessibility (65%), invasion of farmland by Fulani herdsmen (62.5%), poor water and electricity supply (60%). The result of the Chi-square established a significant relationship between age(χ^2=10.12, p=0.03), access to land (χ^2=9.59 p=0.05),credit facilities (χ^2=11.84 p=0.04), visitation by extension agents (χ^2=10.88, p=0.04)and food production in Ondo State. Hence, credit facilities should be extended to migrant-tenant-farmers, with improved market accessibility, water and electricity supply to boost their production and livelihood.
Keywords: Challenges, Food production, Infrastructures, Migrant-tenant-farmers

INTRODUCTION
Migration is a universal phenomenon that occurs in almost all works and spheres of life. Migration is an essential determinant in economic, urban and demographic processes, source of growth and spatial distribution of socio-economic opportunities (Turun, 2004). Migrant-Tenant-farmers are farmers who relocate to a new agricultural land to rent a farmland for farming purpose in another man's land or area different from his. A migrant farmer is defined as an individual who is required to be absent from a permanent place of residence for the purpose of seeking employment in agricultural work (Decosas, 1995). Migration usually happens as a result of a combination of these push and pull factors: Unemployment to potential employment, lack of services or amenities to better provision of services, poor safety and insecurity to a safety atmosphere, high rate of crime, crop failure to fertile land, high risk of natural disaster to less risk of natural disaster, poverty to greater wealth and affluence, war to a peaceful place, bad weather and climate to a more attractive climate (York, 2015). Migrant-tenant-farmers in Ondo State are commonly found in the rural areas where they can easily gain access to farming lands. They travel from place to place to work in the farm and move to temporary housing while working. For instance, yam, pepper, cocoa and vegetable production in most parts of Ondo State are dominated by the migrant-tenant-farmers as part of their contributions to the economic development of the state. Despite the significant contribution of the migrant-tenant-farmers to the food production of Ondo State, yet there is a dearth of information on the livelihood activities of the migrant-tenant-farmers. This study assessed the time of sojourn of the tenant farmers in Ondo State, the major crops producedand the challenges of their existence.

METHODOLOGY
The study was carried out in Ondo State.A multi-stage sampling procedure was used to select 180 respondents for the study. Data were collected with the use of a well-structured interview schedule on respondents' time of sojourn, the major crops produced as well as the challenges of their existence. The data collected were analyzed using descriptive statistics such as frequency counts,percentagesand mean.

RESULTS AND DISCUSSION
Socioeconomic characteristics
The result in Table 1 showed that the migrant-tenant-farmers in the study area cut across all age groups. Most (65.6%) of them were male gender, married(83.3%) with relatively larger household size and 95.6% of them have male-headed households. Educational indicators revealed that most of the respondents had low level of education. More than 80% of them had been farming for over ten years.

Table 1: Socioeconomic characteristics of the respondents in the study areas

Characteristics	Frequency	Percent
Age		
<30yrs	32	17.8
31-40yrs	40	22.2
41-50yrs	70	38.9
51-60yrs	27	15
>60yrs	11	6.1
Sex		
Male	118	65.6
Female	62	34.4
Marital Status		
Single	17	9.4
Married	150	83.3
Divorced	5	2.8
Widow	6	3.3
Widower	2	1.1
Household size		
<3	8	4.4
4-6	73	40.6
7-9	81	45
>9	18	10
Household Head		
Male	172	95.6
Educational Level		
No formal Education	22	12.2
Pry. Sch.	84	46.7
Sec. Sch.	60	33.3
Tertiary	14	7.8
Farming Experience		
<5yrs	5	2.8
5-10yrs	14	7.8
10-15yrs	21	11.7
15-20yrs	66	36.7
>20yrs	74	41.1

Source: Field survey, 2019.

Time of sojourn of the respondents in the study areas

The study reveals that 55.6% of them had spent less than 21 years in the communities, 30.0% had spent between 21 and 40 years, while 8.9% of them had spent between 41 and 60 yearsand 5.6% of them had spent more than 60 years in the communities as shown in Figure 1. The average years spent by the migrant-tenant-farmers in Ondo State was 21.3 years.

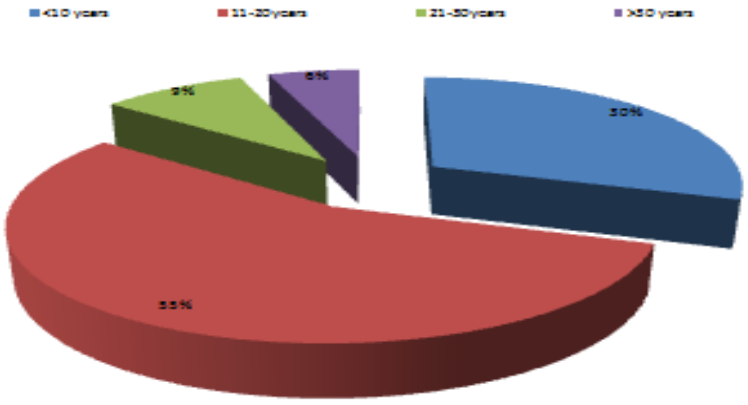

Figure 1: Time of sojourn in Ondo state
Source: Field survey, 2019

Major Crops Produced by the Respondents in the Study Areas

Figure 2shows that 70% of the migrant-tenants-farmers derived their livelihoods from yam.Followed by, cassava (65%), maize (78%), palm oil (65%), cocoa (57%), leafyvegetables (27%) and selling of agricultural products (15%). This established that migrant-tenant-farmers in the state engaged mainly in crop production as well as labour supply on the farms. Hence it could be said that migrant-tenant-farmers contribute immensely to the national income of the federation and they also helped to feed the teeming population of Nigeria.

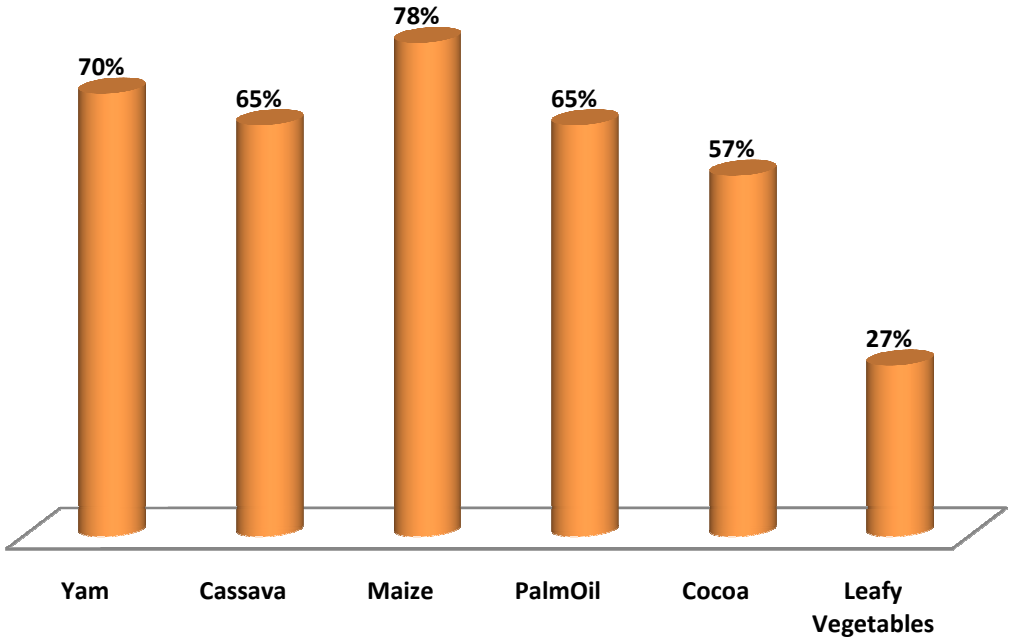

Figure 2: Crops produced by the respondents
Source: Field survey, 2019

Challenges Faced by Migrant-tenant-farmers in the Study Area.

Table 2revealed that farmland encroachment was one of the major challenges encountered as indicated by 62.5%of them. Followed by, inadequate credit facilities (76%), lack of storage facilities and inadequate farm inputs(84.4%), inadequate health care services (76.5%)and poor road network (74.4%). It was opined that the constraints resulted in the decline of food production as well as loss of lives and properties.

Table 2: Constraints encountered by the Respondents

Constraints Encountered	Frequency	Percentage (%)
Poor Health services/ infrastructure	136	76.0
Transportation / road network	134	74.4
Financial capability	136	76.0
Neglect by Extension agents	154	85.4
Drinkable water	108	60.0
Farmland encroachment	113	62.5
Inadequate farm inputs/implements	152	84.4
Lack of storage facilities	152	84.4
Poor electricity supply	108	60.0
Lack of network services	100	55.6
Poor access to market	117	65.0
Neglect by Extension Agent	154	85.4
Land	135	75.0

Source: Field survey, 2019

Relationship between socio-economic Characteristics and Food Production of the Respondents

The result of the Chi-square established a significant relationship between age of the migrant-tenant-farmers (χ^2=10.12, p=0.03), Access to land (χ^2=9.59 p=0.05)credit facilities (χ^2=11.84 p=0.04), visit by extension agents (χ^2=10.88, p=0.04)and food production in Ondo State.

Table 4: **Chi-Square Results between Socio-economic Characteristics and Food Production**

Variable	χ^2(p)	Df	Decision
Age	10.12(0.03)	7	S
Sex	4.27(0.52)	7	NS
Religion	7.50(0.38)	7	NS
Access to credit	11.84(0.02)	7	S
Visit by extension agent	10.88(0.04)	7	S
Access to land	9.59(0.05)	7	S
Literacylevel	2.92(0.57)	7	NS
Tenancy period	7.61(0.16)	7	NS

Source: Field survey, 2019
S = Significant and NS = Not Significant

CONCLUSION AND RECOMMENDATION

The study concluded that the migrant-tenant-farmers were young, mostly male, married with relatively large household size. Most of them have low literacy levels, with more than ten years farming experiences. They produced mainly yam,maize, cassava, oil palm and labour supply, as well as sales of Non-timber forest products. The primary constraints to the existence of migrant-tenant-farmers includes neglect by extension agents, inadequate credit facilities,inadequate health care services, poor market accessibility, inadequate access to farmland, invasion of farms by Fulani herdsmen, poor water and electricity supply.Thus, there was significant relationship between age, access to land,credit facilities, visitation by extension agents and food production in Ondo State. Hence, credit facilities should be extended to migrant-tenant-farmers, with improved market access, water and electricity supply to boost their production.Also, government at all levels should make policies that will help control the activities of Fulani herdsmen to stop the destruction of farms and attack on farmers and their relatives.

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EFFECTIVE AGRO-LOGISTICS: PATHWAY TO REDUCE POST HARVEST LOSSES AND IMPROVED HOUSEHOLD AND NATIONAL FOOD SECURITY IN NIGERIA

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ABSTRACT
Preservation of agricultural products has remained a serious challenge over the years, resulting in huge post-harvest losses annually. This position paper, examined various challenges associated with post-harvest losses, factors that contribute to post-harvest losses and its consequences on household and national food security. Using literature, this paper also identified agro-logistics bottlenecks and different stages at which losses are incurred along agricultural value chain. Lack of storage facilities (especially modern facilities), financial incapability, lack of access to modern drying technology, poor post-harvest handling across the value chain were among the factors that contribute to post-harvest losses. Poor post-harvest logistics and bad road networks most especially in rural areas also contribute to losses of food in the supply chain. Consequently, actors at different stages of agricultural value chain have share of losses. As concerted efforts are being directed at increasing food production in the country, adequate attention should be given to effective agro-logistics in the agricultural value chain as well. This will not only ensure getting agricultural products to the right market or consumers, at the right time, in the required quality or specifications, but also, reduce costs along the value chain and increase the revenue of actors in food supply chain, thereby contributing to sustainable food security in the country.
Keywords: Agro-Logistics, Post-Harvest losses, Pathway, Food security

INTRODUCTION
Poor infrastructure such as roads, electricity supply, lack of inputs, lack of technical expertise, inadequate policies and weak institutional support are among the numerous institutional and structural bottlenecks beset agricultural growth and competitiveness in Nigeria. Consequently, enormous quantities of agricultural produce especially in food supply are lost annually (FAO, 2002) at different stages of post harvest handling. A major drain on food production and food security in Sub-Sahara Africa especially is post harvest losses that occurred at different stages of the value chain (Obayelu, 2014). In addition to the food losses, massive losses are also recorded in terms of wasted arable land and water resources, labour, fertilizer and other inputs as well as money invested into food production (Chen*et al.,* 2018; Kitinoja, et al., 2011; FAO, 2013).

Post harvest loss which was defined as the degradation in both quantity and quality of a food production from harvest to consumption (Kiaya, 2014) has become a major obstacle in achieving sustainable food supply in Nigeria resulting in high cost of food supply and inaccessibility of average households to adequate quality and quantity dietary intake. Lack of access to required quality and quantity household food supply leading to food insecurity is not just about insufficient food production, availability and intake, but also as a result of post harvest losses (Kumar and Kalita, (2017). Food losses occur during stages of post-harvest operations; which include harvesting, transportation, drying, storage, processing, sales and consumption (Atanda *et al.* 2011).

Indirectly, post harvest losses leads to reduction in employment opportunities within post harvest value chain and as well in the capital available for stakeholders to either expand their business activities in the value chain or invest in other business enterprises as a way of diversifying their livelihood activities. Studies revealed that as critical as the issue of post harvest losses is, much attention has not been given to food losses through post-harvest handling especially in developing economies as compared to the attention and concerted efforts directed at production (Affognon *et al*. 2015; Kumar and Kalita, 2017; Adebayo et al. 2017). Provision of necessary post-harvest logistics across the value chain with appropriate complimentary infrastructures/facilities, could be a pathway to considerable reduction in food losses and increase in the income levels of actors across agricultural value chain. Agro-logistics as a sub-discipline of the general logistics sector is a concept that has been developed to bridge the gap between food production and consumption by which considerable losses are being recorded annually. In modern agricultural sector development, implementation of functional logistics in food supply chain of is imperative, considering the increasing demand and competitiveness of agricultural food products in the world market. This study therefore, assessed agro-logistics bottlenecks in post harvest value chain, the importance of effective agro-logistic system to improving household and national food security in Nigeria as well as factors and challenges that contribute to post-harvest losses at different stages of agricultural value chain and its consequences on household and national food security were discussed, in a view to identify appropriate agro-logistic system to address the challenges and ensure food security at household and national levels.

Factors and challenges of post harvest losses

Food losses in post harvest handling have been detrimental to achieving the expected increase in food supply. A significant amount of produce is lost in post harvest operations due to many factors including; inadequate technology, lack of adequate knowledge in postharvest handling, bad road network lack of storage system, and poor rural infrastructures as well as lack of proper financial management and technical limitations in harvesting and processing techniques (Mada *et al.2014*). Post harvest losses result in reduction of food available for household consumption, waste management, greenhouse gas emission and loss of scarce resources invested in agricultural food production (Aulakh, et al. 2013).

In Nigeria, losses in post harvest chain result in high cost of food prices, reduction in income of stakeholders in the value chain especially the farmers and profitability of harvested produce (Obayelu, 2014). Qualitative and quantitative losses in terms of nutrient and edibility of food product as well as reduction in the quantity of food produce harvested are often recorded before consumption in Nigeria. Food loss cut across all agricultural production value chain, though the losses varies from commodity to commodity, season to season and by other circumstances in which food produce are harvested, transported, processed stored and marketed

Agro-Logistics Concept and Bottlenecks to Reducing Postharvest losses:

In general terms, logistics has been considered an issue deserving modest priority in nations' economy. According to Lukinykh and Lukinykh, (2016) effective logistics system is a significant competitive advantage in the marketing world. Logistics is a part of supply chain process which deals with the transportation, warehousing, as well as inventory administration and management of physical products between the point of production and the point of delivery to the final consumer. The fundamental principle of agro-logistics system is to ensure that the right agro-product gets to the right place, at the right time in the right specification; in quality and quantity at the lowest cost. It implies that if the entities comprised in agro-logistics system are provided, and efficiently managed, the system could be seen as a value-adding process that can directly address the problem of losses in food supply across post harvest value chain (Vorst van der and Snels, 2014). It will significantly enhance the competitiveness of food supply chain in terms of levels of related services, information requirements, profitability (as it accrued to producers) and adherent to rules and regulations that govern quality food supply across Nigeria in particular and the global community at large.

Meanwhile, bottlenecks in agro-logistics contribute to rural poverty and food wastage (Vorst van der and Snels, 2014), resulting in threat to household and national food security. The bottlenecks are caused by lack of required entities to carry out the aforementioned functional elements of agro-logistics. In addition, lack of adequate knowledge and skill in modern technologies for value-adding logistics process and services by larger proportion of Nigerian farmers especially the peasant farmers also constitute bottleneck in agro-logistics.

CONCLUSION AND RECOMMENDATIONS

This paper revealed that agro-logistic limitations in post harvest value chain has limited agricultural sector in Nigeria to achieve its full potential despite the efforts and resources invested in the sector, preventing entering into the global competitive market in food supply. A continuous, interlinked chain in logistics practices that will cut across all the components of food supply value chain is of great importance. Rural enterprises should have sufficient access to the mainstream of logistics system that will ensure timeliness in agricultural value chain processes, with marginal loss of food in the process.

Therefore, it is recommended that adequate attention and concerted efforts be given to effective agro-logistics in the agricultural value chain as it is being directed at increasing food production in the country. This will not only ensure getting agricultural products to the right market or consumers, at the right time, in the required quality or specifications, but also, reduce costs along the value chain and increase the revenue of actors in food supply chain, thereby contributing to sustainable food security at household and national levels.

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CROP FARMERS' AND HERDSMEN'S PERCEIVED EFFICACY OF THE EKITI STATE ANTI-GRAZING LAW AS A CONFLICT MANAGEMENT STRATEGY

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ABSTRACT
The Ekiti state Anti-Grazing Law (AGL) was passed as a conflict prevention and management strategy to the recurring cases of farmers-herders conflict. The study examined perceived efficacy of anti – grazing law among crop farmers and herdsmen in Ekiti State, Nigeria. Information was obtained from 148 crop farmers and 73 herdsmen selected through a multi-stage sampling procedure, and data were analysed using frequency counts, mean t-test and regression at $\alpha_{0.05.}$ A significant proportion (82.4%; 90.4%) of crop farmers and herdsmen, respectively had high knowledge of AGL, perceived the AGL to have high level of limitations (97.3% crop farmers; 100.0% herdsmen) of AGL as measures adopted for conflict management. Also, 70.3% of crop farmers and herdsmen (8.2%) had high level of perceived efficacy of AGL. Farmers and herdsmen were significantly different in their perceived limitation (t =12.444) and efficacy (t=11.839) of the AGL. Therefore, since farmers perceived AGL to be more efficacious than herdsmen, as herdsmen perceived the law to have more limitations than strength, more proactive measures to resolve conflicts between the two groups should be incorporated through a more participatory approach involving important stakeholders.
Keywords: Perceived efficacy, Crop farmers, Herdsmen, Conflicts and Anti–Grazing Law

INTRODUCTION

Conflicts between farmers and herdsmen are recurrent issues and are becoming increasingly complex in countries like Nigeria, Mali, Sudan, Democratic Republic of Congo and Ghana. This occur in line with the historical, economic and political contexts in which they take place. In recent decades, farmer-herder conflicts in many parts of Sub-Sahara Africa have escalated into widespread violence, loss of property, massive displacement of people, and loss of lives (Hussein, Sumberg, and Seddon, 2000).

Interestingly, farmer-herder relationship used to be cordial and harmonious in the past according to history. Blench and Dendo (2003) asserted that many farmers and herders of today grew up together in the same areas, enjoyed a peaceful and harmonious social and economic relationship and conflicts were rare (Hoffman 2004). However, this desirable relationship grew sour with time, and currently, it appears there was never any record of mutuality between both parties in the past, as conflicts have dominated discussions and discourse of their relations. This relationship has grown so bad and worsened over the years. The conflicts which only started with sustainment of wounds, has degenerated to loss of lives in recent years. Okereke (2012) and Kasarachi (2016) reported that, serious conflicts between herdsmen and farmers lead to loss of lives, valuable properties and destruction of vast expanse of arable agricultural farmlands. While it can be argued that many of these attacks are concentrated in the Northern part of Nigeria, the most recent attack of May 20, 2016 on Oke Ako community Ekiti state, in which two people died and others sustained various degrees of injury, is a signal that Ekiti State could serve as a gateway to conflicts in other South Western States in Nigeria if not curbed. It is in respect of this that the government of Ekiti led by Governor Ayodele Fayose promulgated Anti – grazing law, to provide for the control of animal grazing in the state, a measure aimed at addressing the menace in a sustainable manner (Ekiti State Law, 2016). Ekiti State Anti – Grazing law (2016), tagged **"The Prohibition of Cattle and other Ruminants Grazing in Ekiti State"** was passed by the Ekiti State legislative assembly and signed into law by the state Governor, Ayodele Fayose on 30th October, 2016. It was the outcome of an executive bill sponsored by the Ekiti State Government to regulate, prevent, and control indiscriminate cattle grazing and other matters connected therewith (Ekiti State Law, 2006). The law which contains eight major sections states in part:

The decision to sign the bill into law is widely considered as proactive and representative of farmers who make up a majority of his constituents and equally, laudable for efforts to foster security and promote agriculture. However, other reactions from other stakeholders suggest that the law is seen to have political undertones and have included threats of reprisals, indicating attitudes of calculated ethnic racism with divisive potentials and continued violence rather than of unity and peace in the state. It is therefore important to ascertain the perception of relevant stakeholders, which include farmers and herdsmen of the efficacy of the law in managing the ever worsening situation. It is against this background that this study seeks to provide assessed farmers and herdsmen knowledge of the contents of AGL; perceived limitations to the effectiveness of the AGL; and perceived efficacy of the AGL.

METHODOLOGY

The study was carried out in Ekiti State, of southwestern Nigeria, created on 1st October, 1996 out of the former Ondo state. Sampling was done using a multi-stage procedure, involving purposive and random sampling. The former method was due to high prevalence of herdsmen and occurrence of farmers-herders conflicts and the later, to minimise bias. In total, 221 respondents involving 73 herdsmen and 148 crop farmers were selected.

The dependent variable was measured by presenting respondents with a list of possible items on efficacy were presented to respondents based on the proposed outcome of the AGL, and respondents indicated for each on a three point scale of to a large extent, to a lesser extent and not at all, with scores of 2, 1 and 0 assigned respectively. The scores were computed and the mean was used as a benchmark for determining high and low levels of perceived efficacy. Frequency and percentages were used in presenting data for all the specific objectives of the study, and simple narratives were used in presenting qualitative data. T-test was used to test for significant differences between the two stakeholders' knowledge, perceived limitation and efficacy of the AGL.

RESULTS AND DISCUSSIONS

The result on knowledge of AGL as shown in Table 1 reveals that 82.4% crop farmers and 90.4% herdsmen had high knowledge of AGL. This implies that the keys stakeholders of farmers and herdsmen had good knowledge of the AGL. Result on perceived limitations of AGL further reveals that all (100%) herdsmen perceived the AGL to have high level of limitations as against the 97.3% of crop farmers in this category. However, in spite of the high level of limitations of the AGL as perceived by farmers, 98.8 percent perceived the law to be efficacious, while only 8.2 percent of herdsmen share this perception. While it can be inferred that herdsmen position on efficacy of the Law was consistent with their earlier position on the limitation, that of farmers show a high degree of inconsistency. This therefore suggests insincerity on the part of the farmers since the laws was deliberately passed to protect their interest, compared to their herdsmen counterparts.

Table 1: Categorization of respondents based on knowledge of AGL

Test variable	Crop farmers	Herdsmen	Mean	SD	Min	Max
Perceived Knowledge						
High	122(82.4)	66(90.4)	14.65	7.55	8.00	36.00
Low	26(17.6)	7(9.6)				
Perceived limitations						
High	144(97.3)	73(100.0)	55.03	7.55	37.0	70.00
Low	4(2.7)	0(0.0)				
Perceived efficacy						
High	104(70.3)	6(8.2)	15.61	4.98	6.00	28.00
Low	44(29.7)	67(98.8)				

** Figures in parentheses are percentages

Test of hypothesis at 5% significant level shows that (Table 2) that the limitations of the AGL as perceived by herdsmen is significantly (t = 17.448) higher than as perceived by crop farmers. Result further reveals a significant difference (t=7.811, p=0.000) between perceived limitations of the two categories of respondents, meaning that crop farmers perceived the AGL to be more efficacious compared to their herdsmen counterparts. This finding corroborates FGD report where one of the herdsmen reported…..

> *"that the government do not carry all stakeholders along before implementation of the AGL. The government have used a "top down" rather than "bottom up" approach where collabouration, democratization and sharing of knowledge of different stakeholders will be enhanced to counter the cause of the conflicts between the two groups…".*

One of the men FGD members also expressed concern on the potential of the AGL as a sustainable conflict management strategy:

> *"… the administration which promulgated the law failed to identify the cause of the conflict but rather listened to the other group to formulate the law out of hostility and ethnic differences against the Fulbe ethnic group (Fulani). The law has promoted hate speech against herdsmen and marginalized by crop farmers who used the law as an avenue to inflate cash compensation on claims of damaged crops. Several herdsmen have ended up in prison for injustice by virtue of roping them in a case without thorough investigation. The court itself hangs on the law to send convict herdsmen irrespective of the offences and resolution mechanism in place. The worst case is the security agency whose interest was all about money. There was a time in*

Orin community where serikis was alleged of murder of a pregnant Tiv woman, and was arrested by the security agency. It was later we got to know that Seriki was just roped in the case out of ethnic rivalry and also because the Seriki being a relatively well – to do man, that money can be made off him easily. The perpetrators were later discovered upon investigation" To us the herdsmen are not getting justice from the anti- grazing law……"

Another herdsman also expressed his concern:

" We have viewed the anti- grazing law as a dangerous gambit, oppressive and negative which emerged as a populist agenda designed by visionless and desperate politicians to destroy the pastoralist culture and economic livelihood of the Fulani herdsmen. No herdsman was involved during the cause of its preparation to get our input. The process of making of the anti-grazing law is unconstitutional, as due process was not followed…" (Anonymous, 35 years old herdsman)

The result of the FGD also suggests that even farmers do not consider the AGL as capable of proffering sustainable solution to the AGL. The position of FGD members suggests that the acclaimed efficacy by the larger farmers may have been short-lived. One of the FGD participants remarked:

"The AGL was very effective when it was promulgated by the last administration, and put the herdsmen at bay by reducing their inhumane activities of persistent damage to crops and undue competition for land, among others. However, it now appears like the law is getting weak by the day in its enforcement. Payment of compensation is no longer followed by the herdsmen. The threat posed by the herdsmen in recent times has made most farmers to diversify into coping activities such as Okada, which has exposed so many to health hazards and economic loss, some individuals have even abandoned farming while others are contemplating such"

Table 2: Test of difference between herdsmen and farmers' perceived limitations of the AGL of the respondents and perceived efficacy of AGL

Variables	N	Mean	SD	t – value	Df	P	Decision
Knowledge							
Crop farmers	148	14.33	3.34	-1.821	219	0.07	Accept Ho
Herdsmen	73	15.29	4.25				
Limitations							
Crop farmers	148	51.63	3.58	7.811	219	0.000	Reject Ho
Herdsmen	73	61.93	4.56				
Perceived efficacy							
Crop farmers	148	17.95	4.10	17.448	219	0.000	Reject Ho
Herdsmen	73	11.19	3.45				

CONCLUSION

It was drawn from the study that there was a significant difference in the perceived limitation of the crop farmers and herdsmen, while there was no significant difference in the knowledge of the respondents. This shows that the knowledge of the AGL was not discriminatory of the two groups. The study further concludes that while farmers perceived AGL to be more efficacious than herdsmen, as herdsmen perceived the law to have more limitations than strength. Therefore, more proactive and participatory measures to resolve conflicts between the two groups should be engaged by the Authority concerned

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ASSESSING AGE GRADES ACTIVITIES IN COMMUNITY SELF-HELP PROJECTS IN OHAFIA LOCAL GOVERNMENT AREA OF ABIA STATE, NIGERIA

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ABSTRACT
The study assessed the activities of age grades in community self-help projects in Ohafia local government area of Abia state. Specifically, the study was designed to: describe the socio-demographic characteristics of the respondents; identify types self-help project carried out by the age grades and determine the effectiveness of the age grades in community self help projects Multi stage sampling procedure was used to select respondents using questionnaire. Data collected were analyzed using mean, percentage. The findings revealed that majority of the respondents were males (98.71%), married (96.13%), and had secondary school educational qualification (62.52%). The mean age was 44 years. The most frequent self help projects carried out by the respondents are neighbourhood security support (155 respondents), vigilante (155 respondents) and sanitation (150 respondents). The age grades were most effective in community self help projects like security ($\bar{x}$ = 3.87) while their major constraints was corruption The study recommends that age grade activities should be encouraged in our communities in Nigeria as they help in community development.
Keywords: Age grades activities, community self-help projects, effectiveness

INTRODUCTION

In Nigeria, self-help community development is often seen as a direct response of many rural communities to 'lack of government presence', a phrase that usually denotes pervasive poverty, shortage of employment, and inadequate or lack of basic infrastructure. According to Akinsorotan and Olujide, 2006), this forms the tendency of most, if not all hometown or community development associations to retain socio-economic development of their respective communities as the overriding goal(s). Ekong (2010) opined that a social group refers to the aggregates or categories of persons who have a consciousness of belonging and interaction which implies that they must share certain traits in common for example the age grade, church, farmers' cooperative society, town development unions, esusu group, among others. Age grade comprises people within the same age normally within three to five years difference; it is also a means of creating peer group, foster unity and responsibility, acting mainly as a socio-cultural institution (Widjaja, 2001). In Ohafia, age grade is known as *uke* while in other parts of Igbo land, it is called ogbo or ebiri depending on the dialect meaning same age.

In Ohafia and some other parts of Nigeria, age grades are playing vital roles in development through the mobilization of their members to form development unions and organisations for socio-economic improvement of their communities and the society at large. The age grade associations have contributed greatly to peace, security, road construction and maintenance, building of markets, town halls, health centers etc.

The specific objectives were to:

i. describe the socio-demographic characteristics of the respondents;
ii. identify the types of community development projects embarked upon by the age grades;
iii. determine the effectiveness of the age grades in community development services; and
iv. identify the constraints encountered by the age grades in carrying out their activities.

METHODOLOGY

Ohafia is one of the sub-urban areas in Abia State, South East Nigeria. It is an Igbo speaking region. Ohafia Local Government Area is an administrative jurisdiction assigned by the Nigeria Government, with its Administrative Headquarters at Ebem Ohafia. There are about 113 registered active age grades in the study area. A multi-stage sampling procedure was used. In the first stage, purposive sampling technique was employed to select ten communities in Ohafia where age grade activities were predominant, Secondly, four (4) active age grades were randomly selected from each of the ten communities making a total of forty (40) age grades. Lastly, four (4) key members of the age grades were purposively selected; the president, secretary, public relations officer (PRO) and treasurer, bringing the total number of respondent to 160. Data were collected using oral interview and questionnaire. The data obtained were analysed using descriptive statistical tools such as mean, percentage, bar chart.

RESULTS AND DISCUSSION

The data in Table 1 shows that majority (98.71%) of the respondents were male. This implies that, there is still a high rate of gender inequality in the study area which is very common in the traditional Igbo society. This confirms Makama (2013) that tradition or culture and

religion have dictated men and women relationship for centuries and entrenched male domination into the structure of social organisation and institution at all levels of leadership. The mean age of respondents is 44 years. Majority (96.13%) of the respondents were married and had secondary school qualification (62.58%). This indicates that respondents are enlightened hence they are able to mobilise their members to take part in the development of their community knowing full well that the government alone cannot meet the developmental needs of our rural communities.

Table 1: Distributions of Respondents According to Socio-demographic characteristics

Variables	Frequency (n = 155)	Percentage (%)	Mean
Sex			
Male	153	98.71	
Female	2	1.29	
Age			
20 – 29	1	0.65	
30 – 39	4	2.58	
40 – 49	26	16.77	44 years
50 – 59	69	44.52	
60 And Above	55	35.48	
Marital Status			
Married	149	96.13	
Single	3	1.94	
Widower	1	0.65	
Divorced	1	0.65	
Educational level			
No Formal Education	3	1.94	
Primary	15	9.68	
Secondary	97	62.58	
Tertiary	40	25.81	

Source:Field survey, 2018

The most frequent self help project carried out by respondents is local security support (155 respondents) as shown in Fig 1. Also 150 respondents undertook environmental sanitation which is health related, while 48 respondents carried out projects on farm inputs (agricultural). The result indicates that the age grades are viable tools for community development in the study area. In agreement with Atuonwu (2016), the age grades in Ohafia played a historic role in the provision of security through the mobilization of male warriors for territorial defence, they often organised themselves into vigilante groups to guard the community against enemy attacks, especially on farm-days when most people were not at home.

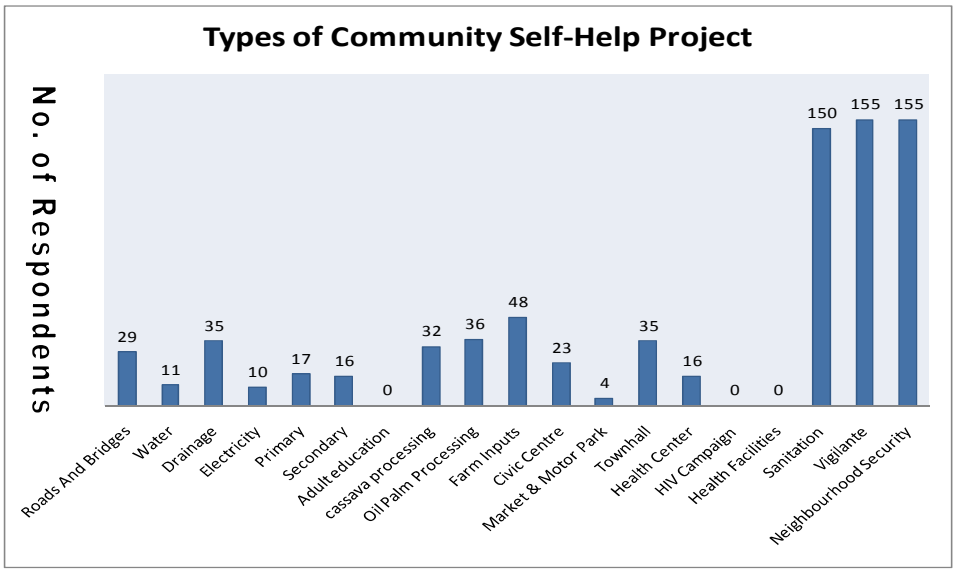

Fig. 1:Types ofcommunity self-help project carried out by age grades. *Multiple Response*

Data in Table 2 show the mean distribution of the effectiveness of age grade in community self-help services. The following variables were accepted showing that age grade is effective in carrying out community development projects such as security support ($\bar{x}$=3.87), basic infrastructure ($\bar{x}$=3.87), agriculture ($\bar{x}$=3.83) etc. Ernest and Ijeoma (2015) noted that the associations of age grade in modern times are credited with embarking on laudable projects like building of schools, health centres, town halls and community projects for the benefit of all.

Table 2: Effectiveness of Age Grade in Community Self-Help Services

Variables	Strongly Agreed	Agreed	Disagreed	Strongly Disagreed	Total Scores	Mean Score	Remark
Security	150	0	0	5	605	3.90	E
Education	113	25	9	8	553	3.57	E
Health	127	10	11	7	567	3.66	E
Employment	0	5	21	129	186	1.20	NE
Agriculture	145	3	2	5	598	3.86	E
Basic Infrastructure	150	0	0	5	605	3.90	E
Social Infrastructur	148	1	1	5	602	3.88	E
Transportation	1	1	6	147	166	1.07	NE

Source field survey 2018 ≥ 2.50 Effective, < 2.50 Not Effective; E = Effective, NE = Not Effective

Data in Table 3 show that insufficient fund ($\bar{x}$=2.90), unemployment ($\bar{x}$=2.86), corruption / mismanagement of fund ($\bar{x}$=2.08) were accepted as major constraints in carrying out self-help rural community development in the study area. In confirmation to this result, Love and Anam (2014) asserted that corruption constitutes one of the greatest factors constraining self-help programs in rural areas of Bayelsa State.

Table 3: Constraints encountered in Community Self-Help Services

Variables	Severe Constraint	Less Constraint	Not A Constraint	Total Scores	Mean Score	Remark
Government Policy	1	1	153	158	1.01	NAC
Insufficient Fund	149	1	5	454	2.93	AC
Unemployment	143	7	5	448	2.89	AC
Inflation	92	58	5	397	2.56	AC
Corruption	22	126	7	325	2.09	AC
Cooperation	22	126	7	325	2.09	AC
Power tussle	20	128	5	321	2.07	AC
Migration	0	2	153	157	1.01	NAC
Misunderstanding	1	96	58	253	1.63	NAC

Source: Field Survey 2018 ≥ 2.00 = A Constraint (AC), < 2.00 = Not a Constraint (NAC)

CONCLUSION AND RECOMMENDATIONS

The age grades are members of the community who are acquainted with the norms, culture, and natural resource available to them. They have carried out some community development activities which are effective. However, the age grades they had some constraints such as insufficient fund, corruption etc. Based on these findings it was recommended age grades should be encouraged in our rural communities.

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AWARENESS AND PERCEPTION OF THE UTILITY OF *MORINGA OLEIFERA* PLANT BY RURAL HOUSEHOLDS IN ONDO STATE, NIGERIA

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ABSTRACT
Moringa oleifera is an important economic plant with wide range of uses. However, the level of its awareness and utilisation by some rural households in Ondo state is not assured. Hence, the study was carried out to assess the perception of rural households of the awareness and utilisation of *Moringaoleifera*. Specifically, the study described the socio-economic characteristics of the respondents; their awareness and perception of the nutritional and health benefits and utilisation of the plant. A multi-stage random sampling procedure was used to elicit information from 120 respondents. The data collected were analyzed using descriptive statistics and a 5-point Likert scale. The result shows that 43.3% of the respondents were male with an average age of 37 years. Most (66.67%) of them were single and literate (80%) at varying degrees. The level of awareness of the respondents was very high in three out of the 18 nutritional and health benefits listed, (treatment of fever ($\bar{x}$ =3.68), energy booster ($\bar{x}$=3.38), treatment of headache ($\bar{x}$=3.37) and high in two other variables (treatment of eye and ear infections (x=2.77) and treatment of anemia ($\bar{x}$ =2.68). The level of awareness was very low (below $\bar{x}$=2.5) in the remaining 13 variables. In terms of utilisation, 91.7, 85.0, 81.0, 76.7 percentages of the respondents uses *Moringaoleifera* as natural energy booster, treating fevers, curing headaches and preparing vegetable soup respectively. Hence, the level of awareness of *Moringaoleifera* plant was very low and the plant is underutilised by the respondents. The study recommends the sensitization and enlightenment of the public on the various uses of *Moringaoleifera*.
Keywords: Awareness, Moringa oleifera, perceptional analysis, under-utilisation

INTRODUCTION
Moringa oleifera has raised a grown international interest among Non-Governmental Organisations (NGO), scientists, as well as the public and private sectors. It is a very important plant widely cultivated in diverse soils except water logged soils. Almost every part of the tree is of value for food. The leaf of moringa is a power house of nutritional value (Gopalakrishnan, Devarai and Kumar (2016). The seed is eaten such as a peanut in Malaya. The Foliage is eaten green, in salads, while in India's ancient tradition of Ayurveda believes that the leaves of *Moringa oleifera* prevent about 300 diseases (Mizanur, Masum, PSharkar and Shamima, 2012). Besides medicinal values of this plant has been earlier reported by Fuglie (2000) that the leaf extract of *M. oleifera* accelerated growth of young plants, strengthened plants, improved resistance to pests and diseases, increased leaf duration and number of roots, produced more and larger fruits.

Moringa oleifera plant is used in different ways as; domestic cleaning agent, blue dye, fencing, fertilizer, foliar nutrient, green manure, gum, honey and sugar cane juice-clarifier, ornamental plantings, bio-pesticide, pulp, rope, tannin for tanning hides and water purification (Emmannuel *et al*., 2011). Its seed oil is also known as Ben oil, is a sweet non-sticking, non-drying oil that resists rancidity. It has been used in salads, for fine machine lubrication, and in the manufacture of perfume and hair care products (Dzokoto, Donkor-Boateng, and Owusu-Darko, 2017).

Despite the enormous potentials of *Moringa Oleifera*, evidence of its awareness and utilisation is very scanty in Ondo state. *Moringa* are found in front of many houses, however, it was discovered that a lot of the seeds produced are either not harvested or wasted. Hence, one wonders if the rural households in Ondo states are actually aware of the various uses of *Moringa Oleifera*. Also, there is a dearth of information on the way the plant is perceived by the people as well as its utilisation. It is against this background that the study is set out to assess the level of awareness and perception of the utilisation this plant for nutritional and medicinal benefits.

METHODOLOGY
The study was carried out in Ondo State. A multi-stage sampling procedure was used to select 120 respondents for the study. Data were collected with the use of a well-structured interview schedule on respondents' socio-economic characteristics, awareness and perception on the use of moringa oleifera plants for health and nutritional benefits. The data collected were analyzed using descriptive statistics such as frequency counts, percentages and mean as well as a 5-points Likert scale.

RESULTS AND DISCUSSION
Socioeconomic characteristics
The result in Table 1 shows that 38.33% of the respondents were relatively young with average age of 37 years and there was no gender disparity in the awareness of the usage of moringa. The respondents cut across all the religious

practices in the area, most of them were married with average household size of 4 persons and they were literate. The respondents were smallholder farmers with average farm size of 2.7 ha and an average annual income of ₦377666.67.

Table 1: Socio –Economic Characteristics of the Respondents

Variables	Frequency	Percentage	Mean
Age (Years)			
21 – 30	38	31.7	
31 – 40	46	38.3	37
41 – 50	26	21.7	
51 – 60	6	5	
Above 60	4	3.3	
Sex			
Male	52	43.3	
Female	58	48.3	
Marital Status			
Single	38	31.7	
Married	80	66.7	
Divorced	2	1.7	
Household Size			
1-4	74	61.7	
5-8	46	38.3	4
Farm Size (Heaps)			
< 1000	54	45.0	
1000-5000	54	45.0	
5001-10000	6	5.0	2708.33
10001-15000	4	3.3	
Above 15000	2	1.7	
Annual Income (N)			
< 100000	22	18.3	
100,000-250,000	60	50.0	
250,001- 400,000	18	15.0	377,666.67
400,001-550,000	8	6.7	
Above550,000	12	10.0	

Source: Field survey, 2019

Level of Awareness of Nutritional and Health Benefits of Moringa *Oleifera* by Respondents

From Table 2, the grand mean was used to determine the overall level of awareness of the nutritional and health benefits of *Moringaoliefera* by respondents in Ondo State. The grand mean was 2.11 which shows that very few of the variables were known while there was little or no awareness about other nutritional and health benefit of moringa. Of all the variables, the respondents were strongly aware of moringa being effective in treating fever (x=3.68), they were aware that it serves as natural energy booster (x=3.38), its effective in curing headache (x=3.37), as well as being used in treating eyes and ear infections (x=2.77), and in treatment of aneamia (x=2.68). More so, it is worthy of note that every other variables (such as moringa being used to stopping bleeding, treating gastric ulcers and diarrhea and some other health challenges) had less than the mean score, thus, implying the respondents were not aware of their uses for such functions. Hence, the respondents had little or no awareness on the nutritional and health benefits of *moringa*.The findings negatesAjayi, Okunlola, and Akinnagbe, (2017) findings which affirms high level of awareness of the use of moringaoleifera in Southwest Nigeria.

Table 2: Awarenes of the utilisation of Moringa

Awareness Statement	SA	A	U	NA	Total	Mean	Remark
Moringa is rich in protein	32	42	36	80	190	1.58	U
Moringa is rich in vitamins (A, B and C) and minerals	0	30	0	110	140	1.17	NA
Moringa is effective in curing headaches	256	120	24	4	404	3.37	A
Moringa is effective in treating fevers	328	114	0	0	442	3.68	SA
Moringa is effective in treating eyes and ear	160	120	24	28	332	2.77	A

Awareness Statement	SA	A	U	NA	Total	Mean	Remark
infections							
Moringa is used in stopping bleeding	80	30	68	56	234	1.95	U
Moringa is effective in the treatment of anaemia	152	120	16	34	322	2.68	A
Moringa leaves treat gastric ulcers and diarrhea	120	42	28	62	252	2.10	U
Moringa seeds treat arthritis	64	96	24	62	244	2.03	U
Moringa seeds treat sexually transmitted diseases	32	42	40	78	192	1.60	U
Moringa seeds treat boils	32	42	36	80	190	1.58	U
Moringa seeds treat erectile dysfunction in men	16	36	20	92	164	1.37	NA
Moringa seeds serve as relaxant for epilepsy	24	30	24	92	170	1.42	NA
Moringa flower juice is useful against urinary problem	80	30	68	56	234	1.95	U
The bark of moringa tree is an appetizer	64	96	24	60	244	2.03	U
Moringa helps in food digestibility	0	30	20	100	150	1.25	NA
Moringa serves as natural energy booster	264	120	16	6	406	3.38	A

Source: Field survey, 2019
KEY
1.00-1.49 = NOT AWARE; 1.50-2.49 = UNDECIDED
2.50-3.49 = AWARE; 3.50-4.00 = STRONGLY AWARE

Various Nutritional and Health Uses/Forms of Utilising *Moringa* in Ondo State

The result in Table 3 shows that Moringa was used as natural energy booster as indicated by 91.7 percent of the respondents. It was followed by curing headache (81.7%), treating fever (85.0%) and use for cooking vegetable soup (76.7%) and in aiding food digestion (55.0%). All other uses recorded very low percentages.

Table 3. Various uses of moringa

Various Uses of Moringa	Frequency	Percentage
Moringa as a source of protein	58	48.33
Moringa as source of vitamins (A, B and C) and minerals	46	38.33
Moringa in curing headaches	98	81.67
Moringa in treating fevers	102	85.00
Moringa in treating eyes and ear infections	48	40.00
Moringa in stopping bleeding	36	30.00
Moringa in the treatment of anaemia	42	35.00
Moringa leaves in treating gastric ulcers and diarrhea	34	28.33
Moringa seeds in treating arthritis	14	11.67
Moringa seeds in treating sexually transmitted diseases	6	5.00
Moringa seeds in treating boils	44	36.67
Moringa seeds in treating erectile dysfunction in men	4	3.33
Moringa seeds as relaxant for epilepsy	18	15.00
Moringa flower juice in treating urinary problem	18	15.00
The bark of moringa tree as an appetizer	54	45.00
Moringa in aiding food digestibility	66	55.00
Moringa as natural energy booster	110	91.67
Moringa leaves for vegetable soup	92	76.67
Feed leaves of moringa as forage to animals	34	28.33
Use the oil in moringa seeds for cooking	56	46.67
Make into tea	52	43.33

Source: Field Survey, 2019

CONCLUSION AND RECOMMENDATIONS

The following conclusions were drawn from the study; the respondents were young, mostly married and literate at varying degrees. The respondents have little awareness of the nutritional and health benefits of *moringaoleifera*and that the plant is underutilised by the rural households. *Moringaoleifera* is used as natural energy booster,

treating fevers, curing headaches and preparing vegetable soup. The study recommends the need to sensitize and enlighten the public on the various health and nutritional benefits of *Moringaoleifera.*

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CONSTRAINTS TO USE OF ICT AND INFORMATION NEED ON IMPROVING MAIZE PRODUCTION AMONG DANGBO AND ADJOHOUN FARMERS IN SOUTHERN BENIN REPUBLIC

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ABSTRACT
This study assessed ICTs information need on improving maize production among the double Dangbo-Adjohoun farmers in southern Benin Republic. Data were collected from a random sample of 150 maize farmers. The data collected were analysed using descriptive statistics and inferential statistics used were Chi-square, Pearson's Product Moment Correlation and t-test at p=0.05. The results showed that farmers' mean age was 43±1 years and were mostly male (88.0 %), married (88.0 %), Christians (67.3%) and 48.7% had no formal education. Prominent constraints to ICTs use were power supply ($\overline{X}$=1.80) and high cost of maintenance of ICTs gadget ($\overline{X}$=1.58). The most needed information by farmers using ICTs was on availability and cost of fertilizers insecticides and herbicides ($\overline{X}$=1.20) and availability and cost of labour ($\overline{X}$=1.16). Farmers' constraints (t=2.832; p=0.005) significantly differed between Dangbo and Adjohoun communes. The information need of farmers in Dangbo and Adjohoun communes (t=0.753; p=0.453) do not significantly differed. The study concluded that the major barriers facing ICTs usage were power supply and high cost of maintenance of ICTs gadget; and there is the need for information on agricultural inputs. The study therefore recommended that government agencies in charge of power supply should make effort to ensure steady power supply. Also, government and NGOs should make agricultural inputs available to farmers at subsidised rate.
Keywords: ICTs, Information need, Constraint, Maize production, Farmers

INTRODUCTION
Cereal production provides the bulk of the staple diet for the population. In Benin republic, the achievement of food security and the fight against poverty are partly based on the intensification of food production. This production is characterised by low productivity and annual fluctuations in the production of food crops.Among these cereals is maize (*Zea mays L.*), which plays an important role for both food security and the national economy. Azontonde, Igué, and Dagbenonbakin, (2010) found that maize yield is far lower than the potential achievable yields (between 3 and 5 t/ha).

In Benin, maize is the most widely cultivated food crop (Abadassi, 2013). However,maize production faces many challenges that extension structures together with research centres are trying to find solutions. In the study area where, maize production has been declining in recent years as shown in the general report volume 1 on the 2015 assessment of food production and the food outlook for 2016 in Benin (ONASA, 2016). Due to all these problems, agricultural agents need to use adequate information tools to inform farmers on time. According to Adégbidi *et al*. (2012),the use of ICT can reduce the costs of managing information, enabling individuals and organisations to undertake information-related tasks much more efficiently, and to introduce innovations in products, processes and organisational structures in agriculture sector in Benin.

The improvement of maize production can be brought about by enhancing capacity for improving access to information through ICTs gadgets. However, constraints faced by maize farmers using ICTs must be considered. Therefore, this study investigated the constraints to use of ICTs and Information need on improving maize production among Dangbo and Adjohoun farmers.

METHODOLOGY
This study was carried out in southwestern Benin Republic which comprises of two communes which are Adjohoun and Dangbo. It is located in the department of Ouémé between 6° 36 'and 6° 43' of north latitude and between 2°21 'and 2°35' of east longitude, the communes of Dangbo and Adjohoun are limited to the north by the commune of Bonou, to the south by the commune of Aguégués, to the east by the commune of Sakété and to the west by the Commune of Zè. It covers an area of 457 km² (INSAE/RGPH, 2002).

The study population consisted of all maize farmers in Dangbo and Adjohoun, Benin Republic. **Multi-stage and simple random sampling** methods were used to select the respondents for this study. **First stage**: Adjohoun commune comprises of 8 districts, while Dangbo commune comprises of 7 districts. Forty percent (40**%**) of the district was selected in Adjohoun (3) and Dangbo (3) to give a total number of 6 districts.**Second stage**: In this stage, from each 6 selected districts,one village was randomly selected. **Third stage:** 15%of maize farmers was proportionally selected in each village. Data were analyzed using descriptive statistics such as

frequency percentages while inferential statistics (t-test) were used to analyse study hypotheses.

RESULTS AND DISCUSSION

Personal and enterprise characteristics information in Table 1 shows that 35.0% of the respondents were between the ages 36-55 years with mean age of 43.73±1.05 years, 88.0 % of therespondents were male, and 67.3% of the respondents were Christians. 88.0 % of maize farmers were married, 48.7 % had no formal education. Also 39.3% were between the farming experiences of 16-27 year of farming experience with mean age of 23.75±0.99.

Table 1: Farmers'personal and enterprise characteristics (n=150)

Characteristics	Category	Frequency	Percentage	Mean±SD
Sex	Male	132	88.0	
	Female	18	12.0	
Age	Young (<35years)	32	21.3	
	Adult (35-50years)	68	45.3	
	Old (≥50years)	50	33.3	
	Mean±SD			43.73±1.05
Marital statut	Single	13	8.7	
	Divorced	1	0.7	
	Widowed	3	2.0	
	Married	132	88.0	
	Separated	1	0.7	
Religion	Christianity	101	67.3	
	Islam	13	8.7	
	Traditional	36	24.0	
Education	No education	73	48.7	
	Primary	46	30.7	
	Secondary	22	14.7	
	Tertiary	9	6.0	
Farming experience	4-15	43	28.7	
	16-27	59	39.3	
	28-39	25	17.3	
	40-51	20	13.3	
	≥52	2	1.3	
	Mean±SD			23.75±0.99

Source: Field survey (2019)

Level of based on constraint to the use of ICTs by farmers

Table 2 shows result on the types of constraint that the farmers faced. Most serious constraint is power supply (79.9%) followed by complexity of modern ICTs(69.8%), high cost of maintenance of ICT gadget(66.9%).The result of this study corroborated with Arokoyo (2005) who reported that the major constraints affecting the use of ICTs were erratic and power supply, high level of rural poverty and illiteracy.

Table 2: Constraints to use of ICTs by maize farmers (n=150)

NO	Constraints	Not constraint	Mild constraint	Serious constraint	Mean	Rank
1	High cost of ICTs gadgets	13.3	34.5	52.1	1.39	5th
2	Low local content	33.1	37.2	29.6	0.97	10th
3	Low literacy level	16.3	36.1	47.5	1.31	8th
4	Difficulty in retrieval of information	14.7	36.4	49.0	1.34	6th
5	Loss of signal form source	9.9	47.7	42.4	1.33	7th
6	High cost of maintenance of ICT gadget	9.3	23.7	66.9	1.58	2nd
7	Lack of time out of busy schedule	17.9	51.2	30.9	1.13	9th
8	Complexity of modern ICTs	14.0	16.2	69.8	1.56	3rd

NO	Constraints	Not constraint	Mild constraint	Serious constraint	Mean	Rank
9	Problem of connectivity	11.3	30.1	58.6	1.47	4th
10	Power supply	6.7	13.4	79.9	1.8	1st

Percentages in parenthesis; Source: Field survey (2019)

Information need of farmers using ICTs

The information most needed using ICTs include acquisition of agricultural inputs market information, availability and cost of labour ($\overline{X}$=1.20) and availability and cost of fertilizers, insecticides and herbicides ($\overline{X}$=1.16). Maize farmers have more interest using ICTs to know either maize inputs production are available in the market or not. Then, market information as to know market price in the market ($\overline{X}$=1.16), market demand ($\overline{X}$=0.97).The result of this study shows the relevance of marketing of maize to farmers and according to Usman *et al* (2012), that marketing information is one of the most relevant ICT services, which could be offered to farmers in developing countries.

Table 3: Information neededby maize farmers (n=150)

Types of information need		Greater extent	Lesser extent	Not a need	Mean	Rank
Installation of the culture	Choice of the plot	7 (4.7)	16(10.7)	127(84.7)	0.20	12th
	Choice of variety of maize	9(6.0)	37(24.7)	104(69.3)	0.37	10th
	Choice of seeds	10(6.7)	41(27.1)	99(66.2)	0.41	9th
Technical itineraries	Weather (Weather Information)	1(0.7)	22(14.7)	127(84.7)	0.16	13th
	Periods of execution of operations	3(2.1)	18(11.9)	129(86.0)	0.63	6th
	Crop protection	9(6.0)	55(37.0)	86(58.0)	0.49	7th
	Best Cultural Practices (From sowing to harvest)	14(9.5)	44(29.3)	92(61.2)	0.48	8th
Storage of products	Storage of products	4(2.7)	32(21.2)	114(76.0)	0.27	11th
Market Information	Product prices in the markets	48(32.0)	78(51.7)	24(16.3)	1.16	2nd
	Market demand	30(20.3)	85(56.7)	34(23.0)	0.97	4th
	Availability and cost of means of transport	40(27.0)	54(35.9)	56(37.2)	0.90	5th
Acquisition of agricultural inputs	Availability and cost of labour	62(41.4)	50(33.1)	38(25.5)	1.16	2nd
	Availability and cost of fertilizers, insecticides and herbicides.	49(32.8)	81(54.1)	20(13.0)	1.20	1st

Percentages in parenthesis; Source: Field survey (2019)

Independent sample t-test on the constraints faced by maize farmers between Adjohoun and Dangbo

As shown in Table 4 there was significant difference in the constraints faced between Adjohoun and Dangbo maize farmers (t=2.832; p=0.005). Constraints faced by farmers in Adjohoun was higher relative to Dangbo. The differences in the level of constraints observed between the two locations might be attributed to the severity of inadequatepower supply in Adjohoun but solar panelswere usedby Dangbo farmers to address electricity problems. However, this does not connotes complete absence of power challenges in Dangbo.

Table 4: Independent sample t-test on the constraints faced by maize farmers between Adjohoun and Dangbo

Commune	N	Mean	Standard Deviation	Mean difference	t-value	p- value	Decision
Adjohoun	74	13.97	3.989	1.903	2.832	0.005	Significant
Dangbo	76	12.07	4.103				

Level of Significant = 0.05, Source: Field survey (2019)

Independent sample t-test on the information need by maize farmers between Adjohoun and Dangbo

Table 5 shows that there there is a non-significant difference in the constraint of the ICTs use between Adjohoun and Dangbo maize farmers (t=0.753; p=0.453).This shows that the level of information in the two communes are relatively similar.

Table 5: Independent sample t-test on the information need by maize farmers between Adjohoun and Dangbo

Commune	N	Mean	Standard Deviation	Mean difference	t-value	p- value	Decision
Adjohoun	74	8.39	4.742	0.549	0.753	0.453	Non Significant
Dangbo	76	7.84	4.189				

Level of Significant = 0.05; Source: Field survey (2019)

CONCLUSION AND RECOMMENDATIONS

The study concluded that ICTs were used to source for information on product prices in the markets, availability, cost of fertilizers, insecticides and herbicides also availability and cost oflabour. The major barriers facing ICTs usage among respondents in the study area were power supply and high cost of maintenance of ICTs gadget.

The following arerecommended;

1. Government agencies in charge of power supply should make effort at ensuring that there is steady power supply or make solar panels available and accessible for farmers.
2. Workshops and short courses can be organised by policy makers to educate them on ICTs to enable them to acquire agricultural information that can develop skills to improve their production.
3. Government and NGOs should make agricultural inputs available to farmers at subsidised rate.

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COMMUNICATION OF QUALITY PARAMETERS AMONG ACTORS OF COCOA SUPPLY CHAIN TO STANMARK COMPANY IN ONDO STATE, NIGERIA

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ABSTRACT
The study explored the communication of quality parameters for cocoa grading in the cocoa supply chain to Stanmark Company in Ondo State, Nigeria. Specifically, it assessed the linkage vis-a-vis level of communication among actors and investigated their level of awareness of quality parameters used by Stanmark Company. The sampling of respondents entailed a multistage procedure used for the selection of 184 respondents. Data collected was analysed with frequency counts, percentages and means with standard deviation for description, while inferential analysis was conducted with Analysis of Variance and Correlation analysis. The results showed that only few (8.5%) producers had linkage with Stanmark agents just as majority of local buyers (0.15±0.27) and store agents (0.18±0.52) were not opportune to communicate with Stanmark agents. Aside the Stanmark agents, only cocoa store owners had appreciable proportion (29.2%) of people who were aware of at least 7 of the 13 grading parameters. Hypothesis test result showed the existence of significant difference in cocoa supply chain actors' awareness of the grading parameters (F-value of 55.42 at P≤0.01). It was concluded that linkages and associated inter-communication within the cocoa supply chain revolves mainly among the producers, local buyers, store agents and their allied store owners and did not foster adequate information transmission on the quality grading parameters from Stanmark Company. It was recommended that Stanmark Company should take pragmatic steps to link up local producers.
Key words: Communication, quality control, supply chain, cocoa, grading parameters

INTRODUCTION
Agricultural supply chain can be described as the interconnection of processes through which agricultural commodity is produced and transformed to intermediate products for industrial use or finished goods for consumption (FAO, 2007). For this, the relevance of each level of operator along the chain is guaranteed by the extent of improvement to the commodity (value addition) or preservation of original quality. Essentially, both options mandates practical quality control measures in products handling at the respective nodes of the commodity supply chain. Saak (2016) opined that controlling quality involves acquiring information about product quality and acting on the information toprevent defective products from reaching consumers.This is pivotal to the cocoa supply chain as it is characteristically dependent on end market standard grading for determining returns to production and other handling operations.

The traditional supply chain comprises cocoa producers with linkages through series of middlemen to exporters (Cadoni, 2013 and Laven*et al.* 2016). Notably, it is germane that adequate information on the optimum production and handling activities of cocoa produce should be communicated and utilised by the relevant actors.Through this, the supply chain would be composed of linkages that assures value preservation and control. This is not only for meeting export requirements but also for acceptance by the local users such as Stanmark Nigeria Limited buying cocoa as inputs for their production. This mandates their careful selection of cocoa beans procured. As such, quality measurement through judging with optimal parameters or indicators are yardsticks for acceptance of cocoa beans from the local merchants or the cocoa farmers themselves. Inadvertently, communication of the grading parameters would underscore quality preservation in the handling processes and this is akin to uptake of the outputs by Stanmark. The need to substantiate was the impetus for the conduct of this study. As such, the specific objectives of the study were to:

i. Assess the linkage and level of communication of actors in the supply chain; and
ii. Investigate the actors' level of awareness of quality parameters used by StanmarkCompany for cocoa grading.

Two hypotheses were set in the null form thus:

1. Ho: there is no significant difference in actors' awareness of cocoa grading parameters
2. Ho: there is no significant relationship between actors'communication in the supply chain and their awareness of cocoa grading parameters.

METHODOLOGY
The study was conducted in Ondo town housing Stanmark cocoa processing Company. The study population are the cocoa supply chain actors namely the cocoa producers, community local buyers, agents of cocoa stores, cocoa store owners as well as Stanmark company agents. The sampling entailed random selection of 60framers, 44local

buyers, 36store agents, 32 store owners and 12 Stanmark agents to give a total of 184 respondents. Data collection was done with the use of validated interview schedule and analysed with the frequency counts, percentages and mean for descriptive purposes, while inferential statistics namely Analysis of Variance (ANOVA) and Correlation analysis were used for drawing implications.

RESULTS AND DISCUSSION

Results in Table 1 showed that all the farmers identified their linkage with agents of cocoa store merchants for their product disposal as well as local buyers (96.7%) and the store merchants (80%). Only few (8.5%, 4% and 4.3%) of the farmers, local buyers and store agents, respectively indicated linkage with Stanmark agents, while 48.6% of store owners consented that they were linked to the Stanmark company agents. These results depicted the existence of strong linkages of the cocoa farmers with respective local buyers, cocoa store agents and the cocoa store merchants while they were largely unlinked with the Stanmark agents. This is similar to the results of Manteaw*et al*. (2015) which established the existence of linkages of farmers with other value chain actors.

Table 1: Matrix of respondents' linkage with the value chain actors

Actors	Farmers%	Local buyer%	Store agent%	Store owner %	Stanmark Agent%
Farmers	100	96.7	100	80	8.5
Local buyers	100	90.5	52.9	95.3	4
Store agents	98.7	53.3	85	100	4.3
Store owners	98.3	97.5	99	73.3	48.6
Stanmark Agents	13.6	12.5	9.3	33.3	64.6

Source: Field survey, 2017

The results presented in Table 2 show that majority of the cocoa producers were opportune to communicate always with their co-producers (2.99±0.28) as well as cocoa store agents (2.38±0.67), local buyers (2.33±1.07) and the cocoa store owners (2.28±1.02). In contrast, majority of the farmers hardly had opportunity to communicate with the Stanmark agents as shown by the low communication mean score of 0.35±0.43. Evidently, it is depicted that communication within the cocoa supply chain mainly revolve among the cocoa producers, the local collectors and the cocoa store merchants. The interactions of these actors with Stanmark agents were noted to be largely limited. In essence, the primary actors in the supply chain do not have substantial communication access to Stanmarkto be informed on the quality parameters that should be taken into consideration in their operations. This highlights communication gap which could underpin quality depreciation along the supply chain.

Table 2: Matrix of respondents' level of communication with the value chain actors

Actors	Farmers Mean(s.d)	Local buyer Mean(s.d)	Cocoa Store agent Mean(s.d)	Store owners Mean(s.d)	Stanmark Agent Mean(s.d)
Farmers	2.99(0.28)	2.33(1.07)	2.38(0.67)	2.28(1.02)	0.35(0.43)
Local buyers	2.98(0.46)	2.42(0.98)	2.15(0.75)	2.54(0.63)	0.15(0.27)
Store agents	2.99(0.01)	2.16(1.35)	1.71(1.35)	2.65(0.49)	0.18(0.52)
Store owners	2.06(1.14)	2.76(0.43)	2.95(0.27)	2.12(1.2)	0.94(0.82)
Stanmark Agents	0.73(1.28)	0.17(0.24)	0.32(0.33)	1.08(0.81)	1.6(1.35)

Source: Field Survey, 2017

Awareness of quality parameters for cocoa grading

Evidence presented in Table 3 showed the respondents levels of awareness of the quality parameters. It was shown that about one third (31.8%) and nearly half (48%) of the farmers fall within very low and low awareness levels, respectively. The farmers found to have moderate awareness of the parameters constituted less than a tenth of them (8.5%), while only 1.7 percent had high awareness. In the case of the middle men, most (85.7%) of the local buyers and many (65.6%) of the store agents were aware of not more than 3 of the grading parameters thereby equally indicating the prevalence of very low awareness among them. On the other hand, one fifth (20.7%) and close to a tenth (8.5%) of the cocoa store owners had moderate and high awareness, respectively. These show that the local buyers, store agents and farmers had the poorest awareness of the quality indicators.This highlights a technical gap in the communication of cocoa quality

indicators and measures among the supply chain actors.

Table 1: Respondents' awareness of quality parameters for cocoa grading by Stanmark

	Very low awareness (≤3)	Low awareness (4-6)	Moderate awareness (7-9)	High awareness (≥10)
Farmers	31.8	8	8.5	1.7
Local buyers	85.7	12.5	1.8	-
Store agents	65.6	28.8	5.6	-
Store owners	38.3	32.5	20.7	8.5
Stanmark Agents	-	-	5.9	94.1

Source: Field survey, 2017

Hypotheses test

Result in Table 4 showed that there was significant difference in cocoa supply chain actors' awareness of the quality parameters for cocoa grading by Stanmark. The F-value of 55.42 was gotten and noted as significant at 0.01 level of significance (P≤0.01). This indicates that the supply chain actors differ in their level of awareness about the quality indicators of the cocoa produce. It could be inferred from this that the actors do not have equal opportunity to access information and give feedback on the quality standards employed by Stanmark Company.

Table 4: **ANOVA result showing difference in actors' awareness of quality parameters**

	Sum of squares	Df	Means squares	F	Sig.
Between Groups	704.892	4	176.223	55.942	0.000
Within Groups	431.566	137	3.150		
Total	1136.458	141			

Source: Field survey, 2017

Results in Table 6 showed that significant positive relationship exists between the respondents' awareness of quality grading parameters and their communication in the supply chain (r= 0.576). This shows that the intensity of the supply chain interaction is related to their depth of awareness of the cocoa grading parameters. Invariably, improved communication could be mechanistic for expanding information spread on the parameters for quality handling of cocoa produce among the primary chain actors.

Table 5: Association between actors' communication and awareness of quality parameters

	Correlation coefficient	Correlation of Determination (r^2)	significance
Level of communication	0.576**	0.331	0.000

**Correlation is significant at 0.001 level

CONCLUSION AND RECOMMENDATION

Communication within the cocoa supply chain revolves mainly among the traditional primary actors comprised of the cocoa producers, local buyers and cocoa store merchants with their agents. The localization of Stanmark Company in Ondo town is yet to be adequately integrated in the functional linkages in the chain. As such, there is poor communication on the parameters on which acceptance and grading of cocoa are based by the company. The primary actors remained unaware of the best practices of quality assurance indicators needed for the conduct of the post-harvest handling activities. Therefore,it is recommended that Stanmark should take concerted efforts to reach out to the primary actors to sensitize them on the parameters for cocoa grading and the measures for ascertaining them.

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ACCESS TO AND USE OF HEALTHCARE DELIVERY SYSTEM IN SELECTED RURAL AREAS IN EKITI STATE: IMPLICATIONS FOR ENHANCED RURAL LIFE

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ABSTRACT

Individual health seeking behaviour is influenced by various societal factors such as religious belief, education, availability of heath personnel in the community, doctor-patient relationship, economic status, social status etc. Some these factors pose grave challenges to the health seeking behaviour of the people, resulting to self medication, unprofessional diagnosis, wrong drug use and abuse. This situation therefore calls for the need to identify the socio-economic factors that influence the health seeking behaviour particularly in rural communities in order to determine the most sought health care medium and seek reasons for the trend, also to discover the barrier to access to healthcare services. This study made use of descriptive cross sectional study design. Simple random sampling was used to select 350 respondents from seven villages in Ekiti State namely Eda, Igbole, Iluomoba, Iyin, Ijan, Ayegbaju and Iworoko Ekiti used as the study communities. Structured questionnaire was used to obtained information from the respondents. The data obtained from the respondents were coded for easy analysis, and the data were analysed using descriptive frequency and inferential statistics. The data revealed finance as the major economic factor influencing health seeking behaviour in the communities, and majority of the respondents preferred government general hospitals/clinics to others because it is affordable and gives proper care. Finally, attitude of the medical services providers to their patients who are poor and less privileged has been identified by the respondents as a corollary barrier to health seeking behaviour in the community. The study recommends that healthcare delivery system should be placed on government's priority list while adequate and necessary facilities should be provided in the centres. Government also needs to determine and implement a policy on doctor/patients ratio in order to further positively influence the health seeking behaviour of the people.

INTRODUCTION

Health is defined by WHO as a state of complete physical, psychological, social, and spiritual well-being and not merely the absence of disease and infirmity (World Health Organisation 1999). Healthcare includes formal, institutionalized care, along with "alternative" therapies, self-care and any other activities designed to prevent the onset of disease, treat illness, improve the quality of life, and/or preserve health. Therefore, healthcare is the medicinal and preventive measures taken by the self or others to maintain functional health status.

Health seeking behaviour is influenced by a large number of factors apart from knowledge and awareness such as belief system, religion, and finance among others. These include bio-social profile, their past experiences with the health services providers, influences at the community level, availability of alternative health care providers including indigenous practitioners and their perceptions regarding efficiency and quality of the services.

The focus of the study includes:

- To examine Socioeconomic Factors that Influence Health Seeking Behaviour in the Study Area
- To identify the most sought health care medium and the seek reason for the trend
- To identify barriers to Access Healthcare Services in the Study Community
- To project the implications of access to and use of health care delivery system for enhanced rural life

METHODOLOGY

A Descriptive Cross Sectional Research Design was used. The independent variable of the study is the health seeking behaviour of the population under study.

A sample of 350 respondents was drawn from the entire population from seven selected rural communities in Ekiti state namely Eda, Igbole, Iluomoba, Iyin, Ijan, Ayegbaju and Iworoko Ekiti used as the study communities. The respondents were selected using simple random sampling technique with equal opportunity given to both male and female respondents.

The research instrument used in collecting data for this study was questionnaire. The questionnaire was a structured questionnaire. The questionnaire was design with close-ended questions. It was divided into four sections in line with the objectives of the study,

The data was analysed using descriptive statistics. Descriptive statistics of frequency counts and percentages was used to analyse the general questions and Statistical package for social science (SPSS) was used for coding and analyses

RESULT AND DISCUSSION

Socio-demographic characteristics

In this section the socio-demographic characteristics of the respondents were presented in

table 1. The data indicated that the males were 51.7 percent while females were 48.3 percent of the respondents. This shown higher percentage of male among the respondents. The age distribution of the respondents showed that 45.7% of the respondent fell between the age ranges of 18 -27, 17.2% fell between the ranges of 28 -37 while 17.2% were 38 – 47 and the remaining 19.8% fell between age 48-57. It was obvious that the highest category of the respondents fell between the active and productive age (18- 27)

Table 1: Frequency Distribution of Respondents by Socio-Demographic Characteristics

Variable	Frequency	Percent	Variable	Frequency	Percent
Sex			**Number of Children**		
Male	180	51.7	1-3	51	14.7
Female	168	48.3	4-6	168	48.3
Total	348	100	7-9	129	37.1
Age			**Total**	**348**	**100**
18 – 27	159	45.7	**Employment Status**		
28 -37	60	17.2	Salary Job	60	17.2
38 – 47	60	17.2	Self-Employment	60	17.2
48-57	69	19.8	Job Seeker	228	65.5
Total	348	100	Total	348	100
			Marital Status		
Education Qualification			Married	168	48.3
Primary	69	19.8	Not Married	60	17.2
Secondary/Technical	60	17.2	Divorced	51	14.7
Post	219	62.9	Widowed	69	14.7
Total	348	100	Total	348	100

Data also revealed that 19.8 % of the respondent had primary education, 17.2% had secondary school and Technical education while other 62.9 % had post-secondary school educations. This showed that there were more educated elite among the respondents. Data on marital status of the respondents revealed that 48.3 % were married, and 17.2 % were never married, 14.7% were divorced while 19.8 % of the respondents were widowed.

Socioeconomic factors that influence health seeking behaviour in the study area

The data analysed from this study shows that 17.2 % of the healthcare facilities in the study communities are government owned general hospitals, 19.8 % were just government- owned maternity clinics, 31.0% of the healthcare facilities in the study communities were private-owned specialist hospitals and 14.7 %t of the healthcare were traditional Medicare while the remaining 17.2% were herbal homes. This simply showed that majority of the health care facilities in the study communities were owned by private specialist. This could be a major factor affecting health seeking behaviour of the study community as majority of the study population were job seekers who might be able to afford private hospital bill.

In addition, data on how expensive service of private health care provider shown that majority of the respondents (62.9%) strongly agreed that private health care service provider is very expensive and 19.8 percent of the respondents agreed while only 17.3 of the respondent disagreed with the statement which shows a strong affirmation by the respondents that private healthcare service is very expensive and this could be another factors that can affect health seeking behaviour of the respondents.

Finally, 68.1 percent of the respondents strongly agreed to the statement that finance is the major barrier to health care and the remaining 31.9 also agreed to the statement. This reveals that finance is the major factor affecting health seeking behaviour of the respondents.

The most sought health care medium in the study area

The data on the most sought health care medium in the study area reveals that majority of the respondents preferred modern medicine (1164) to (1272) traditional medicine this could be based on the effectiveness of the modern medical service and also it could be as the result that there are more modern medical facilities (both private and public) in the study area than the traditional health care providers.

Analyses of the most sought health care medium and the seek reason for the trend.

In this section, the most sought health care medium and the seek reason for the trend was tested and discussed to know/understand while the respondents preferred the health care practiced to the others. This was in line with the objective two of the study to determine the most sought health care medium and seek reasons for the trend.

Information from the respondents reveal that majority of the respondents (140) preferred

Government General Hospital because it is more affordable and gives proper and effective care. This could be link to the most salient factor that determines health seeking behaviour of the respondents. This shows that finance goes a long way in determining the kind of medical attention/ treatment a patient will sought for, as most of them believed that private specialist hospitals deliver effective and proper care but despite this majority could not afford their payment therefore resolve to Government General Hospitals.

Table 2: Cross tabulation of the Most Sought Health Care Medium and reasons for the trend

Healthcare sought in the community	Reason for choice of health care				
	Proper and effective care	Closeness to residence	Familiarity with the owner	It is affordable	Total
Government General Hospital	40	30	0	70	140
Government Maternity Clinic	20	22	0	58	80
Private Specialist Hospital	32	34	0	20	86
Traditional Medicare	2	0	2	20	24
Herbal Homes	2	1	0	15	18
Total	76	87	2	183	348

Barriers to Access to Healthcare Services in the Study Community

Data from the study community show that 31.0 % of the respondents see the medical service provider as barriers to access health care services in the community, 31.9 % see finance as the major barrier to access health care service and 17.2 % see politics as barrier and the remaining 19.8 view that ethnic discrimination as the barrier. Based on the information from the respondents it was observed that finance is the barrier to health care service while interaction and disposition of the medical personnel was also sees as another salient obstacle in accessing health care service in the study community. this was in line with William (2010), that health inequality are not only exists between poor people and the rest of the population, but also those gradually better positioned in the stratification of society tend to have gradually better health and longer survival. Thus, socioeconomic inequalities in health typically follow a gradient. Based on these health inequalities in giving and receiving healthcare service, the poor and the less privilege in the society faced a lot of barriers in seeking health care services.

Discussion of Findings

The focus of this study is on socio-economic factors influencing health seeking behaviour in the study community. This study revealed that there is relationship between individual financial status and respondents' attitude towards their health.

Finance has been identified has the major factor that influence respondents health seeking behaviour and it has also been seen has the major barriers in accessing health care in the study behaviour. As majority of the respondents believed that modern medicine both private and government hospital provide adequate health care service delivery both majority of the respondent attends tradition healthcare delivery because of financial constraints. This could be link to the work of O'Neil (1989) that because of an unequal distribution of power and knowledge of health leads to patients being unsatisfied with their health care provider, which in turn leads to patients to stop seeking treatment.

RECOMMENDATIONS

The study recommends that (1) Healthcare delivery system should be placed on government's priority list and adequately (2) Necessary facilities should be provided in the health centres. (3) Government also needs to determine and implement a policy on doctor/patients ratio in order to further positively influence the health seeking behaviour of the people.

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UTILISATION OF MOBILE-BASED AGRICULTURAL APPLICATIONS BY AGRICULTURAL STUDENTS IN TERTIARY EDUCATIONAL INSTITUTIONS IN LAGOS STATE

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ABSTRACT
The study assessed utilisation of agricultural Apps among agricultural students in tertiary educational institutions in Lagos State, Nigeria. One hundred and nineteen (119) students from various tertiary institutions were sampled in stages. Data collected were analyzed using descriptive statistics (percentage and frequency). Results of the study showed that most of the respondents were females (52.9%) with majority of them single (87.4%), 53.8% were between the ages of 18 and 23 years. All the respondents were aware of one agricultural app or the other, (100%) responded to high cost of internet rate as a factor hindering the frequent use of the applications. 39.5% reported poor network connectivity, 62.16% indicated lack of interest in the use of agricultural applications which formed the basis for low rate of awareness.The study concluded low level of awareness and use of mobile-based agricultural applications among respondents and recommended the inclusion of mobile-based agricultural applications usage in the curriculum of the computer related courses offered by agricultural students in the institutions.
Keywords: Utilisation, Mobile-Based, Agricultural applications, Agricultural students, Tertiary Institutions

INTRODUCTION

Agricultural Extension is the most important public service with the widest range of responsibilities for agricultural and rural development (Agbelemogeand Akinwunmi, 2015). Agricultural information creates awareness about agricultural technologies which is needed for overall development of agriculture and improvement of living standard of farmers (Bello *and*Obinne 2012). Ekumankmaand Nwankwo, (2002) noted that poor awareness or exposure of farmers to appropriate agricultural information and channels of communicating this information is one of the major reasons for low yield recorded by many Nigerian farmers, also, the lack of knowledge of use of agricultural applications can hinder the progress of any farmer in achieving greater productivity. Therefore, for human performance to be effective and efficient some knowledge is needed on how, why and when certain things have to be done. Agricultural students as well as farmers need to get aware of the necessary information through the use of agricultural applications in order to improve methods in activities, increase productivity and performance.

Though it is quite obvious that we have already entered a new information age, which links technology and the teaching of agricultural science for increased food production, the prospects of the agricultural applications use have not been fully explored in many higher institutions of learning in the country and the average students in the higher institution of learning in this country only use the agricultural applications to a limited extent.The study investigates use of mobile-based agricultural applications by agricultural students in tertiary institutions in Lagos state.

The specific objectives of this study are to:

i. Identify the socio-economic characteristics of the respondents
ii. Determine the level of awareness of the respondents about mobile-based agricultural applications
iii. Determine the availability of mobile-based agricultural applications to the respondents.
iv. Determine the frequency of usage of mobile-based agricultural applications by the respondents.
v. Identify perceived constraints to effective use of ICTs by the respondents.

METHODOLOGY

One hundred and nineteen (119) students representing 70% of students in the highest level were sampled using proportionate sampling technique; Lagos State Polytechnic 70(58.9%) students, Lagos State University 21(17.6%), Adeniran Ogunsanya College of Education 21(17.6%) and Yaba College of Technology with 7 (5.9%). Questionnaires were used to get the desired information from the students, the data were analyzed using frequencies and percentages.

RESULTS AND DISCUSSION

Table1 shows that majority (52.9%) of the respondent were female. This is supported by Jayakumar andSurudhi (2015), that recent trends showed a higher percentage of enrollments of women in agricultural course than men. It further revealed that majority (87.4%) were single, they allfall between the age range of 18- 32years.

Table 1: Demographic Details of the respondents (n = 119)

Personal Data	Frequency	Prcent
Sex		
Male	56	47.1
Female	63	52.9
Marital Status		
Single	104	87.4
Married	05	12.6
Age		
18-23 years	64	53.8
24 - 32years	55	46,2
33 and above	-	-
Total	**119**	**100**

Source: Field survey, 2017

Table 2 shows that farm manager (35.29%), field view (36.97%) and seed to harvest (42.02%) are the most known application by the respondents, but those unaware are still more than those aware. AmaogeandEjike (2016) found out that undergraduates are aware and make use of internet, but this study identified that the respondents weren't using the internet for agricultural applications.It further reveals that applications like Aphid speed scout and mix tank 2.0 recorded 100% non-availability. This corroborates the findings of Hamilton-Ekeke and Mbachu (2015) that ICT facilities are not available and as such not accessible by students.

Table 2: Awareness and availability of agriculturalapplications by respondents (n = 119)

S/No	Agricultural applications	Frequency		Percentage %		Frequency		Percentage %	
		Aware	Not aware	Aware	Not aware	Available	Not available	Available	Not available
1	Commodity Prices	13	106	10.92	89.08	5	114	4.20	95.80
2	Cash Grain Bids	15	104	12.61	87.39	9	110	7.56	92.44
3	Weather underground	20	99	16.81	83.19	11	108	9.24	90.76
4	Soil Web	32	87	26.89	73.11	13	106	10.92	89.08
5	Livestock Manager	29	90	24.37	75.63	16	103	13.45	86.55
6	Mix Tank 2.0	0	119	0	100	0	119	0	100
7	Aphid Speed Scout	0	119	0	100	0	119	0	100
8.	Yield Check	18	101	15.13	84.87	15	104	12.61	87.39
9.	Farm Manager	42	77	35.29	64.71	20	99	16.81	83.19
10	Precision Earth	0	119	0	100	0	119	0	100
11	Farm PAD:	16	103	13.45	86.55	13	106	10.92	89.08
12	Dynamic Pricing Platform (DPP)	28	91	23.53	76.47	28	91	23.53	76.47
13	Seed to Harvest:	50	69	42.02	57.98	33	86	27.73	72.27
14	Field View:	44	75	36.97	63.03	18	101	15.13	84.87
15	Soil Test Pro	23	96	19.33	80.67	23	96	19.33	80.67

Source: Field survey, 2017

From table 3 below it was noted that majority of the respondents have never used most of the agricultural applications. This is similar to Ezenwafor, Okeke and Okoye (2013), that students utilise e-learning resources to a low extent and also lack skills for utilising the resources.

Table 3: Frequency of the use of agricultural applications by respondents (n = 119)

S/No	Agricultural applications	Always		Occasionally		Seldom		Never	
		Freq.	%	Freq.	%	Freq.	%	Freq.	%
1	Commodity Prices	0	0	0	0	2	1.68	117	98.32
2	Cash Grain Bids	0	0	0	0	4	3.36	115	96.64
3	Weather underground	0	0	0	0	3	2.52	116	97.48
4	Soil Web	0	0	0	0	3	2.52	116	97.48
5	Livestock Manager	0	0	0	0	5	0.84	114	99.16
6	Mix Tank 2.0	0	0	0	0	0	0	119	100
7	Aphid Speed Scout	0	0	0	0	0	0	119	100
8.	Yield Check	0	0	0	0	11	9.24	108	90.76
9.	Farm Manager	0	0	0	0	8	6.72	111	93.28
10	Precision Earth	0	0	0	0	0	0	119	100
11	Farm PAD:	0	0	0	0	6	5.04	113	94.96
12	Dynamic Pricing Platform (DPP)	0	0	0	0	9	7.56	110	92.44
13	Seed to Harvest:	0	0	0	0	21	17.65	98	82.35
14	Field View:	0	0	0	0	5	0.84	114	99.16
15	Soil Test Pro	0	0	0	0	8	6.72	111	93.28

Source: Field survey, 2017

From Table 4, all (100%) respondents to high cost of internet rate, 39.5% reported poor network connectivity, this shows that even if respondents wanted to use agricultural applications, high cost and poor network connectivity will not permit them.This supports AmaogeandEjike (2016) that unstable power, low band width, high subscription prices among other factors affect the use of internet services by undergraduate students.

Table 4: Factors hindering the use of agricultural applications by the respondents (n=119)

Factors	Frequency		Percent	
	Yes	No	Yes	No
Lack of time	44	75	36.97	63.03
High cost of internet rate	119	0	100	0
Poor network connectivity	47	74	39.50	60.50
Lack of interest	74	45	62.18	37.82
Erratic power supply	119	0	100	0
Low internet skills	12	107	10.08	89.92
Low bandwidth	76	43	63.87	36.13

Source: Field survey, 2017

CONCLUSION AND RECOMMENDATIONS

It was noted that students of higher institutions in Lagos state understood mobile applications and all other social applications available, but have little or no knowledge of agricultural applications which is responsible for the low use. The study recommended proper enlightenment of agricultural students about agricultural applications by itsInclusion in the curriculum of the computer related courses offered by agricultural students in the institutions.

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SMALL-SCALE LOCAL BLACK SOAP PRODUCTION AMONG RURAL DWELLERS IN ONDO STATE

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ABSTRACT
Small scale agribusiness enterprises are essential for rapid economic and social development of developing countries. African Black soap has numerous benefits and importance; skin care – dry skin, stretch marks, spots, pimples, acne, oily skin, clear blemishes, eczema, body odour and soothe skin irritations. The study identifies inputs needs of the respondents, sources of funding their business and constraints to production. A hundred and ten (110) respondents were selected from two Local Governments Areas of Ondo State. Data was collected with the aid of interview guide and analysed using descriptive statistical tools. The findings revealed that 64.55% of the respondents are between the ages of 31-40 years, 69.01% were female with 60.91% having at least SSCE. 95.46% of them have not less 6 - 10years of production experience. Market is the main sources of input, respondents face constraints like drying of inputs (43.64%), mixing the inputs (29.09%), and waterby 10%, 92.72% highlighted capital as a major problem. The study concluded that indigenous processing method is making the job tiresome and the producers could not access Government intervention due to low level of education. The study recommended intervention of local fabricators to bring up locally fabricated and affordable processing equipment for the producers and Government intervention is necessary at no or little interest rate credit facilities.
Keywords: Small-scale, local, black soap, production, rural dwellers

INTRODUCTION

Small and medium scale enterprises (SMEs) are regarded as the engineof economic growth and equitable development in developing economies (Aremuand Adeyemi (2011). This is because SMEs are known to be labour intensive, capable of helping create most of the newjobs the world will need in later years to come, and it is capital saving. Small-scale black soap production is not left out. According to Sinnha (2019),black soap has several medicinal benefits and importance. It is a natural moisturizer for skin, helps to improve or eliminate uneven skin tone, treat razor bumps caused by ingrown hairs, prevent acne because of its anti-bacterial properties, reduce hyperpigmentation and soothe irritated skin. The soap was also used on babies because of its purity and gentleness on sensitive skin (Summers, 2019).The traditional black soap has been around for centuries and had been in use for so long, commonly among the Yoruba people. At a time, attention shifted away from the local black soap for some better packaged soaps but the tide is changing in favour of the black soap.In the last decade the cosmeticindustry has come to recognize the efficacy of black soap as well as the rising campaign for use of natural and herbal products.

Small-scale black soap producers face cluster of problems, which may be due to various reasons usually falling under political, economic, and social barriers. Production of the black soap; Osedudu, is a thriving major industry in Ondo State but in spite of the brisk business and massive daily production, the people still live amidst squalor and abject poverty (Gbenga-Ogundare, 2016).

The specific objectives of the study are to:

- Describe the socio-economic characteristics of respondents in the study area.
- Identify the source of inputs/raw materials used by the respondents.
- Identify respondents'sources of finance for their business.
- Highlight the channels available for marketing black soap.
- Identify the constraints to black soap production in the study area.

METHODOLOGY

The study was conducted in two Local Government Area (LGA) of Ondo state, Nigeria; Akure and Idanre andOnehundred and ten (110) respondents were randomly selected.Data generated through interview were analysed using descriptive (Frequencies and percentage) statistical tools.

RESULTS AND DISCUSSIONS

Table 1 revealed that most (64.55%) of the respondents are between the ages of31-40years.Majority (69.05%) were female,this is synonymous to Underwood (2008) that often timesblack soap is made by women. Only 11.01% of the respondents have above first school leaving certificates. This implies low level of education, which can have negative effects on business performance. This is supported by Magoutas, Papadogonas and Sfakianakis (2012), that high level of education facilitates improvements in productivity and competitiveness.

Table1: Distribution of respondents according to socioeconomic characteristics

Age	Frequency	Percentages (%)
21-30	13	11.82
31-40	71	64.55
41-50	18	16.36
50 and above	08	7.27
Sex		
Male	34	30.91
Female	76	69.01
Educational level		
Primary school	55	50
SSCE	6	5.45
NCE/OND	3	2.73
HND/BSC	2	1.82
MSC and ABOVE	1	0.91
No primary school	43	39.09
Total	**110**	**100**

Source: Field Research, 2018

Table 2 below shows the sources of input/raw materialsfor producing black soap, a high percentage (56.36%) of respondents get their input from market, followed by 31.82% respondents who source input from farm.

Table 2: Distribution of respondents based on sources of input

Sources	Frequency	Percentages (%)
Farm	35	31.82
Home	13	11.82
Market	62	56.36
Total	**110**	**100**

Source: Field Research, 2018

Sources of finance to the respondents

Table 3 shows that most soap producers (53.64%) rely on the cooperative societies for funding their businesses. 37.27% from commercial banks and 1.82% from family and friends. This is supported by Abassiand Wang (2017) that bank credit/lending is the most widely recognized outer source of money for some SMEs. It was also deduced that almost all respondents(95.45%) have no access to Government assistance.

Table 3: Distribution of respondents based on their source of finance

Sources of finance	Frequency	Percentages (%)
Commercial Bank	41	37.27
Family and friends	2	1.82
Cooperative Societies	59	53.64
Personal savings	3	2.73
Group Contribution	5	4.55
Government assistance		
Yes	5	4.55
No	105	95.45
Total	**110**	**100.00**

Source: Field Research, 2018

Constraints associated with small scale of black soap

Respondents are allowed to choose more than one constraint at a time. The result below shows that 43.64% of respondents encountered the problem of drying the input needed, 29.09% faced the problem of mixing raw materials during processing, 17% have problem with sourcing original raw materials and 10% are faced with the issue of sufficient water for production.This corroborates the finding of Alo, Achem, Mohammed and Abdulqadir, (2012).

Table 4: distribution of respondents according to constraints to production of black soap

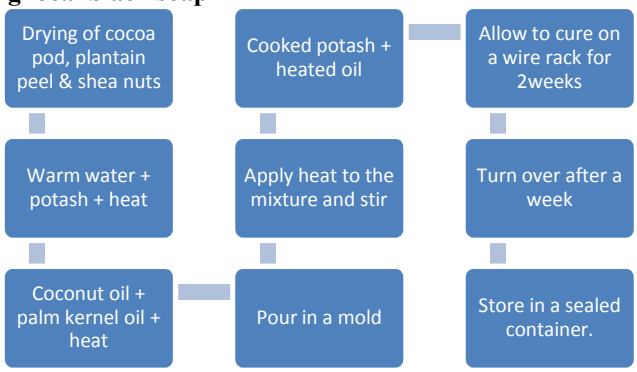
Variables	Frequency	Percentages
Drying of inputs	48	43.64
Stirring of mixtures	32	29.09
Sourcing of inputs	19	17.27
Insufficient water	11	10
Lack of capital	102	92..72

Source: Field Research, 2018

Channels available for marketing black soap

Below is the information about the respondents' marketing channels.Majority (60.90%) of the respondents sell their product through wholesales by selling to those that will resell to individual consumers. 39.09% respondents' market it directly to consumers (retail).

Steps involved in processing local black soap



CONCLUSION AND RECOMMENDATIONS

The study concluded that indigenous processing method is making the job tiresome and lack of capital and assistance from Government also hindered their production capacity.The producers also lack adequate knowledge in the area of packaging and use of modern processing equipment due to their low level of education. The study recommended intervention of local fabricators to bring up locally fabricated and affordable processing equipment for the producers.The producers need capacity building in the area of packaging and use of modern processing equipment and Government intervention is necessary at no or little interest rate credit facilities.

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DETERMINANTS OF COPING STRATEGIES FOR FOOD SECURITY AMONG RURAL FARMING HOUSEHOLDS' IN IFE NORTH LOCAL GOVERNMENT AREA, OSUN STATE, NIGEIRA

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ABSTRACT
The study examined the determinants of coping strategies for food security in Ife North Local Government Area, Osun State. Three-stage sampling procedure was used to randomly select one hundred and forty-four (144) respondents from 18 villages selected from three districts out of seven districts and the three districts in Ipetumodu, Moro and Edunabon. Primary data were used for the study and the data were collected by the means of interview schedule. Descriptive statistical tools such as frequency and percentages were used in analysing the data. The findings showed that the average age was 46 years and average income was ₦405,000 per year. Majority (78.5%) of the farmers were male, 86.9% sourced their information through community members, borrowing of funds (mean=3.1±0.79), consumption of less preferred food and working for other farmers for purchasing power (mean=3.0±0.83) and provision of orthodox preservative agents for farm produce (mean=2.9±0.76) were the leading coping strategies of farmers to cope and ensure household food security. Rain (mean=4.7±0.44), pest and diseases (mean=4.3±0.48) and fund (mean=4.1±0.95) were the first, second and third factors perceived by respondents to influence coping strategies adopted for food security.This study concluded that age, marital status and access to funds were the determinants of food security coping strategies among the smallholder farming households in Ife North Local Government Area of Osun State, Nigeria. It is therefore recommended that elderly people should be exposed to agricultural extension trainings; family planning should be encouraged among married farmers and government should provide agricultural loans.
Keywords: Food security, Household, Coping strategies

INTRODUCTION
Food which is a substance capable of supplying all basic nutrients needed for the sustenance of man to grow, survive and be in good health becomes a paramount obligation for everyone to depend on as there is no cell that could function in the absent of food. Jenson (2002) argued that for peace and political stability to be maintained in a country, provision of adequate and nutritious food must be obtained. Conversely, poor health and undernourishment in children are qualities of food insecurity. FAO, (2017) reported that Food insecurity has led to childhood overweight affecting over 38 million children below five years of age, with Africa and Asia representing 25 percent and 46 percent of the world total, respectively.

The Sustainable Development Goals (SDGs) mentioned eradication of hunger from the earth in order to achieve food security and improved nutrition as their number two challenge which leads to defining food security as a means of getting sufficient food production which its accessibility is guaranteed across all genders and ages for active and healthy life of individuals. According to Prakash-Mani (2013) estimated that about 25% of global food, feeding nothing less than 2 billion people in Asia, Latin America and Africa is done by the smallholder farmers. According to IFAD (2009), smallholder farmers produce nothing less than 80% of the total food in the country whereas; improvement in their productions does not increase their income and eliminate hunger from their community. The broad objective of this research is to examine the determinants of coping strategies for food security among rural farming households in Ife North Local Government of Osun State, Nigeria. The specific objectives were to identify the coping strategies used by rural farming households and identify the factors that influenced coping strategies for food security among the rural farming households in the study area.

METHODOLOGY
The study was conducted in Osun State, Nigeria.The targeted population for the study comprised of smallholder farming households in Ife North Local Government, Osun State, Nigeria. A total respondents of one hundred and forty-four (144) smallholder farming households was used for the study

RESULTS AND DISCUSSION
It was revealed in Table 2 that majority (86.9%) of the rural farming household sourced their information through community members, and family members (60.8%).. Radio (82.3%) was also found as sources of information among majority of the respondents.

Table 1: Households' Sources of Information on Agriculture

Sources	*Frequency*	*Percentage*
Extension agent	52	40.0
Conference/seminar/workshop	38	29.2
Radio	107	82.3
Television	58	44.6
Agric. Show	16	12.3
Print media	39	30.0
Family member	79	60.8
Journal	57	43.8
Community members	113	86.9
GSM	93	71.5

Source: Field Survey, 2019

Results presented in Table 2 show that borrowing of funds (mean=3.1 ±0.79), consumption of less preferred food and working for other farmers for purchasing power (mean=3.0 ±0.83) and provision of orthodox preservative agents for farm produce (mean=2.9 ±0.76) were the leading coping strategies of farmers to cope and ensure household food security. It was shown that the respondents in the study area majorly address food insecurity through borrowing of fund.

Table 2: Households' Coping Strategies on Food Security

Strategies	*Always* F(%)	*Often* F(%)	*Rarely* F(%)	*Never* F(%)	*Mean ± SD*	*Mean ranking*
Borrowing of funds	46(35.4)	64(49.2)	14(10.8)	6(4.6)	3.1 ±0.79	1st
Consumption of less preferred food	39(30.0)	65(50.0)	23(17.7)	3(2.3)	3.0 ±0.75	2nd
Working for other farmers for purchasing power	42(32.3)	50(38.5)	35(26.9)	3(2.3)	3.0 ±0.83	3rd
Provision of orthodox preservative agents for farm produce	28(21.5)	66(50.8)	32(24.6)	4(3.1)	2.9 ±0.76	4th
Limiting portion sizes at meal time	24(18.5)	62(47.7)	35(26.9)	9(6.9)	2.8 ±0.82	5th
Reduction of the number of meals per day	19(14.6)	62(47.7)	43(33.1)	6(4.6)	2.7 ±0.76	6th

Source: Field Survey, 2019
F(%) = Frequency(percentage), SD = Standard deviation

As illustrated in Table 3, rain (mean=4.7 ± 0.44), pest and diseases (mean=4.3 ± 0.48), and fund (mean=4.1 ± 0.95) were the first, second and third factors perceived by respondents to influence coping strategies adopted for food security by farmers in the study area. It showed that rain affect the respondents in the area of growing of crops which in turn led to decrease in the output of produce making food not to be available at all time.

Table 3: Factors that Influence Coping Strategies for Food Security

Factors	**SA** F(%)	**A** F(%)	**U** F(%)	**D** F(%)	**SDA** F(%)	**Mean ± SD**	**Mean ranking**
Rain	96(73.8)	34(26.2)	0	0	0	4.7 ± 0.44	1st
Pest and diseases	42(32.3)	87(66.9)	1(0.8)	0	0	4.3 ± 0.48	2nd
Fund	46(35.4)	66(50.8)	8(6.2)	5(3.8)	5(3.8)	4.1 ± 0.95	3rd
Food price	13(10.0)	103(79.2)	14(10.8)	0	0	3.9 ± 0.45	4th
Soil fertility	36(27.7)	60(46.2)	8(6.2)	3(2.3)	23(17.7)	3.6 ± 1.38	5th
Storage facilities	25(19.2)	62(47.7)	20(15.4)	3(2.3)	20(15.4)	3.5 ± 1.27	6th
Age of the house head	13(10.0)	61(46.9)	41(31.5)	10(7.7)	5(3.8)	3.5 ± 0.91	6th
Household size	14(10.8)	63(48.5)	34(26.2)	4(3.1)	15(11.5)	3.4 ± 1.10	7th
Agricultural technologies	7(5.4)	65(50.0)	47(36.2)	1(0.8)	10(7.7)	3.4 ± 0.91	7th

Source: Field Survey, 2019
F(%) = Frequency(percentage), SD = Standard deviation, SA=Strongly agree, A=Agree, U=Undecided, D=Disagree, SDA=Strongly Disagree

CONCLUSION AND RECOMMENDATIONS

Based on the findings from the study it was concludedthat amount of rainfall on farmland, pest and diseases infestation and fund were the major determinant factors of coping strategies for food security among rural farming households in Ife North Local Government Area of Osun State, Nigeria. Hence, the following recommendations were mare;elderly people should be exposed to agricultural extension trainings; family planning should be encouraged among married farmers and government should provide agricultural loans.

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PERCEPTION OF COCOA FARMERS ON GOOD AGRICULTURAL PRACTICES (GAP) IN ONDO STATE, NIGERIA

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ABSTRACT
Cocoa cultivation is a major activity in Nigeria agriculture, supporting the livelihood of millions of households in Nigeria. The study was conducted to determine the perception of cocoa farmers on Good Agricultural Practices (GAP) in Ondo state, Nigeria. A total of 294 cocoa farmers were selected through the use of interview schedule. Data were analysed using mean, standard deviation, percentages Pearson Product Moment Correlation (PPMC). The study revealed that 74.1% of the farmers assessed information on GAP through radio. Majority (87.1%) and 86.4% possessed Radio and phone (GSM) as communication gadgets respectively. Most (65.7%) cocoa farmers were indifference in their perception towards GAP. The study revealed a significant relationship between cocoa farmers' perception and sources of information on GAP($r = 0.219$, $P < 0.05$) ($r = 0.219$, $P = 0.01$). The study recommended that, radio as source of information should be more explored to disseminate information on GAP, also government should partner with other stakeholders to educate farmers on GAP and Farmers should be exposed to potentials in cocoa production for livelihood sustainability. The study concluded that most farmers were indifferent to GAP and radio was the most prominent source of information on GAP and therefore recommends.
Keywords: Cocoa farmers, Communication gadgets, Perception, Good Agricultural Practices

INTRODUCTION
Cocoa is one of the most economically important agricultural commodities in Africa, contributing to Gross Domestic Product (GDP, National Income (NI) and foreign exchange earnings of many African producing countries. The global exports value of dried beans is between USD 8 – 10 billion per annum and there has been increasing demand for chocolate in the developing economies of Brazil, China, Eastern Europe and India (ICCO, 2018 in Olasupo and Aikpokpodion, 2018).

To improve in the quality and quantity of cocoa beans produced in Nigeria, the stakeholder such as CRIN, IITA, CFAN and State Governments had to adopt the best management practices introduced by Food and Agricultural Organisation (FAO) called Good Agricultural Practices (GAP).FAO (2003), defines Good Agricultural Practices (GAP) as practices that address environmental, economic and social sustainability for on-farm processes which result in safe and quality food and non-food agricultural products. These practices were designed to increase the quality and quantity of cocoa beans produced in Nigeria.

However, GAP is expected to guide farmers in sustainable farming to produce high quality products that commands high price to guarantee more income, healthy environment surrounding them, thus, a better living condition for them and their families (ASEAN GAP, 2018). It further identified GAP for cacao production to involve: site listing, and management for new establishment; planting materials; soils and substrates; fertilizer and soil additives; water; pests and disease management; pesticides synthetic and bio-pesticides; harvesting and handling procedures; waste and energy efficiency; biodiversity; transportation and record keeping.

This study was therefore carried out to examine the perception of farmers towards Good Agricultural Practices in cocoa production in Ondo State.

The objectives of the study are to;

i. identified sources of information on Good Agricultural Practices in the study area;
ii. examined the perception of farmers towards Good Agricultural Practices in cocoa production; and

The hypothesis stated for the study was that there is no significant relationship between farmers' training needs on GAP andtheir perception towards cocoa production.

METHODOLOGY
This study was carried out in Ondo State, Nigeria. The State is the largest cocoa producing State in the country. A multi-stage sampling procedure was adopted to select the 294 respondents for the study. Interview schedule was used to obtain quantitative data. The research instrument used for the study contained relevant questions on each of the objectives.

RESULTS AND DISCUSSIONS
Communication gadgets possessed by cocoa farmers
Table 1 indicates that most of the cocoa farmers (87.1%) possessed radio, 86.4% had G.S.M

phone, while 58.2% possessed television and only 2.7% possessed computer set. This implies that radio was the most possessed communication gadgets available for the farmers. The FGD revealed that its mobility made it a desired gadgets with low financial implication in its usage.

Table 1: Distribution of cocoa farmers by their sources of information on GAP

Variable	Frequency*	Percentage
Communication Gadgets possessed		
Radio	256	87.1
GSM phone	254	86.4
Television	171	58.2
Computer set	8	2.7

* Indicate multiple responses

Source of Information on GAP

The results in Figure 1 indicated that 74.1% of the contacted farmers received information on GAP from Radio, 62. 9% from Extension /ADP Agents, 33.3% got theirs from Television. These results revealed that there were various sources of information available to the respondents on GAP, but the prominent of them all was radio. This indicated that radio, extension agents and television can serve as medium of information from experts on GAP to cocoa farmers and in turn aid use of GAP in the study area.

Level of Perception towards Good Agricultural Practices

Figure 2 reveals that more than that 20.7% of cocoa farmers in the study area had favourable perception, while 65.7% has indifference perception and only 13.6% had unfavourable perception towards cocoa production in the study area which will necessitate the need for training. The overall perception mean score of the cocoa farmers was 63.37 with a standard deviation of 4.48. Thus, implied that cocoa farmers need more education/training on GAP before adoption.

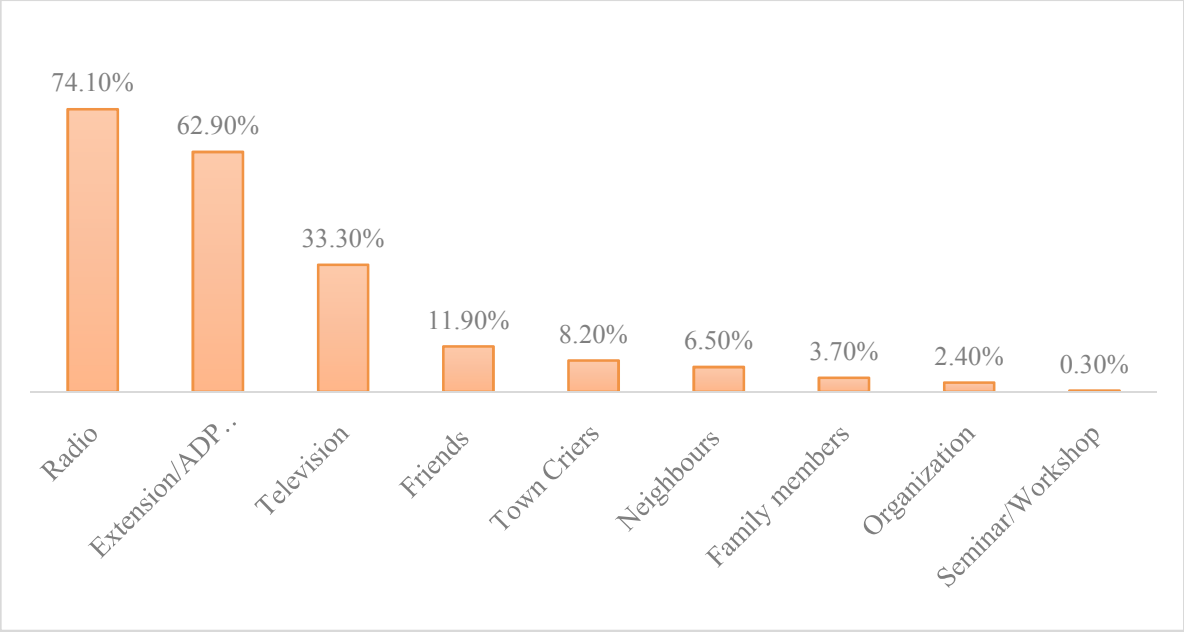
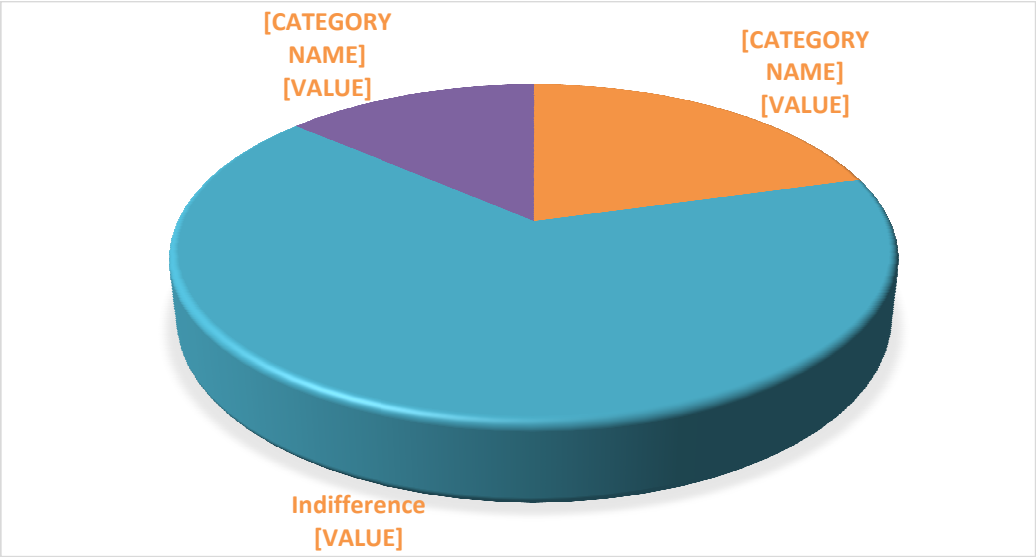


Figure 1: Bar chart showing respondents' source of information on GAP.
Source: Field survey 2015



Mean Score = 63.37±4.48
Source: Field Survey, 2015

Figure 2: Pie chart showing respondents by their level of perception towards Good Agricultural Practices

Cocoa farmers' perception about cocoa production

Results in Table 2 revealed the mean scores of the perception statements on cocoa production. From the Table, the perception of the respondents consisted of 17 statements out of which nine were positive and 8 negative.

Table 2: Distribution of farmers on cocoa production by their perception of Good Agricultural Practices

S/N	Statements, n = 294	Mean	SD
1.	There are problems with practices adopted by farmers on cocoa production in Nigeria	4.59	0.722
2.	Thorough drying of cocoa beans improves its quality	4.45	0.683
3.	Fertilizer application can improve cocoa production	4.41	0.533
4.	Fermentation of cocoa beans is not all that necessary	4.35	0.852
5.	Government should organize trainings on GAP	4.24	0.801
6.	Training is not needed by farmers on cocoa production	4.18	1.05
7.	Keeping of farm record is not compulsory	4.07	1.06
8.	Types of land use has no effect on cocoa production	3.93	1.13
9.	Diseases and pests effects are not much on cocoa production	3.87	1.01
10.	Where I stored my dried cocoa beans has no effect on cocoa quality	3.76	1.03
11.	Farmers can handle cocoa diseases and pests without assistance	3.61	1.13
12.	There is nothing wrong with old method of producing cocoa	3.51	1.14
Grand mean		**3.72**	

Hypothesis Testing

There is no significant relationship between perception of cocoa farmers towards Good Agricultural Practices and their source of information.

Results of the PPMC showed that there isa significant relationship between perception of cocoa farmers towards GAP in cocoa production and their source of information (r = 0.219, P = 0.045). The null hypothesis was therefore rejected. This could be explained that the perception of the farmers towards Good Agricultural Practices has much to do with their sources of information.

Table 5: Correlation analysis between Perception score and sources of information

Variable	r-value	p-value	Decision
Perception score	0.219	0.045	Significant

Source: Field survey, 2015.
Correlation is significant at 0.05 level (2-tailed)

CONCLUSION AND RECOMMENDATIONS

This study has shown that Radio was the major gadget possessed by respondents and also the

most available source of information to farmers on GAP.Inadequate funding, high costs of inputs, poor weather conditions among others were the major challenges facing the farmers on GAP. The results showed that most of the farmers had indifference perception towards GAP

The following were recommended based on the findings and conclusion.

1. Agricultural agencies, Non-Governmental Organisations and stakeholders should note the information sources available to the farmers (especially radio) and utilize them adequately for agricultural information dissemination.
2. Identified challenges of cocoa farmers should be alleviated by the concern government agencies.
3. Government and Multinational Companies e.g. Nestle, Cadbury and Extension Agents should partner in educating farmers on GAP which will help the farmers to have favourable perception towards the practices.

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CONSERVATION PRACTICES OF INDIGENOUS LEAFY VEGETABLE FARMERS IN RURAL COMMUNITIES OF ONA-ARA LOCAL GOVERNMENT AREA OF OYO STATE, NIGERIA

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ABSTRACT
In spite of the enormous economic and health benefits of indigenous leafy vegetable, utilization and conservation of such crop have been difficult based on non-availability or fewer stands left in the wild. This study therefore examined the perceived health benefits and conservation practices of indigenous leafy vegetable farming among rural farmers in Ona-Ara local government area of Oyo state. Multi-stage sampling procedure was used to select 107 respondents. Data on respondents' socio-economic characteristics, perceived health benefits, sources of information, conservation practices and constraints to indigenous vegetables farming were obtained using structured questionnaire and described statistically in addition to Chi-square and PPMC used for the hypotheses. The result showed that most (56.1%) of the respondents were male (56.1%), married (81.3%) with value of mean age and years of experience of 55 years and 14 years. It was revealed conservation practice was low (45.8%) among the respondents. This also revealed that the constraint was high (86.9%) and most of the respondents faced with severe constraints. Analysis also showed that perceived health benefits (r=0.349, p=0.000) significantly influenced conservation practice. It is therefore recommended that training support on conservation practices should be given to indigenous leafy vegetable farmers.
Keywords: Conservation practices, Indigenous leafy vegetable and Perceive health benefit

INTRODUCTION
Nutritional needs of Africans are usually met by use of traditional vegetables (Salami, 2011). In spite of the abundance of Africa indigenous leafy vegetables especially in Nigeria, they remain under-exploited and under- utilized due to various constraints. These constraints relate to production, processing, distribution and marketing, as well as nutrition information on a large number of regionally specific cultivars. (Okeno *et al*, 2003).

Similarly, Amujoyegbe *et al*, (2015) opined that vegetables including indigenous leafy vegetable have the potential to boost economic condition of farmers when combine with the existing farming system, but they suffer abandonment and under-exploitation due to social and economic factors thereby causing them to be threatened and subjected to extinction. Shebu and Sewuese (2014) noted rapid depletion of natural resources including genetic diversity loss including indigenous leafy vegetables as a result of increasing pressure on land due to human activities for urbanization and industrialization, hence there is need to conserve them.

The general objective of the study is to examine conservation practices of indigenous leafy vegetable farmers in rural communities of Ona-Ara local government area of Oyo state. The specific objectives are; to describe socio-economic characteristics of the respondents, to examine perceived health benefits of indigenous leafy vegetables, to determine the conservation practices of indigenous vegetables farmers and to identify constraints to indigenous vegetables.

METHODOLOGY
The study was carried out in Ona-ara local government of Oyo state. Multi-stage sampling was used to select the respondents. Ward 1 (Akaran) was purposively selected based on the predominance of vegetable farmers in this area. Thereafter, 50% of the villages were selected in this ward. Lastly, 50% of the farmers were selected in each village; 40 in Ojebode, 35 in Gbedu and 45 in Akaran to give 120 respondents and 107 questionnaires were retrieved. Both descriptive and inferential statistics such as frequency, PPMC and Chi-square were used.

RESULTS DISCUSSION
Socioeconomic characteristics
The distribution shows that majority of the respondents (56.1%) were male while (43.9%) were female. Also, most (81.3%) of the respondents were married while 2.8% of them were single. This means that most of the respondents are mature and have sense of commitment and responsibility. Table 4.1 further revealed that the mean age of the respondents was 55years. This means that majority of the respondents were above 40 years of age. This is supported by the findings of Amujoyegbe *et al*, (2015) who stated that most of the respondents were male and below 50 years. Also, 48.6% of the respondents had secondary education, while 9.3% had no formal education in the study area. Also, majority (73.8%) of the respondents had farming experience within the range of 10-20 years. It was also revealed that with mean income of #25,406, most (75.6%) of the

respondents received monthly income ranging from #10,000-#20,000 while 5.5% had earnings #50,000 and above.

Table 4.1. Socio economic characteristics of the respondents

Variable	Frequency	Percentage	Mean
Sex			
Male	60	56.1	
Female	47	43.9	
Age			
25-35 years	6	5.5	55.4
36-45 years	15	13.9	
46-55 years	31	29.0	
56-65 years	32	29.9	
66 years & above	19	17.6	
Marital status			
Single	3	2.8	
Married	87	81.3	
Divorced	3	2.8	
Widow	14	13.1	
Household size			
1-6	65	60.7	5.9
7-12	42	39.3	
Educational level			
Adult education	1	0.9	
No formal education	10	9.3	
Primary education	34	31.8	
Secondary education	52	48.6	
Tertiary education	10	9.3	
Years of experience			
1-9 years	27	25.5	14.0
10-20 years	79	73.8	
Above 20 years	1	0.9	
Income			
Less than 20,000	81	75.6	25,407
20,001-50,000	20	18.6	
Above 50,000	6	5.5	

Perceived health benefits of indigenous vegetable farming

Table 4.2 indicated that most (66.4%) of the respondents derived high perceived health benefit from indigenous vegetable farming while 33.6% considered the benefits to be low. This implies that most of the respondents perceived health benefits of indigenous vegetable to a larger extent in the study area. This is in agreement with the work of Salami (2011) who reported that some of these indigenous vegetables were used to manage diseases like diabetes, diarrhea, high blood pressure urinary problem and stomach disorder.

Table 4.2.1: Distribution of respondents by perceived health benefits of indigenous vegetable farming

	Frequency	Percentage	Mean	SD
Low	36	33.6	54.3	5.3
High	71	66.4		
Total	**107**	**100**		

Table 4.4: Conservation practices in indigenous vegetable farming

Table 4.4 showed the conservation practices of indigenous vegetable farming. Most (54.2%) of the respondents had low conservation practice while 45.8 % had high practice.

Table 4.4.1: Distribution of respondents by conservation practices in indigenous vegetable

	Frequency	Percentage	Mean	SD
Low	58	54.2	22.0	4.0
High	49	45.8		
Total	**107**	**100**		

Constraints to indigenous vegetable farming

The result in Table 4.6 showing the constraint to indigenous vegetable farming indicated that most (86.9%) of the respondents had high constraints to use of indigenous vegetable and conservation practices while few (13.1%) considered the constraints to be less severe. This implies that the constraints to indigenous vegetable farming were severe among the respondents. This is supported with the findings of Amujoyegbe *et al*, (2007) and Duhan (2017) who reported that pests and diseases were the major problem of high productivity of vegetable crops.

Table 4.5.1: Distribution of respondents by constraints to indigenous vegetable farming

	Frequency	Percentage	Mean	SD
Low	36	13.1	12.9	1.4
High	93	86.9		
Total	**107**	**100**		

Hypotheses of the study

Chi-square analysis on Table 4.7 showed that there was significant relationship between religion (χ^2 = 52.219, p = 0.013), educational level (χ^2 = 91.222, p = 0.014) and conservation practices of indigenous vegetable leafy farming. Furthermore, PPMC analysis revealed that there were significant relationship between years of experience (r=-0.205, p=0.035), income (r=-0.106, p=0.035) and respondents' conservation practice. Also, there was significant relationship between perceived health benefits and conservation practices (r = 0.203, p = 0.036).

Table 4.6. $H_0$1: Chi square and PPMC analysis for the hypotheses

Variables	Chi square value	r-value	p-value	Decision
Sex	20.272		0.208	NS
Religion	52.219		0.013	S
Educational level	91.222		0.014	S
Age		0.088	0.370	NS
Years of experience		-0.205	0.035	S
Income		-0.106	0.035	S
Perceived health benefits		0.203	0.036	S

CONCLUSION AND RECOMMENDATION

The result concluded that most of the respondents had high perceived health benefit of and svere constraints to indigenous leafy vegetable. Conservation practices mostly used were low among the respondents. The study further concluded that religion, education, years of farming experience, income and perceived health benefits influenced the indigenous leafy vegetable conservation practice in the study area. Based on the findings of the study, it is therefore recommended that extension service from both public and private should give training support to vegetable farmers involved in indigenous leafy vegetable in the area of conservation practices. Also, Research institutes such as National Horticultural Research Institute should focus more on propagation and conservation of indigenous leafy vegetable.

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PARTICIPATION OF RURAL WOMEN IN LIVESTOCK PRODUCTION IN BORGU LOCAL GOVERNMENT AREA, NIGER STATE, NIGERIA

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ABSTRACT

This study examined the participation of rural women in livestock production in Borgu Local Government Area, Niger State, Nigeria. The multistage sampling procedure was used to select 147 women participating in livestock production. A structured questionnaire was used to elicit information from the respondents on socio-economic characteristics, sources of information,the specific roles played in livestock production and constraints hindering the participation. Descriptive data analysis was done. The mean age, household size, monthly income and years of production experience were 35 years, 6 persons, N58,044.30 and 11 years respectively. Their sources of information on livestock farming were from friends and neighbours (73.5%). The specific roles often played by the rural women were feeding and watering ($\bar{x}$ = 4.57), fish processing ($\bar{x}$ = 4.22) and cleaning of livestock pens ($\bar{x}$ = 4.08). The major constraints hindering the participation of rural women in livestock production include insufficient operating funds ($\bar{x}$ = 3.88), high labour drive ($\bar{x}$ = 3.17) and poor information supply ($\bar{x}$ = 2.88). It was recommended that rural women should be encouraged in the participation of livestock production through enhanced livestock training and credit facility scheme extension programs.

Keywords: Fish processing,Rural women, Insufficient operating funds, Livestock productionandPoor information supply

INTRODUCTION

Women play a pivotal role in livestock production. They assume many activities relating to livestock production like in the management of livestock and processing of the livestock products (Ezumah, 1985). Rangnekar (1992) claimed that livestock management had always been perceived as the traditional responsibility of women. Livestock production becomes more attractive for women when they are cash strapped (Oladeji, 2011).They contribute more labour inputs in areas of feeding, manage vulnerable animals (calves, small ruminants and sick, injured or pregnant animals), cleaning barns, dairy-related activities (milking, butter and cheese making), transportation of farm manure, sales of milk and its products than men and children (Akmal and Sajida, 2004). They own a small proportion of the large animals as well as chicken and are milk managers in smallholders system.Typically, they have complete responsibility for animals that kept close to the homestead such as poultry, calves, sheep, goat and other small animals and for sick animals and they rarely have major holding and management responsibilities for large stock. They play a vital role and make significant contributions to food production. This study was conducted to have a better understanding of the participation of rural women in livestock production in Borgu Local Government Area, Niger State.

METHODOLOGY

The study was carried out in Borgu Local Government Area, Niger State. The major occupations of people are farming, trading, fishing and civil servants. Local chickens, sheep, goat, and cattle are major livestock animals reared in the area.Simple random sampling was used to select five wards from the ten wards in the study area.Thirty-five respondents were randomly selected in each of the five wards making a total of 175 respondents as the sample size for the study and a questionnaire was administered to them. However, only 147 respondents were later used for data analysis due to the incomplete response of the respondents. Descriptive statistics were used to analyze the data set.

RESULTS AND DISCUSSION

Table 1 revealed that 80.95% of the women farmers were within the age range of 40years and below. The mean age of the women farmers was 35years. This is an indication that the women were in their active years of age, thus meaning that they are still energetic to carry out the activities of livestock farming. This finding is similar to the mean age of 39 years observed by Adisa and Akinkunmi (2012). About half (53.06%)of the women were married women. Married individuals have higher responsibilities than unmarried individuals thus their involvement in livestock farming could be a form of assisting their family though meeting some financial and nutritional needs (Tologbonse *et al.,*2013).

Besides, more than half (71.43%) of the respondents had formal education.This result is in line with the findings of Oladeji (2011) that farmers have one form of education orthe other. This indicated that most of the respondents were educated with at least primary education. This reason adduced for this could be the nature of the study area. The study area has relatively adequate education institutions and facilities. Educational level has been observed to have a positive

relationship with participation in livestock (Ogunbameru *et al*. 2006). The result also showed that 18.3% of women were into livestock farming. Theresult indicates that the women were not farmers by major occupation. Their involvement in livestock farming could be seen as a means of supporting their major occupations just to give necessary assistance in their families.A larger proportion (70.75%)of the respondents had above 6 persons. The mean family size was 6 persons indicating a medium family size. This could be traced to the level of education of the women. Educated people tend to have fewer family sizes than uneducated people. The table also reveals that 82.31% earned below 60000 Naira as monthly income. The mean monthly income was N58,044 implied that the respondents were average income earners. This is supposed to influence their participation livestock farming since more capital would mean better opportunities in livestock farming.Most (73.47%) of the women had friends and neighbours as their source of information on livestock farming. This implied that friends/neighbors remain the predominant source of information on livestock production available to women livestock farmers.Majority (89.8%) of the women farmer owned livestock. This indicated that a high level of women participation in livestock farming.However, 26.53%, 21.09%, 19.73% reared poultry, goatand sheep respectively. This indicated that poultry was the most common livestock reared by women in the area, followed by goat and sheep.

Table 1: Personal characteristics of the womenfarmers

Variable		Frequency	Percentage	Mean	Std. Dev.
Age (Years)	<=40	119	80.95	35.23	4.91
	>=41	28	19.05		
Marital status	Married	78	53.06		
	Not married	69	46.94		
Educational qualification	No formal education	42	28.57		
	Primary education	17	11.56		
	Secondary education	27	18.37		
	Post-Secondary education	61	41.50		
Occupation	Livestock farmer	27	18.37		
	Crop farmer	18	12.24		
	Trader	36	24.49		
	Civil servant	43	29.25		
	Others	23	15.65		
Household size (Persons)	<=5	43	29.25	6.47	3.95
	>=6	104	70.75		
Monthly income (Naira)	<=60,000	121	82.31	58,044.30	12,647.90
	>60,000	26	17.69		
Production experience (Years)	< =5	52	35.37	10.72	5.19
	>=6	95	64.63		
Sources of information	Farmers association	22	14.97		
	Friends/ Neighbors	108	73.47		
	Others	17	11.56		
Livestock Ownership	No	15	10.20		
	Yes	132	89.80		
Types of Livestock	Poultry	39	26.53		
	Goat	31	21.09		
	Sheep	29	19.73		
	Cattle	11	7.48		
	Rabbit	5	3.40		
	Pig	14	9.52		
	Fish	18	12.24		

Table 2 shows the specific roles often played by the rural women. These includes feeding and watering ($\bar{x}$ = 4.57), fish processing ($\bar{x}$ = 4.22) and cleaning of livestock pens ($\bar{x}$ = 4.08). It can be observed from this finding that the major specific roles in which the women participated in were those that did not require any technical know-how. This implies that the women would have participated in other specific roles if they have the required skill. Thus, there is need for training for women in all specific areas of livestock farming. A study conducted by Mulugeta and Amsalu (2014) found that the women in Ethiopia played specific roles in livestock farming such as gathering of

dung, cleaning of animal shed, selling of milk and milk products and preparing milk products.

Table 2: Specific roles played by women livestock farmers

Specific roles	Mean	Std. Dev.
Feeding/watering	4.57	0.49
Fish processing	4.22	0.64
Cleaning pens	4.08	0.54
Poultry egg collection	3.97	0.68
Poultry processing	3.83	0.78
Marketing livestock	3.80	0.67
Milk collection and processing	3.45	0.83
Tethering animals	3.37	0.72
Record keeping	3.37	0.89
Diagnosis of livestock	2.68	0.67
Vaccinating	2.63	0.81

As shown in Table 3, the major constraints hindering the participation of rural women in livestock production include insufficient operating funds ($\bar{x}$ = 3.88), high labour drive ($\bar{x}$ = 3.17) and poor information supply ($\bar{x}$ = 2.88). This implied that more women would practice livestock farming if the funds are available thus the need to make funds available for women to go into livestock farming. Despite the enormous domestic /family responsibilities women are engaged in, they do not see these as a constraint to their participation in livestock farming.

Table 3: Constraints to women participation in livestock production

Constraints	Mean	Std. Dev.
Insufficientoperating funds	3.88	0.81
High labour drive	3.17	0.77
Poorinformation supply	2.88	0.62
Smallmonetaryrevenue	2.57	0.66
Householdduties	2.40	0.51

CONCLUSIONS AND RECOMMENDATIONS

Based on the result of this study, it can be concluded that women have been recognized to play very prominent role in livestock farming and a faced with challenges in livestock production. It was recommended that rural women should be encouraged to be involved in livestock production by creating more awareness on the importance of livestock farming and also given adequate knowledge in livestock farming through training by livestock extension agents. Furthermore, the rural women should be encouraged by means of providing financial assistance byfinancial institutions through giving out credits with very low interest rates.

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ATTITUDE OF FADAMA III ADDITIONAL FINANCING PROJECT FARMERS TOWARDS UPTAKE OF IMPROVED CASSAVA PRODUCTION TECHNOLOGIES IN OSUN STATE, NIGERIA

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ABSTRACT

The study assessed the attitude of Fadama III Additional Financing Project farmers towards uptake of improved cassava production technologies in Osun State.Proportionate sampling technique was used to select four Local Government Areas (LGAs) from Osogbo and two from Iwo Zones. Proportionate and systematic random sampling techniques were used to select 160 farmers from 535 in Osogbo and 80 from 268 farmers in Iwo zones. Data were collected on beneficiaries' socio-economic characteristics and their attitude towards uptake of improved cassava production technologies. Data were analysed using percentages, means, Chi-square, correlation and regression analytical tools. The results show that farmers had favourable attitude towards five of the 12 technologies while they had indifferent attitude towards the other seven of the technologies disseminated by Fadama III+AF Project. Furthermore nine of the 12 cassava production technologies disseminated by Fadama III+AF Project had high uptake level while the remaining three had low uptake level. Further results show that socio-economic characteristics like age (r=0.128), cassava farm size (r=0.162) and Fadama group membership (r=0.230) were positively and significantly associated with uptake of cassava production technologies at $p \leq 0.05$ and $p \leq 0.01$ respectively. Also, non-parametric variables like sex (χ^2=10.417), religion (χ^2=111.600) and marital status (χ^2=497.500) had significant association with uptake of cassava production technologies. It was concluded that the farmers' attitude towards uptake of cassava production technologies disseminated by FadamaIII+AF were favourable and uptake was high among respondents.

INTRODUCTION

According to the Food and Agriculture Organisation Statistics (FAOSTAT) (2018) and the Federal Ministry of Agriculture and Water Resources (2017), Nigeria is the largest producer of cassava in the world and cassava is the largest produced agricultural commodity in the country. FAO (2004) observed that past increases in cassava yield have been due to increases in land area cultivated rather than increases in yield per hectare. This trend, Erhabor and Omokaro (2007) warned was not sustainable because of competing demand for land from other uses coupled with geometric increase in population and demand for cassava products in forms of food and raw material to industries. Hence the urgent need to raise cassava yields through productivity increase rather than land area expansion.

To increase the current level of production, there is need to examine other ways through which productivity increases could come. One possible way is through the improvement of the productivity with the use of modern cassava production technologies among farming communities in Nigeria (Atagher, 2013). Cassava production technology uptake with regards to Fadama beneficiaries' attitude was the focus of this study.

Fadama is a Hausa word for irrigable land and the Yoruba interpretation is *Akuro*. This type of land is best described as flood plain and low-lying areas underlined by shallow aquifers and found along Nigeria's major rivers' courses. Fadama III+AF Project keyed into the crop production side of Agricultural Transformation Agenda (ATA) and set a target of 30 tonnes per ha for cassava production. The Project also provided improved production technologies for farmers to uptake to achieve the targeted yield level. Average yield of 24.5mt per hectare was achieved from a baseline of 12.89mt per hectare.

The general objective is to assess farmer's attitude towards uptake of improved cassava production technologies among Fadama III+AF Project beneficiaries in Osun State while specific objectives of the study are to:

i) assess the effect of selected socio-economic characteristics of the farmers on the uptake of improved cassava production technologies in Osun State; and
ii) assess cassava farmers' attitude and level of uptake of improved cassava production technologies disseminated by Fadama III Additional Financing Project in the study area.

METHODOLOGY

The study was carried out in Osun State, in the Southwest geopolitical zone of Nigeria. Osun State lies within longitudes 2.75^0 and 6.75^0 East of Greenwich meridian and latitudes 7^0 and 9^0 North of the equator. It covers the total land area of about 14.875km^2. It is bounded in the west by Oyo State, in the east by Ekiti and Ondo States, in the north by Kwara State and in the south by Ogun State (Osun State government diary, 2005). The southern part of Osun State is a rain forest zone with a mean annual rainfall of 1,420mm, the northern part of the state is a derived savannah with an average annual rainfall of 1,133mm. The Osun State Agricultural Development Programme (OSSADEP) divided

Osun State into three agricultural zones with their headquarters in Osogbo, Iwo and Ilesa.

Osun State was purposively selected for the study because the State benefitted from Fadama III+AF Project. Cassava production farmers who benefitted from Osun State Fadama III+AF Project are the target population for this study. The State has three agricultural zones which are Osogbo, Ife/Ijesa and Iwo with 13, 10 and seven Local Government Areas (LGAs) respectively. Multistage sampling procedure was used to obtain the respondents (population sample) from the entire population.

Four Local Government Areas (LGAs) from Osogbo Zone and two LGAs from Iwo Zone were selected. Systematic random sampling method was used to select 36 respondents in Ifelodun, 44 respondents in Ede North, 49 in Egbedore and 31 respondents in Ila LGA representing Osogbo Zone. Furthermore 32 respondents were selected from Ayedire while 48 respondents were selected in Olaoluwa LGA representing Iwo Zone, making a total of 240 respondents interviewed for the study.

RESULTS AND DISCUSSION

The results show that mean age was 37.86±8.50. This indicated that majority of the farmers were still in their productive age and also agrees with the findings of Olanrewaju, (2013) in a study carried out in Osun State which showed that age of majority of the farmers fell between 30 and 60 years. The implication of this result is that most of the respondents at this age range are still active and productive which could have influenced their uptake of Fadama III+AF improved cassava production technologies. Results further show that 38.3 percent of the Fadama III+AF cassava farmers were Christians, 58.3 percent were Muslims and 3.3 percent belong to the Traditional worshippers. This implies that all the respondents were affiliated with religions in which many of the respondents practice Islamic religion, and this could be because Osogbo and Iwo Agricultural Zones of Osun State have high Muslim dominance. The implication of this might be that religion could influence the uptake of technologies. According to Olaolu, Akinnagbe and Agber (2013) religion affects people's belief and as such could constitute a barrier to the acceptance of new technologies if it negates their faith. The mean cassava farm size was 1.54±0.76 hectares. The finding indicates that average cassava farm size of the respondents was 1.54 hectares. The result implies that farmers still own farm land because all the respondents indicated their farm size, which is an indication of farm ownership. This means availability of land for uptake of cassava production technologies. Khatun and Haider (2016) reported that education and land holdings were statistically significant variables in determining technology uptake level. Feder, Just and Zilberman (1985) as cited by Melesse (2018) reported that farmers with bigger land holding size are assumed to have the ability to purchase improved technologies and the capacity to bear risk if the technology fails.

Results in Table 1 show that parametric variables like age (r=0.128), size of cassava farm land (r=0.162), fadama group membership (r=0.230), year heard about Fadama III+AF Project (r=0.549), number of sources of information (r=0.317) and attitude (r=0.258) had positive and significant relationship with uptake of cassava production technologies while household size (r=-0.249), years of farming experience (r=-0.141) and cosmopoliteness of farmers (r=-0.148) had negative and significant relationship with uptake of cassava production technology in the study area. This indicates that the more the positively correlated variables the more the uptake of cassava production technologies and vice versa. The table also revealed the coefficient of determination for each of the variables.

Table 1: Summary of correlation analysis showing relationship between some socio-economic characteristics and uptake of Fadama III+AF cassava production technologies

Variables	Correlation coefficient (r)	Coefficient of determination (r^2)	Percentage contribution
Age	0.128*	0.02	2.0
Household size	-0.249**	0.06	6.0
Size of cassava farm land	0.162*	0.03	3.0
Years of farming experience	-0.141*	0.02	2.0
Fadama group membership	0.230**	0.05	5.0
Cosmopoliteness of farmers	-0.148*	0.02	2.0
Year heard about Fadama III+AF	0.549**	0.30	30.0
Number of sources of information	0.317**	0.10	10.0
Attitude	0.258**	0.07	7.0

Source: Computation of correlation analysis, 2019

** Significant at 0.01 (99%) * Significant at 0.05 (95%)

Other results show that non-parametric variables like religion (χ^2 =201.942), marital status (χ^2 =271.515), year heard about Fadama III+AF Project (χ^2 =214.962) and number of training attended (χ^2 =342.846) had significant association with uptake of cassava production technologies in the study area. This might mean that religion could be a good platform to spread innovations, if the innovation does not negate the religious beliefs of the farmers (Olaolu, Akinnagbe and Agber, 2013). Furthermore, the earlier the farmers heard about the benefits of a project the more they are likely to uptake the technologies (Rogers 1995). Also the more the number of sources of information, the more the rate of spread of innovation information to farmers, in other words, multiple sources of information tend to influence uptake decision of farmers.Lastly, the more favourable the attitude of farmers towards innovations, the more their tendency to uptake the innovations.

The results Table 2 show that farmers had favourable attitude towards five of the technologies while they had indifferent attitude towards the other seven of the technologies disseminated by Fadama III+AF Project. It could be inferred that most of the technologies towards which farmers showed favourable attitudes were less costly while most of the ones with indifferent attitude were relatively costly to utilize for the farmers. This study conformed to the results obtained by Sunding, (2000) as cited in Johan (2011) and Adesakin, Folaranmi and Oluwatusin, (2017) that identified high cost of innovation as one of the constraints to the uptake of cassava production technologies.

Table 2: Attitude of Respondents towards each Cassava Production Technology disseminated by Fadama III+AF Project

S/N	Technology	Mean	SD	Attitude
6.	Farmers protection against chemical contact by wearing PPEs	1.39	0.01	
12.	Use of Geographic Positioning System (GPS)	1.37	0.02	
2.	Calibration of ridgers to 90cm furrow spacing	1.36	0.04	Favourable
1.	Cultivation of improved cassava Variety	1.35	0.05	
4.	Adherence to recommended plant spacing	1.35	0.01	
8.	Precautions on use of agrochemicals	1.34	0.09	
9.	Adherence to recommended number of nodes	1.34	0.06	
10.	Fertilizer application to cassava	1.34	0.06	
7.	Planting stems with modern machines	1.33	0.05	Indifferent
5.	Age of planting materials below one year	1.33	0.03	
11.	Mechanical device to harvest cassava tubers	1.31	0.05	
3.	Ploughing across the slope to control erosion	1.28	0.01	

0.00-0.67 = Not favourable 0.68-1.34 = Indifferent 1.35-2.00 = Favourable

Source: Field survey, 2019.

The results in Table 3 show that nine of the 12 cassava production technologies disseminated by Fadama III+AF Project had high uptake level while the remaining three had low uptake level. The categorization was done based on grand mean of "how often the technology was utilized". It could be inferred that most of the technologies with high uptake level cost less compared to the ones that had low uptake level. This study agreed with the results obtained by Sunding, (2000) as cited in Johan (2011) and Adesakin, Folaranmi and Oluwatusin, (2017) that identified high cost of innovation as one of the constraints to the uptake of cassava production technologies.

Table 3: Farmers' Uptake Level of each Cassava Production Technology disseminated by Fadama III+AF Project

S/N	Technologies	Mean How Often	SD	Uptake Level
4.	Adherence to recommended plant spacing	2.07	0.78	
3.	Ploughing across the slope to control erosion	2.01	0.78	
8.	Precautions on use of agrochemicals	1.93	0.80	
6.	Farmers protection against chemical contact by wearing PPEs	1.91	0.85	High
5.	Adherence to age of planting materials below one year	1.85	0.83	
2.	Calibration of ridgers to 90cm furrow spacing	1.78	0.71	
10.	Fertilizer application to cassava	1.73	0.80	
9.	Adherence to recommended number of nodes	1.72	0.83	

S/N	Technologies	Mean How Often	SD	Uptake Level
1.	Cultivation of improved cassava Variety	1.61	0.73	
7.	Planting stems with modern machines	0.94	1.22	
11.	Mechanical device to harvest cassava tubers	0.88	1.17	Low
12.	Geographic Positioning System (GPS)	0.86	1.12	

How often was technology utilized
Once in a while = 1, Most times = 2, Every time = 3
Grand mean = 1.61, Grand SD = 0.45
Source: Field survey, 2019

CONCLUSION

It could be concluded from the study that uptake level of respondents with respect to the cassava production technologies disseminated by Fadama III+AF Project was high. This could be adduced to the favourable attitude of the farmers towards the less costly cassava production technologies. The average of 30 tonnes per hectare might not have been achieved because of indifferent attitude and low uptake of respondents to some of the technologies.

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INVOLVEMENT OF YOUTHS IN AGRIBUSINESS IN ONDO STATE, NIGERIA

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ABSTRACT
To enhance sustainable food production and curb unemployment among youths it becomes necessary to assess factors enhancing youth's involvement in agribusiness in Ondo state. Simple random sampling was used to obtain data from 180 youths between the ages of 18 and 35years across six LGAs in Ondo State. Structured questionnaire was used to obtain data from the respondents. Data were analyzed using descriptive statistics. Findings revealed that respondents' mean age was 28.7 years, 58.7% are males, 58.1% were single, had 4.52 years of farming experience, earning a mean income of₦530,658.94annually from agribusiness and 55.3% had tertiary education.Mean involvement of youth in crop production ($\bar{x} = 3.04$) with mean total farm size of ($\bar{x} = 6.67$) and mean involvement in livestock production as ($\bar{x} = 0.70$). Lack of other job opportunities ranked 1st($\bar{x} = 0.98$), need to increase income ranked 2nd($\bar{x} = 0.91$) and passion for agriculture ranked 3rd ($\bar{x} = 0.88$) among factors motivating youth's involvement in Agribusiness.The study concluded that the problem of unemployment is driving many youths into agribusinessand to enhance further involvement in the agricultural sector and attain food security in Nigeria the study recommended that labour saving machineries and financial support be made available for youths involved in agribusiness.
Keywords: Involvement, Youths, Crop production and Agribusiness, Ondo State, Nigeria

INTRODUCTION
Agriculture remains an important sector in Nigeria with a wide range of products from crops, animals, fish and tree production resulting from the richness in soil types, water resources and a diversified agro ecological condition. It is a multifunctional and a multifaceted sector dominating the rural areas and performing several roles which includes provision of employment for about 65% of the work force (Emeka, 2007). Agriculture likewise, facilitates economic growth. According to Xinshen, Peter and James (2010). Agriculture has a strong growth linkage in many countries. Corroborating this, Christianse, Demery and Kuhl (2011) opined that agricultural growth has a greater poverty reduction effect than non-agricultural growth. Aside poverty reduction and economic growth, agriculture is also key to employment generation, food security, foreign exchange earnings and diversification in rural household livelihood. Considering the rate of unemployment among Nigeria youths it is expedient to underscore how the youth populace has been utilizing the agricultural sector as a coping strategy against the lack of white collar job opportunities and the various motivating factors enhancing their involvement in the agricultural sector.

The objectives of this study are to:

i. ascertain the socioeconomic characteristics of youths in the study area.
ii. determine youths' involvement in various agribusiness in the study area.
iii. identify factors motivating youth'sinvolvement inagribusiness in the study area.

METHODOLOGY
The study was conducted in Ondo state, Nigeria. Youths between the ages of 18 and 35 years constitute the population of the study. A multistage sampling technique was used to select 6 Local Government Areas (LGA's) from the state while a reconnaissance survey was carried out to get an average number of 100 youths associations in each Local Government area followed by a random selection of 30% of the youth associations and then a purposive sampling of six youths within the age range of 18 and 35 years from each of the associations to give a total of 180 respondents. Data were collected using structured questionnaire and was analysed using descriptive statistics. However, only 179 questionnaires were retrieved from the field and subjected to analysis.

RESULTS AND DISCUSSION
Socioeconomic characteristics
Table 1 revealed that the mean age of the respondents was 28.7years. This implies that majority of the youths are in their young and active age where their strength and vigour could be harness for agricultural production and other productive enterprises. Most (58.7%) of the respondents are male. This suggests that male respondents were more involved in agribusiness than female respondents in the study area. This could be due to the common belief that male are more energetic than females. This findings supports the findings of Muhammad-Lawal, Omotesho and Falola (2009); Akpan (2010) who found that males because of the energy they possess, are often more capable of doing tedious and energy demanding work than their female counterparts. However, in contrary,Chikezie, Omokore, Akpoko and Chikaire(2012) found that gender is not a barrier to

active involvement in productive agricultural ventures suggesting that male and female should be involved in agricultural activities and enterprises alike. Hence, both male and females should be encouraged to be involved in agribusiness to enhance sustainable food production in Nigeria.

Table 1 also showed that 55.3% of the respondents had tertiary education. This shows that more than half of the respondents in the study area have a considerable higher level of educational qualification. The implication of this is that respondents in the study area have better chances of accessing agricultural information than uneducated youth because education plays an important role and serve as a form of human capital for agricultural development. This agrees with the findings of Akpan (2010) who found that education is a tool that will likely enhance the adoption of modern farm technologies by youth and help in sustaining a strong farming population.

Majority (66.4%) of the respondents had between 1 and 5 years of farming experience with a mean of 4.52 years. This implies that youths in the study area are new entrants in agriculture. This finding supports the report of Adesina and Favour (2016) that majority of the youths in Ondo state participating in Youth in agriculture programme had between 1 and 5 years of farming experience.This could be attributed to the introduction of recent agricultural initiatives and policies such as Anchor borrowers' scheme, Credit Guarantee Risk Scheme anchored by CBN and NIRSAL across states in the federation. A substantial percentage 43.2% earned between ₦500,001 and ₦750,000 annually. The mean income of respondents was ₦530,658.94.This suggests that agriculture is a viable enterprise that can enhance the standard of living and reduction in unemployment rate among youths in the study area. This finding is in conformity with Manggoel, Ajiji, Damar, Damiyal, Da ar (2012) who concluded that agriculture could serve as a veritable tool in curbing unemployment and poverty among youths.

Table 1: Respondents' Socioeconomic Characteristics (N=179)

Variables	Frequency (%)	Mean score
Age		
Less than 22 Years	10.6	
23-27 Years	29.10	28.7
28-31Years	26.8	
Above30 Years	33.5	
Sex		
Male	105(58.7)	
Female	74(41.3)	
Educational Status		
Tertiary	99(55.3)	
Secondary	65(36.3)	
Primary	15(8.4)	
Years of Farming Experience		
Less than 5 Years	119(66.4)	
6-10 Years	36(20.1)	4.52
11-15 Years	14(7.8)	
16-20 Years	9(5.1)	
Above 20 years	1(0.6)	
Average Annual Income(₦)		
Less than ₦100,000	19(10.6)	
₦100,001-₦350,000	31(17.3)	
₦350,001-₦500,000	45(25.1)	₦530,658.94
₦500,001-₦750,000	77(43.2)	
Above ₦750,000	7(3.8)	

Source: Field Survey, 2018

Table 2 shows the distribution of the level of involvement of youths in agricultural enterprises. The result shows the involvement of youth in crop production as ($\bar{x} = 3.04$)with a total farm size of ($\bar{x}$ = 6.67) and involvement in livestock production ($\bar{x}$ = 0.70). This implies that youths in the study area are more involved in crop production than animal production this could be because majority of the respondents' involvement in agriculture in the study area is on a secondary basis hence they are more involved in enterprises that will afford them more time for other occupation.

Table 2: Distribution of respondents by involvement in agricultural enterprises

Involvement	N	Min	Max	Mean	SD
Involvement in crop production	179	0.00	19	3.035	4.871
Involvement in livestock production	179	0.00	7	0.704	1.331
Total farm size of crop production	179	0.00	287	6.665	25.54

Source: Field survey (2018)

Table 3 revealed that lack of other job opportunities ($\bar{x} = 0.98$) ranked 1st among various factors motivating youth's involvement in agricultural enterprises. This is in line with the findings of Nwaogwugwu and Obele (2017) which stated that the involvement of youths in agricultural-based livelihood activities is usually limited by the presence of industries that are capable of providing employment opportunities for youths. Hence, the absence of industries leave youths with no other option than getting involved in agricultural based activities to earn a living.

The need to increase income ranked 2nd ($\bar{x} = 0.91$). This could be due to the fact that youths are at a critical phase of life where they are striving to gain independence from their parents hence, they see involvement in agriculture as a means to increase their income and settle down for life

Table 3: Distribution of respondents based on factors motivating their involvement in agriculture.

Motivating factors	**Major factor**	**Minor factor**	**Not a factor**	**Mean**	**Rank**
Parental influence	29.5	11.2	59.2	0.70	7th
Social cycle	12.8	25.0	62.0	0.51	9th
Past experiences	34.1	11.7	54.2	0.80	4th
To improve well being	26.8	20.7	52.5	0.74	6th
Lack of other job opportunities	44.7	8.40	46.9	0.98	1st
Advice from friends	24.6	14.0	61.5	0.63	8th
Passion	36.3	15.1	48.6	0.88	3rd
Increased income	38.5	13.4	48.0	0.91	2nd
My current location	27.4	20.1	52.5	0.75	5th

Source: Field survey (2018)

CONCLUSION AND RECOMMENDATIONS

The study concluded that the problem of unemployment alongside the need to increase earning is driving many youths in the study area into agribusiness. It further concludes that youths in the study area are more involved in crop production than animal husbandry which could be due to the flexibility and seasonality nature of crop enterprises which could afford youth the opportunity of getting other source of income.

Based on the findings the following were recommended;

- The study recommended that to enhance further involvement of youths in agribusiness more youth friendly agricultural initiatives and schemes should be introduced to youths by government and private sectors.
- Agri-support agencies should make deliberate efforts to make inputs such as good seeds, fertilizers, agro-chemicals, agricultural subsidies and market information available and affordable for youth farmers.
- Labour saving machineries that can enhance more involvement in animal husbandry and crop production should be made available for youths involved in agribusiness.

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BENEFITS DERIVED FROM PARTICIPATING IN SKILL ACQUISITION ACTIVITIES AMONG RURAL WOMEN IN ZARIA AREA, KADUNA STATE, NIGERIA

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ABSTRACT
Investments in improving the livelihoods of women in Nigeria have the potential to boost inclusive growth. The study was aimed at analyzing the benefits derived from participating in skill acquisition activities among rural women in Kaduna state. Study objectives were to: identify the socio-economic characteristics of rural women, identify the factors that influence rural women to participate in skill acquisition activities and rank rural women livelihood enhancement from participation in skill acquisition activities.Data was collected using structured questionnaire from 80 rural women in threerural locations around Zaria metropolis. Villages and respondents were purposivelysampled based on their exposure to skill acquisition trainings. Data were analyzed using frequencies, percentages and weighted mean score(WMS). About91% of women ages were between26-45 years, 68.8% had Qur'anic education, 67.5% engaged in trading as primary occupation and 98.8% were members of association. Also, 71.1% of women reported income generation(20.3%), improving living standard(20.9%) and supporting their families(29.9%) as the major influencers to their participation in skill acquisition activities. Rural women livelihoods were most enhanced by Jelly (Vaseline) making (1st), Soap making (2nd) and Local chicken production (3rd) skills. Other important and significant skills were Sheep and Goat production (4th) and Condiments (Spices) making (5th). Tie and Dye (WMS=1.3) and Fish production (WMS=1.8) skills were not significant.Study concludes that rural women participation in skill acquisition contributed to their livelihood enhancement. Recommendation was that more rural women be exposed to additional skills for increased livelihood enhancement.
Keywords: Livelihoods, Skill acquisition, Income generation, Soap making andRural women**.**

INTRODUCTION
Women' economic empowerment not only depends on the availability of jobs but also on development of their skills to create jobs for enhanced livelihoods.Rural women in Nigeria need support in skill development to achieve social and economic empowerment.Participation has become a strategy through which many development organizations empower people.Rural women in many developing countries including Nigeria are faced with the responsibility of farm work, housekeeping and other non-farm jobs in order to earn money to supplement family incomes. In Nigeria, factors such as common socio-cultural practices, lack of or limited access to political, economic and social power further deepen the vulnerability of women. Ajayi et al. (2016), observed that diversification of income sources by rural households and occupations are norms for individuals or households for different socioeconomic reasons which can be categorized as either for more non-farm income sources for livelihood. In partnership with and funding from the West Africa Productivity Programme (WAPP), the NAERLS Adopted Villages and Schools Outreach Project implemented capacity building for rural womento encourage their participation in skill acquisition activities and enhance women's social and economic empowerment across 7 initial villages around Zaria. The project uses a livelihood approach to help rural women develop skills that facilitate future income and employment opportunities, enhance abilities to improve livelihood opportunities, and strengthen and expand social networks. The major underpinning of the study is linked to the Theory of Change which contends that for women to expand their livelihood opportunities, change is required (Ramadan, Abdel-Tawab, El Sayed, and Roushdy, 2014).This study focused on analyzing the benefits derived from participating in skill acquisition activities among rural women in Kaduna state. Specific objectives were to: identify the socio-economic characteristics of rural women, identify benefits derived from rural women participation in skill acquisition activities,and assess rural women perception of their livelihood enhancement from participation in skill acquisition activities.

METHODOLOGY
Study was conducted in Maigana Agricultural development Project (ADP) Zoneof Kaduna State, Nigeria.Three rural locations around Zaria metropolis were purposively selected due to the degree of rurality from seven others namely: NasarawanBuhari (13km), Iyatawa (27km) and Yansarki (23km). Villages and respondents were purposively sampled based on exposure to skill acquisition trainings. A total sample size of 80 rural women was selected for the study (Table 1). Since 2009, NAERLS' Adopted Villages and Schools Outreach Project built women capacities in Seven

(7) skills as follows: Soap Making, Jelly making, Condiments (Spices), Tie and Dye, Goat and Sheep production, Local Chicken production and Fish production. Thus women were included in the sample based on the continued use of the acquired skills. Data was collected using structured questionnaire in 2018. Data were analyzed using frequencies, percentages and weighted means.

Table 1: Study Locations and Sample Size (n=80)

Rural Location	Women Trained	Sampled Women Using Skills
NasarawanBuhari	57	30
Iyatawa	48	27
Yansarki	41	23
Total	**146**	**80**

Field Survey, 2018

RESULTS AND DISCUSSION

Table 2 presents socio-economic variables of rural women in the study area. About 91% of women were between the ages of 26-45, thus were active. Women were generally found to be responsible as 85% were married. Majority (about 90%) of women had limited education ranging from Quranic to Primary education. About 73% had household sizes ranging from 6-15 persons indicating that they had larger households. Majority (73.8%) had experience of between 4-7 years in the use of acquired skills. About 68% of women were involved in trading as primary occupation; and about 99% were members of cooperative associations. Akeweta, Ndaghu, and Kefas (2014) argued that women in their active ages are more productive because they are more capable of getting involved in many income generating activities to better their livelihood activities. Also, Ajayi et al. (2016) reported that an increase in educational attainment of women farming households increased the probabilities of the household's having a better livelihood. The implication is that higher numbers of years of education could have a positive influence on the ability of the women farmers to know better about their livelihoods.

Table 2: Socio-economic Characteristics of Rural Women (n=80)

Socio-economic Characteristics	Frequency	Percentage
Age(years)		
15-25	2	2.5
26-35	52	65
36-45	21	26.3
46-55	4	5
56 and above	1	1.3
Marital Status		
Single	4	5.1
Married	68	85
Divorced	3	3.8
Widowed	5	6.3
Educational Level		
No formal Education	5	6.3
Quranic	55	68.8
Primary	17	21.3
Secondary	3	3.8
Tertiary	0	0
Household Size(Number of persons)		
1-5	17	21.3
6-10	48	60
11-15	10	12.5
16-20	3	3.9
21-25	2	2.5
Experience(Years)		
1-3	17	21.3
4-7	59	73.8
8-10	4	5
Primary Occupation		
Farming	20	25

Socio-economic Characteristics	Frequency	Percentage
Trading	54	67.5
Civil servant	1	1.3
Others (sewing, knitting, etc)	5	6.3
Membership of Association		
Yes	79	98.8
No	1	1.2

Field Survey, 2018

Table 3 presents benefits derived by rural women from participation in skill acquisition activities. The most important benefits were family support (29.9%), improving living standard (20.9%) and improving income (20.3%). Itobiye (2016) reported that participating in GESS programme had a significant impact on thelevel of livingof therural women farmers in Kaduna State. Onyebu (2016), argued that in supporting their household food security, women performed various income generating activities it indicated that women engaged in farming (100%), Trading (97.2%), processing of agro products (96.1%), hair dressing (87.2%), tailoring (86.1%), food vending (79.4%), weaving of clothes (35%), mat making (51.6%) and black soap making (30.5%).

Table 3: Benefits Derived from Participation of Women in Skill Acquisition Activities (n=80)

Benefits	Frequency*	Percentage
Increased Consumption	39	11.2
Improved Income	38	20.3
Improved Living Standard	21	20.9
Self-Employment	15	8
Family Support	56	29.9
Self-Development	18	9.6

Field Survey, 2018 *Multiple Response

Table 4 presents a ranking of women perceived enhancement of their livelihoods as a result of participation in skill acquisition. Women perception was measured using a 3-point Likert scale. Weighted mean score was calculated for each skill and compared with a standard mean score of 2.0. Thus, any skill with a weighted mean score equal or greater than 2.0 was accepted as significant and hence a basis for the ranking of skills that induced significant livelihood enhancement. The result revealed that rural women livelihoods were most enhanced by Jelly (Vaseline) making (2.9=1st), Soap making (2.8=2nd) and Local chicken production skills (2.7=3rd). Other important and significant skills were Sheep and Goat production (2.6=4th) and Condiments (Spices) making (2.5=5th). Tie and Dye (1.3=7th) and Fish production skills (1.8=6th) were not significant; meaning that women were not satisfied with the use of those skills as they did not enhance their livelihoods.

Table 4: Livelihood Enhancementfrom Women Participation in Skill Acquisition Activities (n=80).

Skill	Not Enhanced	Partially Enhanced	Fully Enhanced	Weighted Mean Score	Ranking
Soap Making	3(3.8)	8(10)	69(86.2)	2.8*	2nd
Jelly making	1(1.2)	7(8.8)	72(90)	2.9*	1st
Condiments(Spices)	17(21.1)	10(12.5)	53(66.2)	2.5*	5th
Tie and Dye	9(11.2)	24(30)	47(58.8)	1.3	7th
Goat and Sheep production	10(12.5)	10(12.5)	60(75)	2.6*	4th
Local Chicken production	6(7.5)	13(16.2)	61(76.2)	2.7*	3rd
Fish production	33(41.2)	27(33.8)	20(25)	1.8	6th

Field Survey, 2018 Mean Score=2.0 *=Significant
Figures in parentheses are percentages, otherwise frequencies.

CONCLUSION AND RECOMMENDATIONS

This study therefore concluded based on the findings that rural women indeed derived great benefits from participating in skill acquisition activities and that the benefits derived contributed to enhancing their livelihoods

Based on the study, the following recommendations were made:

1. More rural women should be trained in both farm non-farm income generating skills by development partners (NGOs, Governments, Individuals, etc) in order to

enhance their capacities for increased benefits and improve livelihoods.

2. Rural financial institutions should support rural women with soft loans in order for them to expand the use of their acquired skills which may lead to the building of a robust rural entrepreneurial base.
3. Market linkages and placements for products and services by women leaders was recommended sincefinding suitable markets for the products and services of the rural women who produce using the acquired skillswas a challenge. Contracting productionto help sell products and encouraging women to start group businesses with partners who focus on marketing will help tap into previously unreachable markets.

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