

ADELOYE KOFI  
O.A.U.

**SETTING AGENDA FOR SUSTAINABLE YOUTH ENGAGEMENT  
IN NIGERIA AGRICULTURE  
PROCEEDINGS OF THE 13<sup>th</sup> INTERNATIONAL RESEARCH  
CONFERENCE AND NETWORK MEETING OF CHILDREN AND  
YOUTH IN AGRICULTURE PROGRAMME IN NIGERIA**

**(CYIAP – Network)**

**Editors**

**Banji O Adisa (Ph.D.)  
Kolawole A. Adeloye (Ph.D.)**

**PROCEEDINGS OF THE 13<sup>th</sup> INTERNATIONAL RESEARCH  
CONFERENCE AND NETWORK MEETING OF CHILDREN AND  
YOUTH IN AGRICULTURE PROGRAMME IN NIGERIA (CYIAP)  
HELD AT THE UNIVERSITY OF ILORIN, ILORIN, KWARA  
STATE, NIGERIA**

**June 1<sup>st</sup> – 3<sup>rd</sup> 2016**

**(CYIAP – Network Publishing)**

**LOCAL ORGANISING COMMITTEE ILORIN 2016**

<b>Prof. Olwasegun A. Adekunle</b>	-	<b>Chairman</b>
<b>Prof. Israel Ogunlade</b>	-	<b>Secretary</b>
<b>Dr. Gbolagade Adesiji</b>	-	<b>Head of Department</b>
<b>Dr. L. L. Adefalu</b>	-	<b>Publicity</b>
<b>Dr. S. A. Abdulwahab</b>	-	<b>Asst. Secretary</b>
<b>Dr. B. M. Matanmi</b>	-	<b>Welfare/Hospitality</b>
<b>Dr. T. H. Aliyu</b>	-	<b>Linkages</b>

**From Editor-in-Chief Office**

Eulogy of CYIAP Pioneer President: Professor S. Fola Adedoyin (Aged 60 years)  
The Network cannot forget urgently the commitment and contribution of the Pioneer President of the Network, Prof. S. F. Adedoyin who did not find it difficult to bring members together regularly at his own expense. He chartered the course for the network even when there seems to be none. A renowned Professor of Extension and Rural Sociology indeed. He was the Vice Chancellor of Samuel Adegoyega University Uguwa until his demise. Adieu, Prof. S. F. Adedoyin



**Dr. B. O. Adisa**  
**Editor-in-Chief**

## CONTENTS

Presidential address by Professor Dixon O. Torimiro .....	1 - 3
Communique for the 13 <sup>th</sup> International Research and Development Conference and Network Meetings of CYIAP in Nigeria. ....	4
The Keynote Address Presented at the 13 <sup>th</sup> International Research Conference and Network Meeting of CYIAP , Main Auditorium, University of Ilorin, Ilorin, Kwara State by His Royal Highness, Alhaji (Dr.) Haliru Ndanusa Yahaya (OON), The Emir of Shonga, Shonga, Kwara State .....	5 - 7
Assessment of Financial Resource Allocation Pattern of Rural Youth Entrepreneurs In Osun State, Nigeria. Dorcas Lola Alabi and Michael Famakinwa .....	8 - 17
Adaptive Measures for Tackling the Effects of Climate Change on Crop Production in Nigeria. Aladejebi, Oluwafemi John and Adeyeye, Adeleke Joseph .....	18 - 32
Promoting of Modern Bee-Keeping Management Practices Among Youths in Oke-Ogun Area of Oyo State, Nigeria. Ojetayo M.A., Adekunle O.A., Ogunwale A. B, and Oyegbami G.A. ....	33 - 41
Factors Militating against Offering of Agricultural Science Subject by Students in Selected Senior Secondary Schools of Oyo State Oke, O.O., Olaitan T.R. and Adebayo R.O. ....	42 - 49
Assessment of Perception of In-School Teens about Climate Change in Osun State, Nigeria. Okorie, V. O, Adeyemo A. R. and Aramide O. A. ....	50 - 62
Perception of Female Teenage Hawkers about Hawking Activities in Lagos And Osun State, Nigeria. Okorie V.O., Falode O.M. and Olorunkoya O.A. ....	63 - 74
Factors Affecting Technology Transfer Among Youths in Ogbomoso Agricultural Development Programme Zone, Oyo State. Oyegbami G.A, T. Ogunlade, A.B Ogunwale and M.A Ojetayo .....	75 - 74
List of CYIAP Executives .....	84



**A PRESIDENTIAL ADDRESS DELIVERED BY PROFESSOR DIXON OLU TORIMIRO AT THE 13<sup>TH</sup> INTERNATIONAL RESEARCH CONFERENCE OF CHILDREN AND YOUTH IN AGRICULTURE PROGRAMME HELD IN UNIVERSITY OF ILORIN, ILORIN, KWARA STATE, NIGERIA. JUNE 1<sup>ST</sup> – 3<sup>RD</sup> 2016**

Introduction

There is no doubt that the future of any nation is determined largely by the quality of her children and youth, either in the rural or urban or also in any sector of human endeavor, agriculture inclusive. In the human existence, children and youth constitute the beginning, the foundation and even the future; and when foundation is faulty, the upper structure is doomed. According to Adedoyin (2003) children (up to 18 years), youth (18 to 30 years), young adults (31 to 45 years), middle aged adults (46 to 55 years), early adults (56 to 70 years), aged (70 years and above). This age classification is very pertinent for sustainability and continuity in agriculture, which is the main focus of the National Research and Development Network of Children and Youths in Agriculture Programme (CYIAP- Network). The Network is an International Research and Development Network initiative aimed at human capital development, focusing on children and youth for effective harnessing, orientation towards creativity, entrepreneurial and management skill development, and specifically for motivating them towards productive participation in agricultural, rural community and national development processes.

CYIAP-Network profited from the wisdom of the great Greek philosopher, Plato, who likened children hearts to clean slate on which nothing has been written. Whatsoever the child wants to be or do in the later years can easily be written on it through a deliberate programme of sensitization, orientation, education, socialization and participatory involvement in leadership and governance. It is in the light of the forgoing that CYIAP-Network operates with a mission to propagate a deliberate but skilful sensitization, orientation, education and socialization programmes aimed at giving capacity, authority and power to children and youth so that they can have a good future. Specifically, it is to make it possible for them to become active agents of change towards quality of life enhancement, food security, hunger and poverty reduction, civic responsibility, job making rather than job seeking and promotion of entrepreneurial and managerial abilities. CYIAP-Network is working with farm children, farm youth and other



stakeholders in child development and agricultural transformation to provide enabling environment for sustainable development of farm and agro-industrial structures.

### **The CYIAP-Network: Historical Note and Past Conferences**

CYIAP-Network came into existence on 2<sup>nd</sup> March 1995 as an output of the Rural Farm Family Resource Research and Development efforts of Dr. S. Fola Adedoyin (now Professor of blessed memory) and Mr. Dixon Olu Torimiro (now Professor), in the Department of Agricultural Extension and Rural Sociology, Ogun State University (now Olabisi Onabanjo University), Ago-Iwoye, Nigeria. These scholars identified a missing link in the process of ensuring continuity and sustenance of farming as a worthy profession, and they conceptualized as well as initiate this missing link as the Children and Youths in Agriculture Programme (CYIAP). This ideal was shared nationally among relevant stakeholders all over Nigeria and the positive reaction obtained culminated into the establishment of the National Research and Development Network of Children and Youth in Agriculture Programme (CYIAP-Network) on 24<sup>th</sup> March 1998. The network held her past annual conferences in Ogun State University, Ago-Iwoye (1998), Obafemi Awolowo University, Ile-Ife (1999), Enugu State University of Science and Technology, Enugu (2000), University of Agriculture, Makurdi (2001), Nigerian Institute of Social and Economic Research (NISER), Ibadan (2002), Adeniran Ogunsanya College of Education, Ijanikin, Lagos State (2003), Tai Solarin University of Education, Ijagun, Ijebu-Ode, Ogun State (2005), University of Ilorin, Kwara State (2006), Federal College of Education (Special), Oyo (2007), Obafemi Awolowo University, Ile-Ife (2013), Olabisi Onabanjo University, Aiyetoro Campus, (2014) and Federal University of Technology, Akure (2015). We are currently witnessing the 13<sup>th</sup> annual conference and network meeting holding here at University of Ilorin, Ilorin, Nigeria. CYIAP currently publishes two journals, one based in South Africa and one based in Nigeria, to provide outlets for reputable research outputs in the areas of children and youth development, agricultural development, rural development and other pertinent areas for continuity and sustainability of the agriculture.

### **Setting Agenda for Sustainable Youth Engagement in Nigeria's Agriculture**

This is the theme for this year's conference, which has been carefully worded to reflect the current mood of the government towards revitalizing the agricultural sector in Nigeria.



Sustainable youth engagement in agriculture centres on the efforts of today's actors in ensuring the preservation of the entire farm resources without compromising the future. The future in this context are the youth and children of today. While I am not tempted to set or prescribe any agenda for this conference in providing answer to different questions relating to this conference theme, I have the pleasure in highlighting some very important areas that might be considered in your deliberation towards setting agenda for sustainability of children and youth development in agriculture. These include:

- capacity building, empowerment and strengthening of children/youths, and the organizations and institutions that deliver services to them;
- mobilizing investment of public sector, private sector, non-governmental organization and donor's fund into children and youths development processes;
- reforming institution and policies for children and youths development, poverty reduction, wealth creation and employment generation;
- value re-orientation; and
- information and communication technology (ICT) services.

### **Conclusion**

Let me conclude by reiterating my confidence in the capacity of this conference and the capability of the network members in dealing with the various issues highlighted. The sub-themes have the potential to spur serious academic engagements and debates across disciplines in setting agenda for the way our policy makers could foster a sustainable involvement of young people in agriculture. This is expected to translate into poverty reduction and better livelihoods in our Nation's rural sector.

Thank you!

### **References**

Adedoyin, S. Fola (2003): The Nigerian Child and National Plan for decent livelihood. *The Nigerian Child and the National Plan for Decent Livelihood* Proceedings of the 6<sup>th</sup> Annual Research Network Meeting and Conference of Children-In-Agriculture Programme, Eds. Isiaka, B.T. and O.A Adedokun pp 1-8



## **COMMUNIQUE FOR THE 13<sup>TH</sup> INTERNATIONAL RESEARCH AND DEVELOPMENT CONFERENCE AND NETWORK MEETING OF CHILDREN AND YOUTHS IN AGRICULTURE PROGRAMME IN NIGERIA (CYIAP-NETWORK)**

The conference held from 1<sup>st</sup> to 3<sup>rd</sup> June, 2016 at the University of Ilorin, Ilorin Nigeria. The theme of the conference was “Setting Agenda for Sustainable Youth Engagement in Agriculture in Nigeria”. At the end of the conference, the emerging points for policy formulation and adaptation for an enabling youth engagement in agriculture in Nigeria are as listed.

1. More research should be channeled towards food fortification with emphasis on food, snacks and drinks peculiar to children and youths.
2. Stakeholders in agriculture should ensure increased awareness on the need for consumption of healthy diet particularly among children and youths.
3. Infrastructure and facilities should be put in place to encourage youths’ involvement in agripreneurship.
4. Universities and colleges of agriculture should make farm internship programme more holistic hitherto neglected sub-sectors of agriculture such as apiary management, agricultural processing and marketing; hatchery management etc can be incorporated into the training.
5. Young Farmers’ Club in primary and secondary school should be revitalized in such a way that it will address all needed areas in agriculture and fulfill its primary objectives.
6. The agricultural science education curriculum of primary and secondary schools should be repackaged to include more of practical classes so as to make the learning experience more experiential.
7. Agricultural credit in the form provision of inputs and other facilities should be provided for youths in order to enable them settle down into agricultural related entrepreneurial careers.
8. The expertise and precision of youths in the use of ICT gadgets (GPS, drones, satellites. e.t.c) should be harnessed in solving agricultural problems such as climate change, fatigue, and mechanization.
9. Adequate health and safety precautions should be strictly adhered to in the exposure of children and youths to agricultural related activities.
10. Agriculture should be made profitable by ensuring efficient markets for agricultural produce so as to encourage the youths in agricultural production.
11. The use of social media platforms in the dissemination of agricultural information should be encouraged as a way of reaching out to the youths giving the attachment of the youth to such platforms.



**KEYNOTE ADDRESS PRESENTED AT THE 13<sup>TH</sup> INTERNATIONAL RESEARCH AND DEVELOPMENT CONFERENCE AND NETWORK MEETING OF CHILDREN AND YOUTHS IN AGRICULTURE PROGRAMME IN NIGERIA (CYIAP NETWORK), MAIN AUDITORIUM, UNIVERSITY OF ILORIN, ILORIN, KWARA STATE.**

HIS ROYAL HIGHNESS,  
ALHAJI DR. HALIRU NDANUSA YAHAYA (OON),  
EMIR OF SHONGA, SHONGA, KWARA STATE.

Protocols.

In the words of Kofi Annan, *“you are never too young to lead”*, it was implied that leadership is not synonymous with age. Gifted people, irrespective of age, race and creed, have brought development in all sectors across the globe. This quote from the former Secretary General of the United Nations is apt for this present scenario in Nigeria, and specifically, the 13<sup>th</sup> International Research and Development Conference and Network meeting of Children and Youths in Agriculture Programme in Nigeria (CYIAP NETWORK), holding at this “Better by Far” University; the University of Ilorin, Ilorin, Kwara State.

Concerns about the current global economic meltdown, crash in prices of Petroleum (our primary source of Foreign exchange), and the “Change” mantra of President Muhammadu Buhari’s Government (of Nigeria) on diversification of the economy requires rethink on the way forward. Prior to the present crises, Nigeria’s economy was based on Agriculture before the discovery of Oil. In that pre-Oil period, Nigeria was a leading exporter of several Agricultural produces. Examples are Cassava, Oil Palm, Rubber, Cotton and Cocoa. These crops dominated the economy in the Forties, Fifties, and Sixties. Right now, the income from Oil, in coalition with massive corruption, have reduced so much that the nation is almost becoming crippled.

With regards to Food security, Agriculture is the single largest employer in the world, providing livelihoods for 40 per cent of today’s global population. It is the largest source of income and jobs for poor rural households. The United Nations (2016) reported that 500 million small farms worldwide, most still rain fed, provide up to 80 per cent of food consumed in a large part of the developing world. It advised further that investing in smallholder women and men is an important way to increase food security and nutrition for the poorest, as well as food production for local and global markets.

When Agriculture was the major source of Nigeria’s foreign exchange, the labour force were aged men, women and the youths. With time, the aged labour force started declining in number, and Agriculture was left in the hands of women, and few youths, who are daily looking for quicker and faster means of



making a livelihood. Many youths left the Farms, and Agriculture has become stifled. Today, only a handful of youths are left in Agriculture. Food security is threatened. The future looks bleak unless urgent steps are taken. What shall we do to reverse this ugly trend?

We need to set the agenda for a robust national re-engagement of youths in Nigeria's Agriculture. The time bomb for food crises is very short. Many sectors of Nigeria's economy have collapsed, or in a state of limbo. There is no immediate relief. Neither is there a fund to support a resurrection of the economy. The coma state of Nigeria's economy is a monumental cause for alarm.

Setting the agenda for a sustainable youth engagement in Nigeria's Agriculture should consider the following:

1. Sensitization
2. Advocacy
3. Participate in Decision making
4. Monitor Development programmes
5. Actively own farms with adequate institutional supports.

Goal 2 of the Sustainable Development Goals of the UN (2015) aims at ending hunger, achieve food security and improved nutrition and promote sustainable agriculture. This is a major priority globally, and Nigeria is not an exception.

Agriculture in Nigeria is dominated by small-scale peasant farmers comprising aged males, aged female farmers, young males/females and children (male and females). The male youths are generally elsewhere in non-agricultural activities. The total output, from experience/observation indicate that these peasant farmers cannot continue to feed the nation. Their productivities are now experiencing diminishing returns. The youths have energies which, if well directed, coordinated and applied to agriculture, could lead to an agricultural revolution in Nigeria. Before we initiate their revolution however, reforms are imperative in our agriculture. What are the reforms?

These can be operationalized in three dimensions viz:

- a. Belief Systems
- b. Political machinery, and
- c. Policy implementation system

The belief system concerns a shift in whether experience matter in agriculture that old people with farming experiences are better than youths. The political machinery reviews the old pattern where youths are hardly nominated and voted for in the House of Assemblies, and Senate elections. The policy implementation system, on the other hand, is on career officers in Ministries of Agriculture, Political appointees on agricultural projects and implementation contractors/consultants. These three tiers have



been operating since 1914. They switched focus, somersaulted policies, neglected agriculture, shifted to self-seeking ventures and the agricultural results have been poor.

According to Adekunle (2004), the reforms in Agriculture, which can attract the youths should involve;

1. Reliable and updated agricultural statistics/data bank
2. Efficient soil testing and crop matching Technology
3. Affordable solar-powered dryers
4. Affordable collapsible storage structures
5. Availability of packaged organic manure/fertilizers
6. Massive recruitment of Agricultural Extension personnel
7. Provision of Transport for Extension personnel
8. Effective monitoring of Agricultural Technology Adoption and Diffusion
9. Standardizing and Digitizing Farm plots
10. Guaranteed good prices to farmers produces
11. Guarded use of agrochemicals
12. Wide-spread efficient rural infrastructure
13. Standardized packaging and marketing of farm produce
14. Rehabilitation of farm settlement with modern technologies (Decent houses, electricity, pipe borne water, satellite Television and good tarred roads.

It should be recognized that the major benefit of the aged men in agriculture is their wealth of indigenous experience in agriculture. These experiences can be useful if they are documented and transferred to the youths.

One year into his presidency, Muhammadu Buhari is facing multiple threats: a comatose economy due to plunging oil prices; endemic/nationwide corruption; and the insurgency from Boko Haram. This CYIAP Conference is therefore, timely, and the focus on Youth is relevant. I believe at the end of this deliberations, we would come up with necessary Agenda to assist the Government of the federation to diversify the economic with massive youth engagement.

Ladies and gentlemen, I appreciate your kind support for listening, and for the Local Organizing Committee for this wonderful opportunity. God bless, and thank you all.



## ASSESSMENT OF FINANCIAL RESOURCE ALLOCATION PATTERN OF RURAL YOUTH ENTREPRENEURS IN OSUN STATE, NIGERIA

**Dorcas Lola Alabi and Michael Famakinwa**

Department of Agricultural Extension and Rural Development, Faculty of Agriculture, Obafemi Awolowo University, Ile-Ife. Nigeria.  
alabidorcas@yahoo.com

### **Abstract**

*The main focus of the study was to assess the financial resource allocation pattern of rural youth entrepreneurs in Osun State, Nigeria. Specifically, it described the socio-economic characteristics of the respondents, identified the types of entrepreneurial activities they were involved in and determined the variables that have significant relationship with their financial resource allocation pattern. Snowball sampling procedure was employed to select 110 youth entrepreneurs for the study. Descriptive statistics like frequency counts, percentages, means and standard deviation were used while chi-square and correlation analysis were employed to draw inferences. The results show that respondents mean age was  $28.6 \pm 3.8$  years and they engaged in multiple entrepreneurial activities with agro-processing (68.2%) ranking highest. The mean year of vocational training was  $1.1 \pm 0.4$  year; the mean initial capital investment was ₦31,492 ± ₦26,060 while mean monthly income was ₦15,746 ± ₦13,015. With the financial allocation grand mean score of 2.17, it shows that savings (mean= 3.27) ranked highest in the financial allocation of the respondents, followed by food (mean= 3.10), re-investing on the enterprise (mean= 2.97), children education (mean= 2.60), health care (mean= 2.53), transportation (mean= 2.40) and payment of wages (mean= 2.18). At  $P \leq 0.01$ , the results of chi-square show that variables that have significant association with financial allocation pattern include marital status, type of entrepreneurial activity and ethnicity while correlation analysis shows that age ( $r = 0.221$ ), level of education ( $r = 0.226$ ), years spent in vocational training ( $r = 0.195$ ) association membership ( $r=0.243$ ) and external orientation ( $r = 0.276$ ) have positive and significant relationship with financial allocation pattern. Based on the significant variables, the study concluded that these youth entrepreneurs need assistance in the areas of entrepreneurship education, vocational training and wider external exposure. It's also recommended that accomplished entrepreneurs in Osun state and Nigeria as a whole should as part of their social responsibility adopt and support these young entrepreneurs to grow their businesses.*

**Key words:** Youth, rural, entrepreneurship, financial resources, allocation pattern.

### **INTRODUCTION**

Nigeria is one of the poorest countries in the world and has one of the highest rates of youth unemployment in Sub-Saharan Africa (Anyadike, Emeh and Ukah, 2012). Youth are people between 18 and 35 years (Nigerian National Youth Policy, 2009). They have both positive and negative attributes which are predominant and

distinguish them from the adults. They are energetic and full of life; they are fearless, generally militant, rebellious and have disregard for social norms and ethics. They usually lead campaigns against what they perceive as injustice, inequality, discrimination and violation of fundamental human rights. Youth is the age of discontent and rebellion (Ejiogu 2001).



Yet, they remain the bedrock on which every nation's development thrives. They are the most exuberant, the sharpest in memory, the most talented, the most innovative and the healthiest in most societies. These qualities have made them the most potent resource without which the society is lifeless.

Unemployment has been the most serious socio-economic problems inhibiting the progress of Nigeria as a nation. Apparently, it is one of the major causes of social vices such as fraud, kidnapping, armed robbery, destitution, prostitution and terrorism among the youth. Entrepreneurship has been identified as the most effective solution to the menace. This is evident by the government's effort to establish agencies and schemes like the Bank of Industry (BOI), the Small and Medium Enterprises Development Agency of Nigeria (SMEDAN), the Small and Medium Industries Equity Investment Scheme (SMIEIS), the 2012 Global Entrepreneurship Monitor (GEM) and so on. However, many of these interventions cannot be accessed by the majority of the rural populace due to the complexity of the criteria for accessibility.

Entrepreneurship is more than simply "starting a business." It is a process through which individuals identify opportunities, allocate resources, and create value. This creation of value is often through the identification of unmet needs or through the identification of opportunities for change. Tijani-Alawiye (2004) defines entrepreneurship as the process of increasing the supply of entrepreneurs or adding to the stock of existing small, medium and big enterprises available to a country by creating and promoting many capable entrepreneurs, who can successfully run innovative enterprises, nurture them to growth and sustain them,

with a view to achieving broad socio-economic developmental goals, one of which is sustaining employment.

Furthermore, Acs and Szerb (2007), noted that entrepreneurship revolves around the realization of existence of opportunities in combination with decision to commercialize them by starting a new firm. More importantly, Schnurr and Newing (1997) justified the need for promoting entrepreneurship culture among the youth based on the fact that youth in all societies have sterling qualities such as resourcefulness, initiative, drive, imagination, enthusiasm, zest, dash, ambition, energy, boldness, audacity and courage which are all valuable traits for entrepreneurship development.

Several countries have been able to transform entrepreneurship sub-sector to such a vibrant one which has enable them to reduce unemployment and poverty level drastically but the situation is not so in Nigeria. For instance, research by White and Kenyon (2000), found a "flourishing youth enterprise culture" in the United Kingdom among young entrepreneurs of ages 18-24 years. In Zambia, it was revealed that 25 percent of the youth are self-employed (Chigunta, 2001) although most of them tend to be concentrated in marginal trading and service activities. Also, findings in Ghana reveal that young people owned almost 40 percent of small scale enterprises (Osei, Baah-Nuakoh, Tutu, and Sowa, 1993). Similarly, research in South Africa suggests that the probability of self-employment among young people rises with age (Chigunta, 2001).

Availability of fund has been considered to be central to the establishment and continued existence of any enterprise irrespective of the size, focus and objective



(Onwubiko, 2011). It was further observed that scarcity of fund has been one of the major problems that young people encounter when opening a business. Banks are reluctant to give out loans to intending young entrepreneurs and when they do, the procedures for accessing such loans are often rigorous and dependent on the provision of collateral security which the potential entrepreneur may not possess. Therefore, intending entrepreneurs often fall back on their informal credit sources like personal savings, family members, friends and cooperative societies. According to Adegun and Akomolafe (2013), poor saving culture among the youth serves as a major setback for accessing credit for business start-ups, rather than investing what they have, most of them buy big cars, live flamboyant life, build house at the expense of expanding their business.

Many studies have identified various external challenges facing entrepreneurship development such as absence of infrastructural facilities, inadequate working capital, low standard of education and lack of adequate training (Onwubiko, 2011). Misplacement of financial priority is a great possibility among youth entrepreneurs and could constitute a serious barrier to the growth and development of entrepreneurship, hence the need to investigate the financial allocation pattern of this group of business owners. The study therefore sought to assess the financial resource allocation pattern of rural youth entrepreneurs. The specific objectives are to:

1. describe the personal socio-economics characteristics of the respondents;
2. identify the types of entrepreneurial activities involved in by the respondents;

3. examine the youth entrepreneurs' pattern of allocating enterprise financial resources; and
4. determine the variables that have significant relationship with financial allocation pattern of the respondents.

## RESEARCH METHODOLOGY

The study was conducted in Osun State, Nigeria. A multistage sampling procedure was used to select the respondents. Osun State is divided into three agricultural zones namely: Ife/Ijesa, Iwo and Osogbo zones and one Local Government Area (LGA) was purposefully selected from each of the zones based on their relative rurality. The selected LGAs are Atakunmosa East, Ejigbo and Ede South LGAs from Ife/Ijesa, Iwo and Osogbo zones respectively. A total of 110 respondents were selected for interview using snowball sampling procedure. Structured interview schedule was employed to elicit data from respondents on their personal and socio-economic characteristics, types of entrepreneurial activities they engaged in and their pattern of allocating financial resources. Data collected were analyzed using descriptive statistical techniques like frequency counts, percentages, means and standard deviation while inferential statistics like Chi-square and Correlation analysis were used to draw inferences. To measure the dependent variable, respondents were asked to indicate whether they never (0point), rarely (1point), occasionally (2points), often (3points) or very often (4points) allocate money realized from their businesses to 13 financial goals namely: re-investment on the enterprise, payment of wages, savings, transportation, food, clothing, housing, children education, health care, ceremonies, training, payment of debt and seeking information.



## RESULTS AND DISCUSSIONS

### Personal and socio-economic characteristics of the respondents

Results in Table 1 show that more than half (54.5%) of the respondents were female while the remaining (45.5%) were male. This implies that there were more female rural entrepreneurs than male in the study area. The mean age was  $28.59 \pm 3.82$  years and majority (63.5%) were married. This shows that they were mature youth with family responsibilities. The finding agrees with report of Fielden *et al.*, (2000) which established a positive relationship between marital status and business performance. Majority (90.9%) had formal education showing that youth in the study area were benefitting from the free education policy of the State. The result is in line with finding of Kolawole and Ajayi (2005) which reported that majority of their sample in rural communities of Lagos state had formal education. The mean years of vocational training was  $1 \pm 0.4$  year implying that studied enterprises did not require a long period of training. Both the mean initial investment and mean monthly income of ₦ 32,492 $\pm$ 26,060 and ₦ 15,746 $\pm$ 13,015 respectively were very low. The low capital investment agrees with Onwubiko (2011) who observed that youth entrepreneurs have the challenge of accessing loan to start up their business from formal credit sources but often fall back on their personal savings, family and friends which may be meager in most cases. The low mean monthly income may account for one of the reasons why entrepreneurship is not attractive to the majority of youth and agrees with Okoye-Nebo, Kenneth and Ugochukwu (2014), who observed that many young Nigerians entrepreneurs, investors and artisans such as furniture makers, machinists, aluminum window fitters, welders, vulcanizers, tailors, traders are finding it difficult to

make profits which may be due to the low income realized from their enterprises.

### Types of enterprise

Results in Table 1 show that respondents engaged in multiple entrepreneurial activities with agro- processing ventures such as oil palm, cassava, rice and soybean processing (68.2%) taking the lead; followed by timber and wood work such as sawmilling and carpentry (27.2%); non-timber forest product like bush meat, snail and mushroom business (24.5%); trading (13.6%); craft activities like tailoring, hair dressing and blacksmithing (9.1%) and transportation activities like motorcycle/tricycle riding and motor driving (4.5%). The implication of the finding is that the agricultural sector of the economy has a lot of entrepreneurship potentials (aside farming) to absorb the teeming population of the unemployed youth if well focused by the three tiers of government in Nigeria.

### Financial allocation pattern

Based on the scoring of the responses from never to very often ranging from zero to 4 points, results in Table 2 show that respondents often allocated their financial resources to goals with approximately mean score of 3 which include savings (mean= 3.27), food (mean= 3.10), re- investment to the enterprise (mean= 2.97), children education (mean= 2.60) and health care (mean= 2.53). The findings imply that high premium was given to savings and re-investment among these young entrepreneurs and this could enhance their enterprises growth. However, it disagrees with Adegun and Akomolafe (2013) who reported poor saving culture among the youth entrepreneurs as a major setback for expanding their businesses. On the other hand, they occasionally allocate their financial resources to transportation



(mean= 2.40), payment of wages (mean= 2.18), clothing (mean= 2.08), housing (mean= 1.97) and ceremonies (mean= 1.63) with approximately mean scores of 2 while they rarely allocated their resources to payment of debt (mean= 1.46), seeking information (mean= 1.20) and training (mean= 1.03) with approximately mean score of 1.

Comparing the grand mean score of 2.18 with each of the individual mean score, the overall implication is that savings (mean= 3.27) ranked highest in their financial allocation pattern, followed by food (mean= 3.10), re- investment to the enterprise (mean= 2.97), children education (mean= 2.60), health care (mean= 2.53), transportation (mean= 2.40) and payment of wages (mean= 2.18). Other financial goals like clothing (mean= 2.08), housing (mean= 1.97), ceremonies (mean= 1.63), payment of debt (mean= 1.46), seeking information (mean= 1.20) and training (mean= 1.03) ranked low in their financial allocation pattern.

#### **Chi-square analysis between some selected variables and financial allocation pattern**

Results in Table 3 show that at  $p \leq 0.01$  level of significance, positive and significant associations were found between financial allocation pattern and marital status, type of entrepreneurial activity and ethnicity while sex and religion affiliation had no significant association with financial allocation pattern. It implies that these significant variables were determinants of how these young entrepreneurs allocate their financial resources.

#### **Correlation analysis between some selected variables and financial allocation pattern**

Results in Table 4 show that at  $p \leq 0.05$ , positive and significant relationships were found between financial allocation pattern

and age ( $r = 0.221$ ), level of education ( $r = 0.226$ ), years spent in vocational training ( $r = 0.195$ ) while association membership ( $r = 0.243$ ) and external orientation ( $r = 0.276$ ) had significant relationship with financial allocation pattern at 0.01 level of significance. The implication is that the higher these significant variables in youth entrepreneurs, the better their financial allocation pattern.

#### **CONCLUSION AND RECOMMENDATIONS**

The study revealed that young entrepreneurs in rural areas had meager start-up capital and their income was also marginal but they were proficient in their financial resource allocation as they gave priorities to savings and re-investment on their enterprises. This quality if sustained will enhance rapid growth of their enterprises; however, the study concluded that based on the significant variables, these youth entrepreneurs need assistance in the areas of entrepreneurship education, vocational training and wider external exposure. The study recommended that accomplished entrepreneurs in Osun state and Nigeria as a whole should as part of their social responsibility adopt and support these young entrepreneurs to grow their businesses without necessarily presenting it as consultancy, which young entrepreneurs can hardly pay for. Also, the government should develop a rural entrepreneurship credit scheme exclusively for rural innovators. This will serve as encouragement for intending rural job founders.

#### **REFERENCES**

- Acs, Z. J. & Szerb, L. (2007). Entrepreneurship, Economic Growth and Public Policy, Small Business Economics. 28 (2-3): 109-122



- Adegun, O. R. & Akomolafe, C. O. (2013). Entrepreneurship Education and Youth Empowerment in Contemporary Nigeria. *Scholarly Journal of Education*. 1.2(5): 52-57.
- Anyadike, N., Emeh, I. E. J., & Ukah, F. O. (2012): Entrepreneurship Development and Employment Generation in Nigeria: Problems and Prospects. *United Journal of Education & Gender Studies*. 1(4): 088-122
- Chigunta, F. (2001). *Youth Livelihoods and Enterprise Activities in Zambia*. Report to IDRC, Canada.
- Ejiogu, A. (2001). Challenges of Educating Nigerian Youths for the 21<sup>st</sup> Century In Nwagwu E. T. Ehiامتator, M. A. Ogunu, Mon Nwadiani (eds). *Current Issues in Educational Management in Nigeria*, Benin City: *Nigerian Association for Educational Administration and Planning (NAEAP)*.
- Fielden, S. L., Davidson, M. J. & Makin P. J. (2000). Barriers Encountered During Micro and Small Business Start-up in North-West England. *Journal of Small Business and Enterprise Development*. 7(4).
- Kolawole, O. D. & Ajayi, A. O. (2005). Entrepreneurship Development and Employment Promotion for Poverty Reduction in Rural Communities of Lagos State, Nigeria In Jibowo *et al.* (eds.) *Nigeria Journal of Rural Sociology* 5(1&2): 92-97.
- Nigeria (2009). National Youth Policy <https://www.k4health.org/toolkits/youthpolicy/nigeria-national-youth-policy-and-strategic-plan-action>
- Okoye-Nebo, C., Kenneth, I. & Ugochukwu, U. (2014). Youth Unemployment and Entrepreneurship Development: Challenge and Prospect in Nigeria. *Kuwait Chapter of Arabian Journal of Business and management Review*. 4(4): 20-34
- Onwubiko, C. M. (2011). Entrepreneurship and leadership; Nigeria and the Imperative for Youth Entrepreneurial Development.
- Osei, B., A. Baah-Nuakoh, K. A. Tutu, & Sowa, N. K. (1993). Impact of Structural Adjustment on Small Scale Enterprises in Ghana. In A. H. J. Helsing and T. Kolstee (Eds.), *Small Enterprises and Changing Policies, Structural Adjustment, Financial Policy and Assistance Programs in Africa*. London: ITR Publications.
- Schnurr, J. & Newing, A (1997). A Conceptual and Analytical Framework for Youth Enterprise and Livelihood Skills Development: Defining an IDRC Niche. IDRC, Canada.
- Tijani-Alawiye, B. (2004). *Entrepreneurship Processes and Small Business Management*, Ilaro, Nigeria.
- White, S & Kenyon, P (2000). "Enterprise-Based Youth Employment Policies, Strategies and Programmes." Draft Report to ILO, Geneva. <http://www.urbanministry.org/wiki/benefits-youth-entrepreneurship-training-what-research-shows>



**Table 1: Distribution of respondents by their personal and socio-economic characteristics (n=110)**

<b>Personal Characteristics</b>	<b>Freq</b>	<b>Percentage</b>	<b>Mean</b>	<b>SD</b>
<b>Sex</b>				
Male	50	45.5		
Female	60	54.5		
<b>Age</b>				
≤ 25 years	36	32.7	28.59	3.82
26- 30 years	43	39.1		
31- 35 years	31	28.2		
<b>Ethnicity</b>				
Yoruba	96	87.3		
Igbo	14	12.7		
<b>Educational level</b>				
No formal education	10	9.1		
Primary school	34	30.9		
Secondary school	66	60.0		
<b>Marital status</b>				
Married	70	63.5		
Single	40	36.0		
<b>Religion</b>				
Christianity	48	43.6		
Islam	62	56.4		
<b>External orientation</b>				
Traveled other communities in LGA	20	18.2		
Travelled outside LGA	23	20.9		
Travelled outside State	67	60.9		
<b>Years of vocational training</b>				
No vocational training	30	27.3		
< 1 year	39	35.5		
1- 4 years	27	24.5	1.079	0.4
> 4 years	14	12.7		



Initial investment		Average monthly income		*Association membership		*Types of enterprises	
Below ₦20,000	54	49.0					
₦21,000-40,000	30	27.3	31,492	26,060			
Above ₦40,000	26	23.7					
≤ ₦10,000	52	47.3					
₦11,000-20,000	30	27.2	15,746	13,015			
₦21,000-30,000	16	14.6					
≥ ₦31,000	12	10.6					
Religious association	70	63.6					
Trade association	44	40.0					
Town association	40	36.4					
Cooperative society	12	10.6					
<b>*Types of enterprises</b>							
Agro-processing(oil palm, rice, cassava etc)	75	68.2					
Timber and woodwork (carpentry, sawmilling)	30	27.3					
Non timber forest product (mushroom, bush meat etc)	27	24.5					
Trading	15	13.6					
Craft activities (tailoring, hair dressing)	10	9.1					
Transportation activities (tricycle, motorcycle)	5	4.5					

\*Multiple Responses

Source: Field Survey, 2015



**Initial investment**

Below ₦ 20,000	54	49.0		
₦ 21,000-40,000	30	27.3	31,492	26,060
Above ₦ 40,0000	26	23.7		

**Average monthly income**

≤ ₦ 10,000	52	47.3		
₦ 11,000- 20,000	30	27.2	15,746	13,015
₦ 21,000-30,000	16	14.6		
≥ ₦ 31,000	12	10.6		

**\*Association membership**

Religious association	70	63.6
Trade association	44	40.0
Town association	40	36.4
Cooperative society	12	10.6

**\*Types of enterprises**

Agro-processing(oil palm, rice, cassava etc)	75	68.2
Timber and woodwork (carpentry, sawmilling)	30	27.3
Non timber forest product (mushroom, bush meat etc)	27	24.5
Trading	15	13.6
Craft activities (tailoring, hair dressing)	10	9.1
Transportation activities (tricycle, motorcycle)	5	4.5

---

\*Multiple Responses

**Source:** Field Survey, 2015



**Table 2: Distribution of respondents according to financial allocation pattern (n=110)**

Variables	N Freq( %)	R Freq (%)	Oc Freq (%)	O Freq( %)	VO Freq(%)	Ranked mean	SD
Saving	2 (1.8)	5 (4.5)	8 (7.3)	41 (37.3)	54(49.1)	3.27	0.918
Food	---	11 (10)	19 (17)	28 (25.5)	52(47.3)	3.10	1.022
Re-investing on the enterprise	---	13 (10.9)	21 (19.1)	35 (31.8)	42(38.2)	2.97	1.009
Children education	15 (13.6)	3 (2.7)	17 (15.5)	51 (46.4)	24(21.8)	2.60	1.250
Health care	---	18 (16.4)	41 (37.3)	26 (23.6)	25(22.7)	2.53	1.020
Transportation	3 (2.7)	11 (10)	47 (42.7)	37 (33.6)	25(22.7)	2.40	0.911
Payment of wages	19 (17.3)	26 (23.6)	17 (15.5)	13 (11.6)	35(31.8)	2.18	1.520
Clothing	11 (10)	12 (10.9)	53 (48.2)	25 (22.7)	9(8.2)	2.08	1.033
Housing	8 (7.3)	21 (19.1)	55 (50)	18 (16.4)	8(7.3)	1.97	0.912
Ceremonies	9 (8.2)	45 (40.9)	41 (37.3)	8(7.3)	7(6.4)	1.63	0.966
Payment of debt	32 (29.1)	28 (25.5)	30 (27.3)	7(6.4)	13(11.8)	1.46	1.107
Seeking information	34 (30.9)	41 (37.9)	17 (15.5)	15 (13.6)	3(2.7)	1.20	1.107
Training	49 (44.5)	21 (19.1)	33 (29.)	4(3.6)	4(3.6)	1.03	1.104

Grand Mean Score = 2.18, N = Never; R = Rarely; OC = Occasional; O = Often; VO = Very Often; SD = Standard Deviation

Source: Field Survey, 2015



**Table 3: Results of Chi square analysis showing variables having significant association with financial allocation pattern (n=110)**

Variables	$\chi^2$ value	P-value	Contingency co-efficient	DF	Decision
Sex	3.528	0.06	0.176	1	NS
Marital status	19.958**	0.00	0.392	1	S
Religion	0.289	0.591	0.051	1	NS
Type of entrepreneurial activity	56.672**	0.000	0.583	10	S
Ethnicity	17.868**	0.000	0.374	1	S

\*\*Significant at 0.01 level of significance

Source: Field Survey, 2015

**Table 4: Results of correlation analysis showing variables having significant relationship with financial allocation pattern (n=110)**

Characteristics	Correlation co-efficient (r)	p-value	Decision
Age	0.221*	0.020	S
Income	-0.042	0.110	NS
Level of education	0.226*	0.018	S
Initial capital	0.042	0.660	NS
Years of vocational training	0.195*	0.042	S
Association membership	0.241**	0.010	S
External orientation	0.276**	0.003	S

\*Sig. at 0.05 level of significance, \*\*Sig. at 0.01 level of significance,

Source: Field Survey, 2015



## ADAPTIVE MEASURE IN TACKLING THE MENACE OF CLIMATE CHANGE EFFECT ON CROP PRODUCTION IN NIGERIA

<sup>1</sup>Aladejebi, Oluwafemi John and <sup>2</sup>Adeyeye, Adeleke Joseph

<sup>1</sup>Department of Agricultural Economics and Extension, Federal University Oye Ekiti, Ekiti State

<sup>2</sup>Department of Water Resources and Agrometeorology, Federal University Oye Ekiti, Ekiti State

**Corresponding author:** e-mail:oluwafemi.aladejebi@fuoye.edu.ng

### Abstract

*This review is presented on Adaptive measure in tackling the Menace of Climate change effect on Crop Production in Nigeria. It systematically and chronologically advanced several adaptive measures in tackling the menace of climate change on crop production in Nigeria. Climate change has become a new reality. It is identified as a long-term change in the statistical distribution of weather patterns over periods of time that range from decades to millions of years. It may be limited to a specific region such as Nigeria, or may occur across the whole Earth. Climate change causes change in weather pattern that can have serious repercussions for crop production, upsetting seasonal cycles, harming ecosystems and water supply, affecting agriculture and food production, causing sea-levels to rise and many other situations. Climate change therefore has both residual and cumulative effect on natural resources and balance of nature. This paper, therefore, is aimed at highlighting the mitigation measures to climate change on crop production. It captures effects such as increased temperature, water imbalance, soil contamination, pesticide usage and residue in crop and environment, residue yield due to crop failure, farmland and crop displacement via flooding and erosion. Mitigation measures practically described in this paper are seeding, crop protection, tillage, harvesting, and use of GPS, GIS, Remote sensing and underutilized crops. Therefore this review recommends the need for full adoption of these adaptive measures by both individual farmers and the government of Nigeria in tackling the menace of climate change.*

**Keywords:** Climate Change, Menace, Causes, Effect, Adaptive measures, Crop Production, Nigeria.

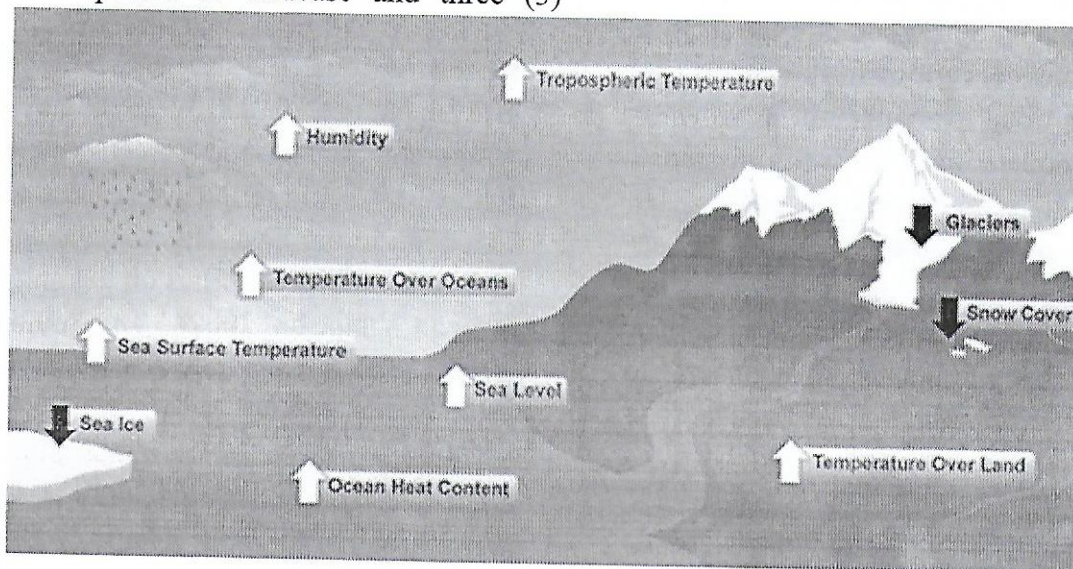
### Introduction

Climate describes the average or typical conditions of temperature, relative humidity, cloudiness, precipitation, wind speed and direction, and other meteorological factors that prevail globally or regionally for extended periods. Climate change is a long-term change in the statistical distribution of weather patterns over periods of time that

range from decades to millions of years. It may be a change in the average weather conditions or a change in the distribution of weather events with respect to an average, for example, greater or fewer extreme weather events. Climate change may be limited to a specific region such as Nigeria, or may occur across the whole Earth.

According to the National Oceanic and Atmospheric Administration (NOAA), there are seven (7) indicators that would be expected to increase and three (3)

indicators would be expected to decrease in a warming world (and they are presented in the figure below):



**Figure 1:** Diagrammatic illustration of climate change indicators (NOAA)

### **NIGERIA AND CLIMATE CHANGE**

Can Nigeria be affected by climate change; what impact has it on crop production in Nigeria? How can we mitigate the negative impact and ensure that climate change/global warming does not have disastrous consequence on Nigeria? The truth of the phenomenon of climate change is that Nigeria is already a victim with the degree of evidence registered in relation to the above figure.

Climate change or global warming has become a new reality, with deleterious effects: seasonal cycles are disrupted, as are ecosystems; and agriculture, water needs and supply, and food production are all adversely affected. The United Nation Convention on Climate Change defines adverse effects of climate change as changes that have deleterious effects on ecosystems, socio-economic systems, and human and animal welfare (United

Nations, 1994). One of the main objectives of the Convention is to ascertain that food production will not be endangered by climate change, indicating the important link between these two items. Global warming (climate change) also leads to sea-level rise with its attendant consequences, and includes fiercer weather, increased frequency and intensity of storms, floods, hurricanes, droughts, increased frequency of fires, poverty, malnutrition and series of health and socio-economic consequences. It has a cumulative effect on natural resources and the balance of nature. If the negative effects of Climate Change are not checked through collective and deliberate effort, the desert areas of the world may become larger, water will be more scarce and expensive and there will be higher levels of hunger, natural disasters and



much spending globally to combat Climate Change. (FAO, 2008)

According to UNEP (2006) the impact of climate change on agriculture production is a serious concern to those working to meet the food demands of a growing human population, as well as those working to preserve natural ecosystems and the services they provide. Food insecurity, one of the most pressing problems facing humanity, is now further challenged by climate change and a growing population that is expected to pass 9 billion by 2050 (IRI, 2014). According to IFPRI, (2005) about 2.5 Billion people relied on agriculture for its livelihood. Today, 75 percent of the world's poor live in rural areas and are largely engaged in Agriculture. With changes in the climate, Agriculture is extremely susceptible to the vagaries of changing climate and the already food insecure and impoverished population of the developing economies suffers the exacerbating negative effect of Climate Change.

### **NIGERIA AND AGRICULTURE**

Agriculture is the main industry in Sub Sahara Africa, employing 65 percent of Africa's labour force and accounting for about a third of its gross domestic product (World Bank, 2008). The country is already characterized with low agriculture region because of many reasons; which include land tenure, use of crude implements, inability to change, illiteracy among many. The low productivity of agriculture translates to less than US\$ 1 per day, a key factor

affecting rural poverty (Rosen and Shapouri, 2012). Farmers spend about 60 percent of their income on food (AGRA, 2014).

Nigeria is one of the sub-Saharan African nations in the Western part of Africa, and shares land border with the Republic of Benin to the West, Chad and Cameroon to the East, Niger Republic to the North, and its coast lies on the gulf of Guinea (Wikipedia, 2009). The South is defined by its tropical rain forest climate, where annual rainfall is between 60 and 80 inches per year. The North has almost desert-like climate where rainfall is less than 20 inches per year. The rest of the country between the North and the South is savanna, with annual rainfall between 20 and 60 inches per year (Nation Master, 2009). A variety of food crops are produced in Nigeria, all dependent on rainfall, so that where rain is abundant (from the coast up to the Middle Belt, for example) crops dependent on rain are planted, and in drier parts of the country, crops that do not require much rain are cultivated. Food production on the whole has not kept pace with Nigeria's population increase.

Climate Change phenomenon affects agriculture in a number of ways. For example, uncertainties in the onset of the farming season, due to changes in rainfall characteristics (early rains may not be sustained, and crops planted at this period may become smothered by heat waves) can lead to an unusual sequence of crop planting and replanting which may result in food shortages due to harvest failure.



According to the Fifth Assessment Report of the IPCC (2014), production of major staple crops (maize, rice, wheat) in tropical and temperate regions are projected to be negatively affected by climate change, in the absence of adaptation.

The changes in crop production related to climatic variables will possibly have major influences on regional as well as global food production. The likely impacts of climate change on crop yield can be determined either by experimental data or by crop growth simulation models. Extreme weather events such as thunderstorms, heavy winds, and floods, devastate farmlands and can lead to crop failure.

Pests and crop and diseases migrate in response to Climate Changes and variations (e.g. the tsetse fly has extended its range northward) and will potentially pose a threat to livestock in the drier northern areas. It is estimated that by 2100, Nigeria and other West African countries are likely to have agricultural losses of up to 4 percent of GDP due to climate change (Mendelsohn, *et al.*, 2000). Parts of the country that experienced soil erosion and operate rain-fed agriculture could have decline in agricultural yield of up to 50 percent between 2000 – 2020 due to increasing impact of climate change (Agoumi, 2003; IPCC, 2007)

## **CLIMATE CHANGE IMPACTS ON CROP PRODUCTIONS**

Predictions indicate that Nigeria with other West Africa countries will encounter rather different effects of the changing climate and consequently its impact on agriculture and food production will vary for the different geographical regions. These changes, which are explained in more detail below, will have a profound impact on agriculture such as variations in the seasons, alterations in arable land and crop yields, changes in soil quality (such as an increase of losses of soil mineral, variation in their bioavailability and alteration in soil microorganism ecosystem). Changes are also likely to occur both in number and types of plant pests, as well as in the dissemination of vectors, such as biting insects, and in zoonotic diseases affecting domestic animals and human consumers of plant and animal products. The result of climate change effects in Nigeria and its impact on agriculture and food production has been observed in the following areas.

### **Increased temperature**

Although, looking critically on crop production, the pattern of climate change has both positive and negative impacts. Rise in temperature for example helps to grow crops in high altitude areas and towards the poles. In these areas, increases in temperature extend the length of the potential growing season, allowing early planting, early harvesting and opening the possibility of completing two



crop cycles in the same season (Khanal, 2009). The warmer conditions support the process of natural decomposition of organic matter and contribute to the nutrient uptake mechanisms. The process of nitrogen fixation, associated with greater root development is also predicted to increase in warmer conditions and with higher CO<sub>2</sub>, if soil moisture is not limiting (FAO, 2007). The increased CO<sub>2</sub> levels lead to a positive growth response for a number of staples under controlled conditions also known as the carbon fertilizations effect (Mark *et al.*, 2008).

In a study conducted by Bello *et al.*, 2012, it was observed that the mean air temperature from 1901-1970 was 26.3°C and increased to 27.8°C from 1971 to 2005. This is apparently greater than the global mean temperature with the increase of 0.74°C since recordings commenced in 1860 (IPCC, 2007) If this trend persists, Nigeria could experience between 1.6°C and 4.5°C temperature increase risk by 2100 (Odjugo, 2010). Bello *et al.*, (2012) reported a decline in rainfall pattern in Nigeria by 81mm within the period of the study (1901-2005) with a nastiest experience as from early 1970s to date and noted that the period of drastic rise in temperature from early 1970s corresponds with erratic and decrease in rainfall. Recent available evidences of climate change have been reported earlier in Nigeria by (Odjugo, 2009) who observed that the areas experiencing double rainfall maximal (Savannah) is shifting southward, while the short dry season (August Break) is being

experienced more in July as against its normal occurrence in the month of August prior to the 1970s. Also, in the North- eastern Nigeria and the Niger-Delta Coastal areas, the number of rain days dropped by 53 percent and 14 percent respectively. It has been reported that the erratic rainfall pattern coupled with increasing temperature in Katsina, Maiduguri Kano, Sokoto and Nguru (semi-arid agro-ecological zones of Nigeria) could cause increase in drought evapotranspiration and desertification which resulted to decline in water tables or total dry up of some rivers and lakes especially Lake Chad with continuous extinction of forest and biodiversity (Adefolalu, 2007).

But when temperatures exceed the optimal level for biological processes, crops often respond negatively with a steep drop in net growth and yield. Khanal (2009) stated that heat stress might affect the whole physiological development, maturation and finally reduces the yield of cultivated crop. The negative effects on agricultural yields will be exacerbated by more frequent weather events.

The second effect of the rising temperature-generated heat is recorded increases in desert areas of the country as a result of little or no rains. While climate change is generating too much rainfall in some parts, it is causing drought in some other parts, especially in the desert areas. Deserts such as the Sahara in the Northern part of Nigeria are becoming drier over the years and thereby with the



weather becoming harsher for crop production. Higher temperatures affect plant, animal and farmers' health, enhance pests and reduce water supply thereby increasing the risk of growing aridity and land degradation

### **Water imbalance**

Climate change impacts on crop yield are often integrated with its effects on water productivity and soil water balance. Global warming will influence temperature and rainfall, which will directly have effects on the soil moisture status and groundwater level. Crop yield is constrained to crop varieties and planting areas, soil degradation, growing climate and water availability during the crop growth period. With temperature increasing and precipitation fluctuating, water availability and crop production will decrease in the future. If the irrigated areas are expanded, the total crop yield will increase; however, food and environmental quality may degrade. Soil evaporation and plant transpiration will be changed with climate change; thus, water use efficiency may decrease in the future. Rapid and uncertain changes in rainfall and temperature patterns markedly threaten food production, lead to food price shocks, increase the vulnerability of smallholders, and accentuate rural poverty. Under 2°C warming, the existing variations in water availability across the region could become more pronounced (World Bank, 2010). Improving water productivity and keeping stable relations with global food suppliers will be vital for food

security. Modified precipitation patterns will enhance water scarcity and associated drought stress for crops and alter irrigation water supplies. They also reduce the predictability for farmers' planning.

### **Soil contamination**

Agriculture soil and water contamination and variation on levels of contaminants have been associated with alternated periods of floods and droughts (FAO, 2008). The frequency of these seasonal periods will be increased due to climate variability and change. Data are, however, insufficient in terms of quantity and quality and it is thus still unclear under what specific conditions and over what period of time. Cases of over spread land contamination leading to farm land and crop contamination via root uptakes on the field has been on increase although little or no research is going on this.

### **Environmental degradation and accelerated desertification**

Impacts of Climate Change in physical systems or processes are exacerbated in areas where the environment has been damaged by humans for agriculture, mining or industrial purposes. This may lead to very highly contaminated "hot spots" and therefore affects crop production and yield in such areas.

### **Pesticide usage and residues in crops and the environment**

Climate change as a driver will have different effects on the various types of plant pests. Based on studies of individual



species, climate change may affect: pest developmental rates and numbers of pest generations per year; pest mortality due to cold and freezing during winter months; or host plant susceptibility to pests (FAO, 2005a; FAO, 2005b). Farmers will need to find ways to control pests in the scenario of climate related change. Pesticides, both chemical and natural, that are presently commonly used, could in fact be no longer appropriate to the new agricultural scenario (climate, plant, and environment). For instance, many pesticides have limited activity in dry conditions (Muriel *et al.*, 2001), probably necessitating higher dose levels or more frequent applications to protect crops. The over utilization of the chemicals eventually leave their residual on crops and farmland which constitute a potential hazard or harm to environment and man's health.

#### **Reduced yield due to crop failure**

Climate change impacts on crop yield are different in various areas, in some regions it will increase, in others it will decrease which is concerned with the latitude of the area and irrigation application. The crop yield can be increased with irrigation application and precipitation increase during the crop growth; meanwhile, crop yield is more sensitive to the precipitation than temperature. If water availability is reduced in the future, soil of high water holding capacity will be better to reduce the frequency of drought and improve the crop yield. The length of growing period (LGP), which is

an indicator of the adequacy of moisture availability, temperature and soil conditions for crop growth, is projected to decrease by up to 20 percent for most parts of the regions by 2050. For instance, maize yields are projected to decline by 19 percent despite longer growing periods (Thornton *et al.*, 2011). With climate change, the growing period will reduce, and the planting date also needs to change for higher crop production. Climate change can decrease the crop rotation period, so farmers need to consider crop varieties, sowing dates, crop densities and fertilization levels when planting crops.

#### **Farmland and crop displacement via flooding and erosion**

Changing climatic condition threatens the food security agenda of the nations and may leave more people in hunger if not checked. Farmers tend to record lower yields or are altogether discouraged from farming when major losses occur due to the variability in the weather, cases of flooding leading to farmland and crops devastation, such farmers because of lack of insurance are at great loss. Medugu (2009) stated that Nigeria is one of the countries expected to be most affected by the impacts of climate change through sea level rise along her coast line, intensified desertification, erosion and flooding disasters and general land degradation. Changes arising from Climate change have been reported to wash away crops, vegetation and create damages to agricultural land. The consequences



of flooding have also been seen in Northern Nigeria a few years back where farms were washed away and gullies were created. Farmers lose their investments and may never be able to put a figure on the damages created but what is clear is that it is in trillions of dollars globally. In Kogi State, the floods affected at least 5,775 farmers (Onu *et al.*, 2012). Actually, the nine Local Governments ravaged by flood are the “food baskets”, the major rice producers of the state. About 200,000 hectares of rice farms and other crops in 41 wards of the state were washed away (ibid). Similarly, FADAMA rice farmers in three Local Governments in Edo State lost billions of Naira as flood washed away their rice fields. In many other States where flood has caused havoc, farmers were net losers as a result of crop failures.

#### **Incidence of pest and diseases**

Another major negative consequence is the unusual migration of pests and crop diseases in response to climate variations. Arising from these adverse consequences, it has been projected that African countries, one of the vulnerable regions to the adverse effects of climate change, are likely to have agricultural losses of up to 4 percent of GDP due to climate change by 2100 (Mendelsohn, *et al.*, 2000).

#### **ADAPTATION AND MITIGATION MEASURES TO CLIMATE CHANGE CHALLENGES**

Precision Agriculture (PA) or satellite farming or site specific crop management

as a farming management concept based on observing, measuring and responding to inter and intra-field variability in crops. Crop variability typically has both a spatial and temporal component which makes statistical/computational treatments quite involved. The Alberta Agriculture and Rural Development Team (1997 through their website noted that precision was made possible by advancement in electronic technology stating that precision farming is made possible by the invention of Global Positioning Systems – GIS and Global Positioning Systems – GPS. Precision farming engages Agricultural Management Techniques that uses electronic aids to observe, measure, monitor and respond to changes or needs in crops. Specific practices made possible by PA includes; Yield Monitoring, Variable Rate Fertilizer application, Weed mapping, Variable spraying, Salinity mapping, Topography and Farm boundaries mapping and delineation, Guidance systems for heavy machines, records and analyses amongst others.

In recent times, Drones are being tested for aerial surveillance, data gathering and early detection of any negative development on the farm. This technology may seem expensive due to high initial cost but the use is judged to be worth the cost in view of climatic changes. Where precision farming is engaged, it is possible to have early warning signals on the farm and respond directly to the noted symptoms in a localized manner. Planning is made easier preventive measures are also easier to



take. The real value of precision agriculture for the farmer is that he can adjust seeding rates, plan more accurate crop protection programmes, perform more timely tillage and know the yield variation within a field. These benefits will enhance the overall cost effectiveness of his crop production. Some adaptations and mitigation measures adopted in tackling climate change menace includes:

### **1. Seeding**

Hybrid seeds perform best when placed at spacing that allows the plants to obtain such benefits as maximum sunlight and moisture. This is best accomplished by varying the seeding rate according to the soil conditions such as texture, organic matter and available soil moisture. One would plant fewer seeds in sandy soil as compared to silt loam soils because of less available moisture. The lower seed population usually has larger heads (ears) of harvested seeds providing for a maximum yield. Since soils vary even across an individual farm field, the ability to change seeding rates as one goes across the field allows the farmer to maximize this seeding rate according to the soil conditions. A computerized soil map of a field on a computer fitted on the tractor along with a GPS can tell farmers where they are in the field allowing the opportunity to adjust this seeding rate as they go across their fields.

### **2. Crop Protection**

The application of chemicals and fertilizers in proper proportions are of environmental and economic concern to

the farmers. Environmental regulations are calling for the discontinuance of certain pesticide applications within 100 feet of a stream or water body or well or within 60 feet of an intermittent stream. Using a GPS along with a digital drainage map, the farmer is able to apply these pesticides in a safer manner. In fact, the spraying equipment can be preprogrammed to automatically turn off when it reaches the distance limitation or zone of the drainage feature. Additionally, farmers can preprogramme the rate of pesticide or fertilize to be applied so that only the amount needed determined by the soil condition is applied varying this rate from one area of the field to another. This saves money and allows for safer use of these materials.

### **3. Tillage**

The ability to vary the depth of tillage along with soil conditions is very important to proper seedbed preparation, control of weeds and fuel consumption and therefore cost to the farmer. Most farmers are using conservation tillage which means leaving residues on the soil surface for erosion control. The use of GPS in making equipment adjustments as one goes across the different soil types would mean higher yields and safer production at lower costs. This part of precision farming is in its infancy. The equipment companies will be announcing tillage equipment with GPS and selected controls tailored to precision farming in the near future.



#### 4. Harvesting

The proof in the use of variable rate technology (adjusting seed, pesticide, fertilizer and tillage) as one goes across the field is in knowing the precise yields. Combines and other harvesting equipment can be equipped with weighing devices that are coupled to a GPS. One literally measures yields on the go. With appropriate software, a yield map is produced showing the yield variation throughout the field. This allows farmers to inspect the precise location of the highest and the lowest yielding areas of the field and determine what caused the yield difference. It allows one to programme cost and yield to determine the most profitable practices and rates that apply to each field location. In my opinion, the use of yield monitors is a good place to start if one wants to get started in precision farming. Yield data from the same field over 3 years would define the weak spots in the field and narrow down the probability of what is causing a low yield.

Precision agriculture technologies provide three basic requirements for precise and sustainable agricultural management. These are: Ability to identify precise location of field, ability to gather and analysis information on spatio-temporal variability of soil and crop conditions at field level, and ability to adjust input use and farming practices to maximize benefits from each field location. Precision farming involves integrated technologies such as (GPS), (GIS), Remote Sensing, Variable Rate

Technology (VRT), Crop models, yield monitors and precision irrigation. Various configurations of these technologies are suitable for different precision farming operations. Information technology such as the Internet is good means for some agri – business companies to deliver their services and products.

##### a. GPS

More recently farmer in USA have gained access to site – specific technology through use of GPS. Currently a constellation of 27 satellites developed by the US Department of Defense – provides geospatial accuracy to farm practices and enables farmers to identify and compare characteristic of each field site (location of soil sample or pest data are collection and compared to soil and crop vigor map, respectively). A minimum of four satellites is required to get good position information. If a GPS receiver is used along with a ground reference station (Differential GPS), any location on earth can be identified to within one square meter. The value of knowing a precise location within inches is that

- i) Locations of soil samples and the laboratory results can be compared to a soil map.
- ii) Fertilizer and pesticides can be prescribed to fit soil properties (clay and organic matter content) and soil conditions (relief and drainage),
- iii) Tillage adjustments can be made as one finds various conditions across the field, and



iv) One can monitor and record yield data as one goes across the field.

### **b. GIS**

Geographic information system is a computerized data base management and retrieval system, which offers spatial solutions to many problems relating crop productivity and agronomic management. It can integrate all types of spatial and non spatial information collected from different sources and interface with other decision support tools such as crop models. GIS can display analyzed information in maps that allow

(a) Better understanding of interactions among crop vigor, yield, nutrients status, pests and disease stress, weeds and other factors

(b) Decision-making based on such spatial relationships. Recently, many types of commercial and user specific GIS software with varying functionality are now available. For example, AGROMA from PCI, AGRIMAPPER, DSSAT v 3.5 with Arc/View interface from IBSNAT A comprehensive farm GIS contains base maps such as topography, soil type, N, P, K and other nutrient levels, soil moisture, pH, etc. data on crop rotations, tillage, nutrient and pesticide applications, yields, etc. can also be stored. GIS is useful to create fertility, weed and pest intensity maps, which can then be used for making maps that show recommended application rate of nutrients or pesticides.

### **c. Remote Sensing**

Satellite has inherent quality of providing information on spatial variability in crops

caused by natural and agronomic practices. Some farmers have already received benefits from satellite data. Remotely sensed images from LANDSAT, SPOT and IRS LISS III have been used to distinguish crop species and locate crop stress areas. Commercial satellites to be launched in future are expected to have ideal sensors specifications for Precision farming such as 3-day repeat coverage, 1 to 4 meter spatial resolution and image delivery to users within 15 minutes after acquisition. At present, IKONOS satellite from Imaging has capability to provide multi-spectral data with 1 to 4 meters spatial resolution for India which make it possible to have information on actual state of crop in the field. IKONOS is clearly paving the way toward making agricultural monitoring a reality so that farmers are able to reach their management and planning goals. Moreover, merged of LISS III + PAN from current IRS series satellites can also show all crop fields and thereby help in field boundary detection and updating of cadastral information along with cultural and management details.

Remotely sensed images can show all fields in a village or block and spot problems sooner than ground survey, thereby allowing remedial treatments to be taken up before the stress spreads to other parts of the field. In a field survey, GPS can be used to pinpoint the stressed area for a detailed examination. Crop vitality indicators can also be determined using images acquired at different times



during a season. Such data when use with crop, models through calibration of re-initialization of model, can be useful in predicting crop yields.

#### **d. Variable rate technology**

One method of controlling variability within field is VRT. VRT allows grower to apply the quantity of crop inputs needed at a precise location in the field based on the individual characteristics of that location. Typical VRT system includes a computer controller, GPS receiver, and GIS map databases. Computer controller adjusts the equipment application rate of the crop input applied. The computer controller is integrated with the GIS database, which contains the flow rate instructions for the application equipment. The computer controller uses the location coordinates from the GPS unit to find the equipment location on the map provided by the GIS unit. The computer controller reads the instructions from the GIS system and varies the rate of the crop input being applied as the equipment crosses the field. The computer controller will record the actual rates applied at each location in the field and store the information in the GIS system, thus maintaining precise field maps of materials applied.

#### **5. Land Tenure systems**

The fragmented nature of farmland could hamper the farmers' capacity to adopt innovative farming practices that may be necessary for climate change adaptation. IFAD (2010) reported that about 90 percent of Nigeria's food is produced by

smallholder farmers who cultivate small plots of land, usually less than 1 hectare of land per household.

#### **6. Enhanced irrigation Technology**

As global warming accelerates, it is expected that agricultural adaptation to climate change can only be meaningful, if irrigated agriculture gains prominence. Unfortunately agricultural practice in Nigeria is still predominantly rain-fed and therefore particularly vulnerable to the impacts of climate change as noted before (FAO, 2008; Medugu, 2008 and IFAD, 2007). The consequences are that the increasing frequency and severity of droughts are likely to cause crop failure, high and rising food prices, distress sale of animals, de-capitalization, impoverishment, hunger, and eventually famine.

#### **7. Utilization of underutilize crops**

Underutilized crops account for about 10 percent of the world higher plants often regarded as weeds. Some indigenous leafy vegetables grow in the wild and are readily available in the field as they do not require any formal cultivation. Many of them are resilient, adaptive, and tolerate adverse climatic conditions more than the exotic species (Raghuvanshi, 2001). Underutilized crop has comparative advantage over commodity crops for their adaptation to grow in marginal lands since they do not require much soil nutrients and even grow during time of drought when there is famine or civil unrest. Thus, some of these crops



will enhance crop productions in times of drought.

### **8. Better predictive weather technology**

Better-equipped weather stations to prevent weather-related disasters through early warning and effective response/adaptation system should be established. This will help in preventing weather-related disasters through early warning and effective response system. Establishment of disaster mitigation plans in a more formal setting and the upgrading of all systems based on advancement in science and technology, with emphasis on space science will enhance knowledge in atmospheric studies for the betterment of man.

### **CONCLUSION AND RECOMMENDATION**

Knowing fully that climate change has come to stay, whether as a normal course of nature as some school of thought says or as a result of anthropogenic forcing, the need for proactive measures to mitigate its effects and put in place necessary adaptations is inevitable. Thus, individual and government of Nigeria cannot afford to do nothing since the adverse effect is mostly to be felt by developing countries like ours.

1. Individual farmers can at their own level adopt measures as sited above. Such effort includes use of underutilized crops which are local and drought resistant.
2. Formulation of cooperative societies (which will enhance collective ownership of lands, fostering of resources to acquire some portable climate equipment that can

boost their farm operations, insurance of crops and efforts to alleviating unforeseen climate variation that individual may not be able to tackle), record keeping of weather events, as this will help them in weather forecasting and preparedness or in choice of crop, cropping system, planting timing etc, intensification of water conservation techniques such as minimum tillage, mulching, moisture retaining cropping practice and other activities that will lessen the release of climate change forcing gases.

3. Government at all levels need to arise and help the farmers in the
  - a. Provision of essential amenities that will reduce the burning of fossil fuel on the farms such as electricity and bore holes
  - b. Education of farmers to keep them abreast of the changing climate and possible measures to mitigate and adapt at the local level
  - c. Establishment of precision weather stations in each geographical zone of the country where farmers could access climate information to guide in the farm operations.
  - d. Adequate provision of essential extension officers that would be of helps in disseminating importance climate information to farmers in adapting to the changing weather and mitigating the effects.
  - e. Establishment of research institutions saddled basically with climate change oriented findings
  - f. Making conscious effort to train personnel in climate change monitoring skills and technology.



g. Formulating policies that will enhance agriculture production at the phase of the changing climate so that the sector can attract more experts to boost crop production in the country.

## REFERENCES

- Adefolalu DOA (2007). Climate Change and Economic Sustainability in Nigeria. Paper Presented at the International conference on climate change, Nnamdi Azikiwe University, Awka. 14th June 2007.
- Adaptation and implementation strategies for climatic change. In *Developing Perspectives on Climate Change: Issues and Analysis from Developing Countries and Countries with Economies in Transition*. IISD/Climate Change Knowledge Network, 14 pp.
- AGRA, 2014. Africa Agriculture status: Climate change and Africa smallholder farmers, Vol.2
- Ajetomobia, J. A, and Hassan, R. (2011) Impacts of Climate Change on Rice Agriculture in Nigeria. *Tropical and Subtropical Agro ecosystems*, 14 (2011): 613 -622
- Agoumi, A., (2003) Vulnerability of North African countries to climatic changes:
- Alberta Agriculture, Food & Rural Development, 1997 - 15 pages
- Bello O. B. (2012). Evidence of Climate Change Impacts on Agriculture and Food Security in Nigeria, *International Journal of Agriculture and Forestry* 2(2): 49-55
- Chindo A and Nyelong P N (2004). Lake Chad: From Mega-lake to Minilake. *Arid Wetland Bulletin*, 6: 24-27.
- FAO (2005a) Food safety guidance in emergency situations
- FAO. (2005b). Valuation of Water for agricultural development.
- FAO. (2007). Climate change and food security. FAO, Rome, Italy.
- FAO. (2008). *Climate change, water and food security*. FAO Water Report 36. Rome.
- FAO. (2010). AQUASTAT database. <http://www.fao.org/nr/water/aquastat/main/index.stm>
- IFAD (2007) Rural Poverty in Nigeria: Agriculture in the Federal Republic of Nigeria. International Fund for Agricultural Development. Retrieved from <http://www.ruralpovertyportal.org/web/guest>.
- IFPRI (2005). The future of small farms: Proceedings of a research workshop, Wye, UK, June 26-29, IFPRI (International Food Policy Research Institute). Washington, DC.
- IPCC, (2014).The IPCC's Fifth Assessment Report (AR5)
- IPCC (2007). *Climate Change (2007): The Physical Science Basis (Summary for Policy)*, Intergovernmental Panel on ClimateChange. Cambridge: Cambridge University Press.
- Khanal, R.C. (2009). Climate change and organic agriculture. *The journal of*



agriculture and environment. 10: 100-110.

Mark, W.R., E. Mandy, Y. Gary, B. Lan, H. Saleemul and V.S. Rowena. (2008). Climate change and agriculture: Threats and opportunities. Federal Ministry for Economic Cooperation and Development, Germany.

Mendelsohn, R., A. Dinar and A. Dalfelt (2000) Climate change impacts on African agriculture. Preliminary analysis prepared for the World Bank, Washington, District of Columbia, pp 25.

Medugu, N. I (2009) Nigeria: Climate Change - A Threat to the Country's Development <http://www.allafrica.com/nigeria/>

Muriel P, Downing T, Hulme M, Harrington R, Lawlor D, Wurr D, Atkinson CJ, Cockshull KE, Taylor DR, Richards AJ, Parsons DJ, Hillerton JE, Parry ML, Jarvis SC, Weatherhead K, Jenkins G (2001) *Climate Change & Agriculture in the United Kingdom*. Brochure prepared for MAFF. <http://www.defra.gov.uk/farm/environment/climatechange/pdf/climate-ag.pdf>.

Odjugo PAO (2010). General overview of climate change impacts in Nigeria. *J. Hum. Ecol.*, 29(1): 47-55.

Onu, N, O. Ogbemudia and O, Ofabor, (2012). "Floods take toll on more Nigerians", *Business Day*, Lagos, Business Day Media Ltd, October 9.

Raghuvanshi RS, Singh R (2001). Nutritional Composition of uncommon foods and their role in meeting in micronutrient needs. *Int.J. Food Sci. Nutr.* 32: 331-335.

Rosen S, and S. Shapouri (2012). Factors Affecting Food Production Growth in Sub-Saharan

Tauxe R.V. (1997). Emerging foodborne diseases: an evolving public health challenge. *Emerg. Infect. Dis.* 3 (1997): 425-434

Thorton, P. K., Jones, P. G., Ericksen, P. J. and Challinor, A. J. (2010): Agriculture and food systems in sub-Saharan African in a4oC+ World, *Philosophical Transactions of the Royal Society A.* 369, doi: 10.1098 /rsta .2010 .0246.

UNEP (2006) Annual report - UNEP Document Repository Home

Wikipedia (2012) "Nigeria" Available online at [www.en.wikipedia.org/nigeria](http://www.en.wikipedia.org/nigeria) . Retrieve on January, 6 2012.

Wikipedia, (2009). The free encyclopedia

World Bank (2008). *The Growth Report: Strategies for Sustained Growth and Inclusive Development*. Commission on Growth and Development, World Bank, Washington D.C.

World Bank. (2010). *Economics of Adaptation to Climate Change: Synthesis Report*. The World Bank, Washington, D-C.



## PROMOTING OF MODERN BEE-KEEPING MANAGEMENT PRACTICES AMONG YOUTHS IN OKE-OGUN AREA OF OYO STATE, NIGERIA.

Ojetayo M.A.,<sup>1</sup> Adekunle O.A.,<sup>1</sup> Ogunwale A.B.,<sup>2</sup> and Oyegbami G.A.<sup>1</sup>

<sup>1</sup>. University of Ilorin, Kwara State, Nigeria Faculty of Agriculture. Department of Agricultural Extension and Rural Development

<sup>2</sup>. Ladoke Akintola University of Technology Ogbomoso, Oyo State, Nigeria. [aojema@gmail.com](mailto:aojema@gmail.com)

### Abstract

*The purpose of this study was to promote modern beekeeping management among youth in Agricultures in Saki Agricultural zone area of Oyo State. A purposive sampling technique was used to elicit primary data from 120 registered bee hunters that were interviewed in three Local Government Areas. Both descriptive and inferential statistics were used to analyse the data. The result revealed that 43.3% of respondents claimed unaware of modern beekeeping, 40% of bee hunters refused to change to modern beekeeping while 32.5% of respondents had never received training on bee keeping. Majority (70%) of respondents, had no contact with extension agent, All the respondents claimed that beekeeping is not against culture and majority (86%) of respondents claimed bee keeping is better than bee hunting. The Chi-square analysis revealed that, relationship between level of involvement in bee-hunting and level of awareness on modern beekeeping was not significant. Pearson correlation analysis, also revealed that, the relationship between level of involvement in bee hunting and level of awareness in modern beekeeping was negative (-0.166) and level of contact with extension agent (-0.160) at 0.05% level of significant. Accept null hypothesis. It was concluded that bee-hunters received poor extension services, and low awareness on modern beekeeping.*

**Keywords:** - Promoting, Modern Beekeeping, Management practices, Awareness.

### INTRODUCTION

The potential of young people for national development is great. When properly trained, they could become the hope and pride of the nation. Youths and children have the task of taking the mantle of leadership in all spheres of life, including Agriculture and economic activities after exist of the present generation from active life (Onuk *et al*, 2010). They have to meet this challenge

not by rioting, tearing down their schools, protesting and demonstrating or indulging in occult activities, but by hard work, by building on the basic foundations of society and by cooperation and promoting peace and unity, these can be achieved by enhance modern beekeeping practices among youth and rural dwellers. Youth can be regarded as group still undergoing training, depending on another for



his or her future or looking for first employment. “Youth” according to World Health Organization refers to the 15-24 years age groups (Population Reference Bureau, 1996). Youth is a state of transitive between children and adulthood characterized by energy, intelligence and hope (Gwary *et al*, 2008). For the purpose of this work, the age range 15-40 was used, because most rural youth are still dependent on their parents. Youth are often classified as people between the age range of 15-40 years, irrespective of marital status and means of livelihood (Onku *et al*, 2010). However, it is vital to note that in rural areas, the sector often over looked its youth (Ijioma and Ibezim, 2010). The trend of abandoning the practice of agriculture to the hand of the aged would not do any nation including Nigeria any good. Therefore, promoting modern Bee-keeping management practices among youth in Agriculture is inevitable, rural youth encounter few opportunities and acquire the practical skills required to make them more productive in agriculture and other sectors of economy. Bee-hunting is still the major game in Africa while bee hunters use smoke and fire to burn the colony before harvesting honey.

This method, no doubt, reduces bee population; spur the tendency of successful swarming and absconding from time to time.

Modern beekeeping is ideally suited to rural development, it could be used to combat abject poverty, prevailing among youth in our rural and urban areas. The objective of any modern beekeeping activities is to improve the efficiency of relationship, if bees are encouraged to nest in a hive, in this way, man benefits and by so doing the bee, which instead of being hunted and killed for their honey, are cared for and protected. However, the roles play by bee in Nigeria economy cannot be over emphasized, these include sources of income, sources of foreign exchange, sources of food, sources of raw materials, sources of employment, helps in pollination etc. Fabunmi (2001) opined, bee is a treasure in only country that it is found, as everything about this tiny insect is wealth. He found out that increasing demand of honey in Nigeria indicated a short supply and this prompting more beekeepers to come on stage. Therefore, increase demand of honey in Nigeria indicates a big short supply prompting more beekeepers to come on stage today. It is glaring further,



there would be more acute shortage in honey supply in the future unless, bee-hunters, traditional beekeepers and youth in our rural areas, adopt modern beekeeping. Jibowu (2000) confirmed that rural people are less aware of the opportunities available for personal, social and economic improvements than their counterparts in other area of the society. In an attempt to eradicate poverty and improving living standard of living of rural youths. Various types of small scale income generating activities that are lucrative like modern beekeeping (Apiculture) must be enhanced among youths. Incorporating youths in agricultural production will facilitate capacity building and empowering them for agricultural sensitivity, which will predispose them to a favourable attitude and future career in agriculture.

## **OBJECTIVES**

Objectives of this paper is to

- i. examine the level of involvement of bee hunters in beekeeping management practices;
- ii. determine awareness of bee-hunters of modern beekeeping management practices.

## **HYPOTHESIS**

There is no significant relationship between levels of involvement in management practices of bee-hunters and level of awareness on modern beekeeping in the study area.

## **METHODOLOGY**

The study was conducted in Saki agricultural zone of Oyo State, which comprise eight Local Government Areas (LGAs), viz: Atisbo, Irepo, Iwajowa, Kajola, Olorunsogo, Orelupe, Saki East and Saki West. Primary data were collected by means of structured interview schedule. Multi stage sampling procedure were used to select respondents. Three Local Governments (i.e 37.5%) where bee hunting activities prominent were purposively selected for the study namely: Atisbo, Saki East and Saki West. The target populations were registered bee hunters within the study area. The registers of bee hunter in each Local Government Area were secured from area extension officer at OYSADEP headquarter Saki. A random sampling technique was used to sample 120 bee-hunters.



## RESULT AND DISCUSSION

### Level of Awareness on modern beekeeping.

The result showed that majority (56.7%) of bee hunters were aware of modern beekeeping while 43.3% claimed unaware of this newly innovation. Data presented in table 1 shows that 32.5% of respondents claimed their source of awareness to be governmental organization which include Extension Agents, mass media and government agency, 22.5% claimed to be non-governmental Organization, 19% were claimed source of awareness from friends and neighbours while 43.3% claimed unaware. This implies that communication flow in the area is very poor. Table 1 shows that 40% of respondents were ready to change from bee hunting to modern beekeeping while 60% were not ready to change, but remaining as bee-hunters. This shows that level of illiteracy and ignorance about this useful insect is moderately high in the study area. Ojeleye (1999) supported that decision making process concerning innovation can commonly lead to either rejection or acceptance, the desire end result of a decision is action and behaviour on the part of people. Result in

Table 1 shows that 67.5% of respondents claimed receiving training on modern beekeeping while 32.5% were not receiving any training. Table 1 revealed that 25% of respondents received training from Non-governmental organization, 30% received training from governmental organization, and 12.5% received training from friends and family while 32.5% claimed not receive training at all. It is inevitable to receive innovation if agriculture has to be moved from low level of production to high level. Therefore, bee hunters should be motivated to receive training on modern beekeeping as a means of livelihoods for youths.

Table 2 shows relationship between bee-hunters and Extension Agents. About 70% of respondents had never had contact with extension Agents, this shows that Extension Agents has not promote Modern Beekeeping in higher standard in research area. Maunder (2003) affirmed that, Extension Agent have a big responsibility to re-orientate the people's attitude toward goals, although this will definitely take much time and conscious effort as attitude are difficult to change. The data further revealed that majority of



respondents 70% never had regular contact with Extension Agents, 4.2% always had contact with Extension Agent while 25.8% of respondents had occasional contact with Extension Agents. Therefore, Extension Agents, are implores to visit bee hunters and enlighten them on Modern Beekeeping and render advisory services to farmers more specifically on beekeeping innovation. From table 2 it could be seen that 100% of respondents were claimed that beekeeping is compatible with culture. This implies that beekeeping has received the favour of culture in the research area.

Table 3, shows that, 42.5% of respondents identified inadequate fund as their major hindrance to modern beekeeping were ranked first, 22.5% claimed lack of adequate information ranked second 20% experienced lack of trained personnel and facilities was ranked third while 15% identified unavailability of modern beekeeping equipment, ranked fourth. This implies that farmers in the study area were of low income earner. Hence, Nigeria agriculture definitely needs capital inject from reliable and consistently well-organized

institution for the cycle of poverty to be broken.

Table 3 further reveals that majority (95.8%) respondents always affected by the aforementioned problems while 4.2% were often affected by problems. Effort should be made toward creating a conducive atmosphere for youths, so that they would be abstained or refrained from bee-hunting and taking modern beekeeping as a means of livelihoods.

Table 4 reveals that 55% of respondents agreed that modern beekeeping is far better than bee -hunting in term of profits margin while 45% preferred that bee-hunting is better than beekeeping in term of profits margin. About 56.7% of respondents expressed that beekeeping is better than bee hunting in term of equipment required while 43.3% preferred bee hunting to beekeeping in term of equipment required. 58.3% indicated that bee hives provided for bees to nest on is far better than nesting on hallow logs or tree in term of yields and other managements while 41.7% held to better on bee hunting, 66.7% were claimed that harvesting is far better under modern beekeeping, since there would be less mortality rate of bee during harvest,



while 33.3% of respondents said bee hunting was fair. 77.7% viewed that the processing of honey was better in beekeeping while 28.3% preferred processing under bee hunting. This implies that orientation levels of farmers in study area are very low. Therefore, mass media, seminars, symposium and lectures that will increase the level of awareness and orientation of youths and farmers in the study area to conserve population of bees due to its usefulness should be encouraged.

### TEST OF HYPOTHESIS

The summary of Chi-square analysis shows that, there is no significant relationship between level of engagement in bee hunting and level of awareness on modern bee-keeping. This is because Extension officers or agents neglected the service of providing useful information on bee-hunting and even on modern bee-keeping to improve level of orientation and awareness of bee hunters and to boost the morale in order to improve efficiency of beekeeping in the study areas. Maunder (2003) noted that an extension service is a system, which assists farmers to identify and analyse their production problems and to become aware of the

opportunities for improvements. The analysis shows that these characteristics are found to be of no significant therefore accept null hypothesis.

Table 5b shows correlation analysis (relationship between dependent variable and each of independent variable). The data showed a negative and non-significant correlation between the level of involvement in management practices of bee hunters and level of awareness on modern beekeeping (-0.166); and the level of contact with extension agent (-0.160) at 0.05% level of significant, These variables were to be of no significant and varied inversely with the level of involvement in bee hunting in the study area. Therefore, accept null hypothesis.

### CONCLUSION

The study revealed that majority of bee hunters were aware of innovation of modern beekeeping, majority of respondents received training on modern beekeeping as a means of livelihood. Inadequate fund was identified as a major hindrance in embarking on modern beekeeping, poor awareness on modern beekeeping as a result of inadequate trained personnel and information were



paramount among bee hunters. The extension agents had relented in discharging their duties on this newly innovation, because majority of bee hunter had never had contact with Extension Agents on modern beekeeping management practices. More so, modern beekeeping is a means of livelihood compared to bee-hunting in case of profit margin, harvesting and processing of honey

## REFERENCE

Fabunmi (2001) How Beekeeping can keep you busy making money Sunday punch July 1 2001. 33.

Gwary, M. M. Pur, J. T and Bawa D. B 2008 socio economic determinants of youths' involvement in agricultural activities Askkira local government area of Borno state. Seventeenth annual congress of Nigeria Rural Sociological Association held at National Root crop Research Institute Umudike Abia state, Nigeria 19<sup>th</sup>-22<sup>nd</sup> August 2008. 15-21

Ijioma, J. C and Ibezim 2010 factors influencing interest of youth in Agriculture in Ideo North Local Government Area of Imo State Nigeria

Agricultural Society of Nigeria (ASN) proceeding of the 44<sup>th</sup> Annual Conference LAUTECH. Restrategizing Nigerian Agriculture in a rapidly changing climatic conditions for sustainable food security Reg 349

Jibowo A. A. 2000; Essentials of Rural sociology Gbemi Sodipo Press Ltd. Abeokuta Ogun State Nigeria.

Maunder H. H, 2003 Modern beekeeping. A small scale sustainable Agriculture.

Ojeleye B 199; foundation of Beekeeping in the Tropics CEBRD Press, GAAF Building Oyo Road, Orogun Ibadan Nigeria 1-10

Onul, E. G. I. M Ogara; Selanu E. S; Richard W. D and Yehaya H. Meeting the challenges of Rice production through children and youth-in-Agriculture. Lesson from the 44<sup>th</sup> Annual Conference LAUTECH. 373

Population Reference Bureau (1996). The World Youth 1996 charts. A Global profile of Youth.



**Table 1: Frequency distribution of respondents according to level of awareness on modern beekeeping**

<u>Variables</u>	<u>frequency</u>	<u>percentage</u>
<b>*Awareness on modern beekeeping</b>		
Aware	68	56.7
Unaware	52	43.3
<b>Sources of awareness</b>		
Extension Agent	18	15
Mass media	17	14.2
Friends and Neighbours	28	23.3
Society/Group/Non-government organization	13	10.7
Other claim unknown/unaware	52	43.3
<b>Intension of changing to modern beekeeping</b>		
Intended	72	60
Not intended	48	40
<b>Training on beekeeping</b>		
Without training	52	42.3
With training	68	56.7
<b>*Source of training</b>		
Mass media	5	4.2
Non-Governmental Organization	21	17.5
Extension agent	12	10
Friends and Neighbours	15	12.5
Government organization (Local Government)	15	12.5
Not receiving training	52	43.3
<u>Total</u>	<u>120</u>	<u>100</u>

**Source:** - Field survey 2014

**Note** \*Respondent Indicate multiple responses.

**Table 2: Frequency distribution of respondents according to the relationship with Extension Agents**

<u>Variables</u>	<u>frequency</u>	<u>percentage</u>
<b>Relationship with the Extension agents</b>		
Contact	36	30
No contact	84	70
<b>Frequency of having contact with Extension agents</b>		
Occasionally	31	25.8
Always	5	4.2
Never	84	70
<b>Culture Disposition to Beekeeping</b>		
Favourble	120	100
Unfavourable	-	-
<u>Total</u>	<u>120</u>	<u>100</u>

**Source:-** Field survey 2014



**Table 3: Frequency distribution of respondents according to the constraints that hindered decision of becoming beekeepers**

Variables	Frequency	Percentage	Rank
<b>Constraints</b>			
Lack of adequate information	27	22.5	2 <sup>nd</sup>
Unavailability of beekeeping equipment	18	15	4 <sup>th</sup>
Inadequate fund	51	42.5	1 <sup>st</sup>
Lack of trained personnel and training facilities	24	20	3 <sup>rd</sup>
<b>Levels by which problem affected</b>			
Always	115	95.8	
Often	5	4.2	
Total	120	100	

Source: - Field survey 2014

**Table 4: Frequency distribution of comparism of bee hunting and beekeeping techniques for honey production by the respondent**

COMPARISM CHARACTER	Beekeeping				Bee hunting			
	Better		Fair		Better		Fair	
	Freq	%	Freq	%	Freq	%	Freq	%
Profit margin	66	55	—	—	50	41.7	4	3.3
Equipment requirement	68	56.7	—	—	50	41.7	2	1.7
Bee hive	70	58.3	—	—	50	41.7	—	—
Harvesting	80	66.7	—	—	—	—	40	33.3
Procession	86	71.7	—	—	10	8.3	24	20

Source: – Field survey, 2014

**Table 5a. Summary of chi-square analysis on the relationship between level of involvement bee hunting and level of awareness on modern beekeeping**

Variable	X <sup>2</sup> C. value	df	X <sup>2</sup> T. value	Remark
Level of awareness on beekeeping	7.228	9	16.92	Not significant

Source: - Field survey 2014

**b. Summary of the Pearson correlation analysis of the relationship between level of involvement in bee hunting and level of awareness on modern beekeeping.**

Variable	Correlation Co-efficient	Co-efficient of (r)	Remark
			determination (R <sup>2</sup> )
Level of awareness on modern beekeeping	-0.1666	0.027556	Not significant
Contact with Extension Agents	-0.160	0.0256	Not significant

Source:- Field survey 2014

The degree of freedom (d.f) = r- 1, where r = number of respondents = 120; K = constant = 1  
Therefore d.f = 120 – 2 = 118, r = Correlation co – efficient, r<sup>2</sup>=Co- efficient of determination which implies total change as contributed by each variable on the statistical table use, the significant.



## FACTORS MILITATING AGAINST OFFERING OF AGRICULTURAL SCIENCE SUBJECT BY STUDENTS IN SELECTED SENIOR SECONDARY OF OYO STATE

Oke, O.O.,<sup>1\*</sup> Olaitan T.R.<sup>2</sup> and Adebayo R.O.<sup>3</sup>

<sup>1</sup>Agricultural Extension and Rural Development, University of Ilorin, Kwara State, Nigeria

<sup>2</sup>Nigerian Stored Products Research Institute, Asa-Dam road, Ilorin, Kwara State, Nigeria

<sup>3</sup>Federal Polytechnic Ile-Oluji, Ondo State, Nigeria

\*(Corresponding Author) okelanre@gmail.com, +2348060059983

### Abstract

*This study was carried out to analyse factors militating against offerings of agricultural science subject among senior secondary students of Oyo State to correct the students' notion about agriculture science subject and make them see the accruing benefits of agricultural science now and in future so as to increase the number of students offering the subject.*

*The finding reveals that majority of the students sampled (69.8%) were not offering agricultural science, with (75%) of them attending public schools; having majority of them within the age range of 15-17 years (31.6%). This findings further reveals that students choice of agricultural science subject were militated by peer group influence (76.0%), parental influence (58.8%), students negative attitudes towards agricultural science (63.8%) and students reasons for offering other subjects over agricultural science. This study concludes that peer group influence, parental influence, students attitude were factors militating against offering of agricultural science subject by students in some selected senior secondary of Oyo state.*

*Base on this, it is therefore recommended that agricultural science subject should be made compulsory in senior secondary schools, considering the importance of agriculture to the country. Also, policy makers and agricultural societies should help sensitize students on educational opportunities in Agriculture.*

**Keywords:** Factors Militating, Agricultural Science Subject, Senior Secondary Schools and Students.

### INTRODUCTION

Agriculture has great potential in enhancing economy-diversification, rural-employment and poverty-reduction in countries where it is their main occupation. It is the invaluable contributions of agriculture to our nation that engendered our educationists and government to make provisions in the National Policy on Education for practical agriculture in the curriculum of the junior secondary school and agricultural science in the senior secondary school curriculum as core

subjects. According to Oluwole (2008), "education in productive agriculture refers to acquisition of skills, attitudes and values that will make the pupils capable of production of agricultural produce". But despite several efforts to promote agriculture in this wise, its impact is yet to be felt.

In Africa, Agricultural subjects still received an unfair treatment because it has not been made compulsory, except in South Africa. Despite the importance of Agriculture, there is evidence that the number of students taking Agriculture is



low. Recently in Nigeria, agriculture science is now an optional subject and the number of students who offer agricultural science subject is on the decline. This may be attributed to lack of interest in the subject and some students perceived that it has no future prospects for its students or believe that it is not as important as Mathematics and English Language which they view as core subjects. This could be one of the reasons for the lack of motivation and interest to learn the subject.

Therefore, if fingers are crossed and no proactive action is taking against all these biases, it can go a long way to hinder or dampen the spirit to participate effectively in agriculture, so as to perform optimally. It is in the light of these that this study was carried out to analyze the factors militating against offering of agricultural science subject among selected senior secondary students in Oyo state in other to; ascertain the personal characteristics of students not offering agricultural science subject, determine influential role of students peer group and parents on their choice of other subjects over agricultural science subject, identify students' attitudes of towards offering of agricultural science subject and examine the reasons behind students' choice of other subjects over agricultural science subject.

## **METHODOLOGY**

The study was carried out in selected senior secondary schools of Oyo State. Agriculture is the main occupation of the people of Oyo State because climate in the state favours the cultivation of crops like maize, yam, cassava, millet, rice, plantains, cocoa, palm produce, cashew etc. There are a number of government

farm settlements in Ipapo, Ilora, Eruwa, Ogbomoso, Iresaadu, Ijaiye, Akufo and Lalupon coupled with several number of international and federal agricultural establishments located in the state. Presently, the state has (2,004) public schools, (971) private nursery/primary schools, (969) public secondary schools including (7) schools of science and (57) private secondary schools.

The study population consists of the selected senior secondary school students (both public and private schools) in Oyo state captured by structured questionnaire using multi stage sampling techniques which comprised of three stages; Firstly, out of Thirty-three (33) local governments' area that made up Oyo state, Ten (10) local government areas and five schools (5) were randomly selected. And finally, Ten (10) students were randomly selected which constituted a sample size of hundred and twenty (500) respondents for the study. Data collected was analyzed using descriptive statistical tools to analyze the respondent's personal characteristics while the inferential statistical tool (Chi square) was used to test for hypothesis.

## **RESULTS AND DISCUSSION**

The information in Table 1 reveals that majority of students sampled (69.80%) were not offering Agricultural Science as a subject. This implies that majority of students sampled preferred other subject to Agricultural Science. This corroborates the findings of Ngesa (2006) that "enrolment of students in Agriculture is one of the challenges facing teaching and learning of Agriculture in secondary schools". Table 1 again reveals that (75%) of the students which constitute the majority were in public schools. This implies that



majority of students' sampled attended public schools more than private schools which might be due to in abilities of some parents to afford the higher school fee charged by several private schools.

The data presented in Table 1 further reveals that (65%) of the students which constitute the majority were within the age of 15-17 years. This implies that majority of students sampled for this study were teenager and they were expected to display some characteristics peculiar to their age which might likely influenced their decisions or actions. This corroborates the findings of Anyanwu et.al (2014) that "Maturity is positively related to the psychological and cognitive development of the students"

The information in Table 1 also shows that majority of the students sampled (57.6%) were female. The implication of this is that female students' did not offered Agricultural Science in Secondary Schools which might be due to the tedious nature of its practical work. This work confirms the finding of Kabugi (2013) that "most of the students who take Agriculture were male". And also support Apori, et.al. (2003) work that "student's decision to choose Agricultural Science subjects were influenced by gender".

Also, Table 1 shows that (40.4%) of the majority of students sampled were in SS1 class. The implication of this is that most of the student responses were gotten from SS1 student. The data presented in Table 1 reveals that (40.4%) of the students sampled were in Commercial. The implication of this is that majority of students in Senior Secondary Schools go more for commercial subjects than other categories.

The information presented in Table 1 again reveals that (71.0%) which constitute the majority of students' residence were located in urban area. The implication of this is that location of residence is likely to influence their attitude and disposition towards the choice of subject they offer in school. This support the assertion of Ngesa (2006) that "there are regional differences in popularity of agriculture as an optional subject in Secondary Schools with lower interests in agriculture subject in urban, semi-arid and arid areas".

Table 1 again reveals that (63.60%), of the respondents fathers were artisans. The implication of this is that their fathers' occupation is likely to influence students' area of career development as majority of children in African wanted to follow their fathers' profession which will affect their choice of subject.

The data in Table 2 reveals the influences of peer group on the students' choice of agricultural science subject; (76%) of the students that constitute the majority were strongly influenced by their friends not to offer agricultural science subject while the remaining (24%) were not influenced by peer groups. The implication of this is that students' decisions in the sampled schools were product of peer group influence; and it has militated against the choice of agricultural science subject in the sampled schools. This is line with Penizzon & Lesley, (2010) who observed that "role of peer plays both negative and positive factors in the field of subject selection".

The data in Table 3 reveals the influence of parents on their children choice of subject; (58.80%) of the students that constitute the majority were seriously influenced by their parents not to offer agricultural science subject while the



remaining (41.20%) of the students were not affected by parental dictate on their choice of offering Agricultural Science . The implication of this is that students' decisions on subject they offer in the sampled schools were controlled by their parents' interest which has also encroached in to the choice of Agricultural Science subject. This is in line with assertion of Malgwi et al., (2005) that "parents are more likely to influence students' decisions than guidance counselors or teachers".

The data in Table 4 reveals the student attitudes towards the offering of agricultural science subject in the sampled schools; (63.80%) of students that constitute a majority had negative attitudes towards the offering of agricultural science subject and (36.20%) had positive attitudes towards the offering of Agricultural Science subject. The implication of this is that students in the sampled schools had negative attitude towards Agricultural Science subject which is likely to reduce the number of students offering the subject. This is in line with Waititu (2004) that "there is a very strong relationship between students' attitude and their choice of a subject of study".

The data in Table 5 reveals the students reasons for choice of other subject over agricultural science and they are: agricultural science is no longer part of students' option/compulsory subject because of the present curriculum with mean score of (3.14) and tedious nature of its practical with mean score of (3.08). Table 5 again reveals that poor societal value of Agricultural Science subject with mean score of (2.88), agricultural science not being one of the major subjects needed for university admission with mean score of (2.86), lack of

encouragement from my friends on choice of agricultural science subject with mean score of (2.80) while lack of motivation from parents on choice of Agricultural Science subject with mean score of (2.67). The implication of this is that majority of the students sampled deliberately choice not offer agricultural science subject based on these reasons as excuse. This is in conformity with Lazarowitz and Lazarowitz (2006) who opined that "students' subjects' selection at school can be affected by personal factors".

### **HYPOTHESIS TESTING**

H<sub>0</sub>: There is no significant relationship between students' attitude towards agricultural science subject and their choice of agricultural science subject in selected senior secondary schools. The information in Table 6 shows that students' attitude towards agricultural science subject ( $\chi^2 = 381.271$ ,  $p < 0.000$ ) is significantly related with the student choice of agricultural science subject in selected senior secondary schools. Therefore, the null hypothesis will not hold again since it is significant. This implication of this is that students' attitude towards agricultural science subject were associated with students' choice of agricultural science subject in selected senior secondary schools.

### **CONCLUSION**

From the findings of this study it could therefore be inferred that students personal characteristics, peer group, parents, students negative attitude towards agricultural science subject and students personal reasons were factors militating against offering of agricultural science subject as a subject by students



in some selected senior secondary schools in Oyo State.

## RECOMMENDATIONS

Based on the findings of this study, the following recommendations were made to stir up the students' interest in offering agricultural science subject:

1. Curriculum of studies for agricultural subjects at secondary should be restructured by policy maker in education sector to place equal attention on exposure of students to theories and practical's as is the case of other vocational fields.
2. It is important that education policy makers and agricultural societies should help schools to sensitize students on educational opportunities in agriculture and students should be receptive to offer agriculture science subject.

## REFERENCES

Anyanwu, S. O., Anyanwu, Chinwe. and Ansa, J. E. O. (2014). Determinants Of Academic Success In Agricultural Science Subject Among Senior Secondary School Students. *Journal of Educational Policy and Entrepreneurial Research (JEPER)* Vol.1, N0.2, October 2014. Pp 211-218.

Apori, S.O., Zinnah M.M. and Annor, F. (2003). " Factors that Influence the Choice of Agriculture Science by Senior Secondary School Students: A Case Study of Students in Cape Coast Municipality of Ghana Proceedings of the 19th Annual Conference Association for International Agricultural and Extension Education (AIAEE), Department of Agricultural Education, Texas A&M University, Tamu, Texas, U.S.A

3. Agricultural science should be made compulsory in schools in senior secondary school level, considering its socio-economic importance to the country in providing jobs and food for the populace.
4. Scholarships and affirmative admission processes skewed to increasing enrolment must be instituted at the tertiary levels to change students' attitude towards offering of agricultural science subject in senior secondary schools.
5. Parental role is to guide not to enforce will, so parents should allow their children to choice any subjects they want to study and give them good support and motivation.

Kabugi S. W. (2013). Challenges to Teaching and Learning of Agriculture in Secondary Schools in Kakuyuni Division, Kangundo District, Machakos County, Kenya. Unpublished Master's Thesis, Kenyatta University

Lazarowitz R and Lazarowitz RH (2006). *Choices and Preferences of Science Subjects by Junior High School Students in Israel*. *Journal of Research in Science Teaching*, 16(4): 317-329.

Malgwi, C.A., Howe, M.A., & Burnaby, P.A. (2005). Influences on students' choice of college major. *Journal of Education for Business* 80(5), 275-282.

Ngesa, F. U. (2006). Demand profiles and supply responses for agricultural education and training (AET) at the post-primary level: Case of Kenya. Final report prepared for World Agro-forestry Centre (ICRAF), Nairobi, Kenya.



Oluwole, Y.A. (2008): Effective production agriculture in Nigerian Secondary Schools: Issues at stake. Retrieved September 2, 2015 from <http://wwwwww.linkedin.com/answers/>

Panizzon, D., & Lesley, L. (2010). An analysis of the role of peers in supporting female students' choice of science subjects. *Journal of Research in Science*

*Education*. 27(2), 251-270. Retrieved November, 23, 2012, from <http://www.resources.metapress.com/pdf-previews.axd>

Waititu, M. (2004). Exploring and Students Perception of Difficulty in Topics Areas of the Kenya Secondary School Physics Syllabus. Unpublished Masters Thesis, Kenyatta University.

**Table 1: Distribution of the students based on personal characteristic**

<b>Personal Characteristic</b>	<b>Frequency</b>	<b>Percentage</b>
<b>Choice of Agricultural Science Subject</b>		
Offering	151	30.20
Not offering	349	69.80
<b>School type</b>		
Public	375	75.00
Private	125	25.00
<b>Student age</b>		
12-14	127	25.40
15-17	325	65.00
18-20	48	9.60
<b>Gender</b>		
Female	288	57.60
Male	212	42.40
<b>Class</b>		
SS1	202	40.40
SS2	127	25.40
SS3	171	34.20
<b>Student Class Categories</b>		
Science class	108	21.60
Commercial class	202	40.40
Art class	190	38.00
<b>Location of Residence</b>		
Urban	355	71.00
Peri-urban	120	24.00
Rural	25	5.00
<b>Fathers' Occupation</b>		
Artisans	318	63.60
Civil Servant	104	20.80
Clergy	17	3.40
Farmers	61	12.20

Source: Field survey, 2015.



**Table 2: Distribution of the students based on peer group influence**

Peer group influence	Frequency	Percentage
Weak Influence	120	24.00
Strong Influence	380	76.00
Total	500	100.00

**Source: Field survey, 2015.**

**Table 3: Distribution of the students based on parental influence**

Parental influence	Frequency	Percentage
Weak Influence	206	41.20
Strong Influence	294	58.80
Total	500	100.00

**Source: Field survey, 2015.**

**Table 4: Distribution of the students based on attitude towards agricultural science**

Student Attitude	Frequency	Percentage
Positive Attitude	181	36.20
Negative Attitude	319	63.80
Total	500	100.00

**Source: Field survey, 2015.**



**Table 5: Distribution of senior secondary school students based on reasons for choice of other subjects over agricultural science**

Reasons	SA	A	D	SD	MS	R
Agricultural Science is no longer part of my option/compulsory subject because of the present curriculum	248	101	125	26	3.14	1 <sup>st</sup>
Tedious nature of its practical	221	115	149	15	3.08	2 <sup>nd</sup>
Poor societal value of Agricultural Science subject	163	131	191	15	2.88	3 <sup>rd</sup>
Is not one of the major subjects needed for university admission	156	149	165	30	2.86	4 <sup>th</sup>
Lack of encouragement from my friends	174	99	182	45	2.80	5 <sup>th</sup>
Lack of motivation from parent	174	91	132	103	2.67	6 <sup>th</sup>

**Key:**

Strongly Agree (SA)	= 4
Agree (A)	= 3
Disagree (D)	= 2
Strongly Disagree (SD)	= 1
Mean score	= MS
Ranking	= R

Source: Field survey, 2015.

**Table 6: Chi square analysis showing respondent's relationship between student attitude toward agricultural science and their choice of agricultural science subject in selected senior secondary schools**

Variable	Chi-square	Df	P-value	Decision
Student Attitude	381.271	1	0.000	Significant

Significant level =  $P \leq 0.050$

Source: Field survey, 2015.



## ASSESSMENT OF PERCEPTION OF IN-SCHOOL TEENS ABOUT CLIMATE CHANGE IN OSUN STATE, NIGERIA

**Okorie, V. O, Adeyemo A. R. and Aramide O. A.**

Department of Agricultural Extension and Rural Development, Obafemi Awolowo University, Osun State, Nigeria. E-mail: abeyspet@yahoo.com

### **Abstract**

*The study investigated in-school teens' perception of climate change in Osun State. Specifically, it described the socio-economic characteristics of in-school teens; determine their perception about climate change; examine their level of awareness about the impacts of climate change; identify the extent to which consequences and control of climate change are discussed in schools. Multi-stage sampling procedure was used to select 300 final year students from 30 secondary schools with the assumption that they would have been exposed to all the curriculum of secondary school. Questionnaires were used to collect data while appropriate statistical tools were used to analyze the collected data. Results showed that majority 77% of the respondents were between 14 and 16 years. 50% of the respondents received information about environmental issues and climate change from school. Sex ( $\chi^2=9.720$ ; C= 0.312); Religion ( $\chi^2=430.369$ ; C= 0.490) and source of information ( $\chi^2=237.433$ ; C= 0.730) were strongly associated with respondents' perception of climate change at  $p\leq 0.01$ . Age ( $r=0.391$ ;  $p\leq 0.01$ ) and cosmopolitanism ( $r= 0.242$ ;  $p\leq 0.01$ ) were related to the perception of the respondents' perception of climate change. The result further revealed that majority (66.6%) of respondents had indifferent perception while 15.9% and 17.5% had unfavourable and favourable perception about climate change. It also elicited that 14.3% and 22.5% of the students had high and low awareness while 63.2% of them had moderate awareness about the impact of climate change. Few issues of climate change were discussed in secondary schools. In conclusion, sources of information and level of exposure affect the perception of in-school teens about climate change.*

**Keywords:** In-school Teens, Perception, Knowledge, Climate change, sources of information.

### **INTRODUCTION**

Obviously, there is an elevated level of uncertainty about our future concerning climate change even though it is certain that the world will be left for the future generations. With few informed

judgement that has been made about climate change, the upcoming generation must act to determine their future. For instance, The Intergovernmental Panel on Climate Change (IPCC, 2007) and United Nation panel on climate change estimated



that global warming will cause the Earth's average temperature to rise as much as 11.5 degrees by 2100. How prepared are those who will live in this century? Greening the gap in knowledge by introducing sustainability-based culture among our future leaders is key. Greening is a force that enhances global sustainability with strategies that are capable of supporting infinitely (IPCC, 2007). Today's teens and youths represent the present and their involvement in mitigating effect of climate change is very essential as they are the hope of tomorrow. Since our choices today will determine the likely climate across decades, there is an urgent need to get people that will live in decades to come aware of how well to win the natural battles that will come around them. There is no doubt that youth participation will bring about intergenerational and equity-based policies that will effectively achieve a controllable future but how knowledgeable are these youth about painting the economy green? Are they willing to give to the future what it takes, at least to fight the negative effect of climate variation even without immediate

gratification? Are the present strategies used in mitigating climate change sustainable enough to be handed over to the coming generations? These are some of the questions we need to address to avoid environmental damage that climate change may cause in the future.

Climate change is a major issue that has reduced the effort of Millennium Development Goals and other international efforts towards poverty eradication among Africans. It is paramount to understand the effect and control of climate change because of the coming generation. In a cross-national study of public opinion on climate change, Brechen (2003) notes that there is generally broad perception of climate variation as a "somewhat serious problem" with the exception of Nigeria. Leserowitz et al., 2010 observed that general awareness of climate change was very high in the developed countries but low in the developing countries especially among children who should be important actors and stakeholders in mitigating impact of climate change. This is in alignment with the findings of Kalas and Finlay (2009) that the least responsible, less informed and largely neglected on



issues of climate change are the people that carry the greatest burden of climate change.

Studies by Rabe and Borick (2008), Leiserowitz, *et al.* (2010) revealed that relatively high awareness of climate change exists in developed countries and very low in developing countries like Nigeria. Little awareness has been made on causes of climate change, its effect, and sustainable coping strategies among Nigerian children (BBC World Service Trust, 2009). Fischhoff (2007) emphasized the need to bridge the gap between nature and knowledge by educating and working on youth and children's orientation about impact of climate change. Education serves as the most powerful tool and path to sustainability which brings about fundamental changes in lifestyles, attitudes and behaviour needed to foster sustainable development and to prepare children and youth in grass-root communities to adapt to the impacts of climate change. It is a means of increasing the cognitive capacity of individual in their active ages for adaptation and control purposes. This idea is supported by the assertions of

Khattabi and Demers (2010) who stressed that educating, informing and raising awareness among children and youth is a critical tool to tackle climate change and should be at the centre-stage of every climate change intervention. This awareness will also ensure greater public understanding and engagement on climate policy (Whitmarsh and O'neil, 2009). To adequately respond to the strong impact of climate change on agriculture; land use, energy, biodiversity, water resource and human health, the perception of young ones must be considered, hence, this study.

This study therefore investigated the perception of in-school teens about climate change in Osun State. Specifically, the study aimed to achieve the following objectives:

- i. describe the socio-economic characteristics of in-school teens in Osun state;
- ii. determine their level of perception about climate change;
- iii. examine their level of awareness about the impacts of climate change;
- iv. identify the extent to which causes, consequences and control of



climate change are discussed in secondary schools.

### **HYPOTHESIS OF THE STUDY**

There is no significant relationship between selected socio-economic characteristics of in-school teens and their perception of climate change.

### **METHODOLOGY**

The study was conducted in Osun State, Nigeria. Osun state comprises of 3 senatorial districts with two zones each. Multi-stage sampling procedure was used to select respondents. At the first stage, 50 per cent (one) of zones in each senatorial district was selected. The three selected zones were Ife, Osogbo and Ede. At the second stage, ten senior secondary schools were randomly selected from each of the three selected zones to make 30 secondary schools. At the third stage, ten pupils were selected from each senior secondary school. Final year students were purposively selected for the study with the assumption that they would have been exposed to all the curriculum of secondary school. 300 final year secondary school pupils formed the respondents for this study.

Structured and validated questionnaire was used to elicit quantitative information while Focus group discussion guide was used to gather qualitative data to adequately support the quantitative data. Descriptive and non-descriptive statistics like frequency, distribution percentage, mean and chi-square were used to analyse the data collected.

Perception of in-school teens about climate change which is the dependent variable of this study was captured using stated perceptual statements which were subjected to 5 point likert-like scale.

### **RESULTS AND DISCUSSION**

Data provided by table 1 showed that 2.0 percents of the respondents were between >13 years, 77 percents were between 14-16 years while 21 percents were 17-19 years. This implies that most of these pupils were teenagers who were in their very active, inquisitive and exposing age. They have tendency to learn new things at a very high rate. A key finding is that 59.0 percent of the respondents were female while 41.0 percents were males. This result negates the record of United Nations Educational, Scientific and Cultural Organization UNESCO (2003) about literacy rate of Nigerian girls to be



47 percents while males stood at 53 percent.

The result of the study further revealed that 5.0 percent were from background with family size of 2-4, 76.7 percent of the respondents were from background with family size of 5-7 while 18.3 percent came from background with family size of 8 and above.

Result highlighted respondents' main source of information about environmental issues was school. It was revealed that 50.0 percent of the respondents got information on climate change in school, 24.3 percent of respondents were informed about climate change through media, 22.0 percent through friends and family while 3.7 percent of the respondents got information through all the sources (family and friend, media and school). The implication of this is that curriculum in most secondary schools can accommodate the teaching and learning of environmental studies and climate change studies.

Table 2 revealed the result of Chi-square analysis that at  $P \leq 0.01$ , sex ( $\chi^2=9.720$ ;  $C= 0.312$ ); Religion ( $\chi^2 =430.369$ ;  $C= 0.490$ ) and source of information

( $\chi^2=237.433$ ;  $C= 0.730$ ) were significantly and strongly associated with respondents' perception of climate change while the family type ( $\chi^2 =119.430$ ;  $C= 0.490$ ) from where the respondents came from was not associated with their perceptions.

### **In-school teens' perception of climate change**

Table 4 revealed that the statement of perception *there are visible changes in the weather conditions* was the highest scored with mean score of 4.42 followed by *flood, drought and windstorm are no longer news* with mean score of 3.87, other statement of perception with their mean scores are; *vegetation cover has changed* (3.76); *rainfall pattern has changed and its intensity has reduced* (3.62); *some insects have disappeared somehow in my environment* (3.57); *temperature intensity has increased* (3.57); *amount of rainfall has increased* (3.47); *some plants and flowers are no longer found* (3.27) and; *soil erosion is now rampant* (3.27). Result in Figure 1 further elicited that low percentage (17.5%) of respondents had favourable perception of climate change; majority (66.6%) had indifferent perception while



(15.9%) had unfavourable perception of climate change. The implication of this is that most of the in-school teens show little or no interest in issue of climate change.

#### **Awareness of secondary school students on the impact of climate change**

Results on Table The effect of climate change on human health has the highest rank with a mean score of 2.45 that is respondents were very aware of the effect of climate change on human health. Respondents were aware of the Impacts of climate change on the quality of food (2.22) which ranked second. They were also aware that climatic change brings about reduction in agricultural productivity generally (2.17), It can also cause the disappearance of some water sources (2.16). They have low level of awareness of the effect of climate change on pest attack and disease outbreak (1.10). They were also less aware that climate change has impact on the level of erosion; leaching and run-off water (1.06) and also cause harsh weather condition which brings discomfort (0.93)

#### **Extent to which perceived control of climate change were discussed in secondary schools**

Results on table 6 establish the fact that some perceived controls of climate change were discussed in senior secondary schools, while some were highly discussed, few are neglected. Use of proper water management is the most discussed with the mean value of 2.92 which is followed by use of organic manure were 1.87. The study revealed that more than one third of the respondents agreed that use of proper water management, use of organic manure, afforestation and reforestation, Recycling of waste products, creating awareness of climate change, Modifying school curriculum to accommodate current issues of climate change and Setting up climate change clubs in secondary schools were discussed in secondary schools.

#### **CONCLUSION AND RECOMMENDATIONS**

Emerging evidence from this study revealed that socio-economic characteristics like age, sex, family size and source of information were significantly related to the perception of secondary school students about climate change. It was also established that



secondary school students get information from school though it may not be adequate. The study revealed that even though these pupils get information about climate change, they have below average knowledge of climate change issues compare to their counterparts in developed countries. It is therefore recommended that:

- I. Recent and current issues of climate change should be discussed at every level of formal education- elementary to tertiary schools and environmental science should be a key subject. It should be taught with more seriousness in secondary schools and government should encourage this by granting awards and scholarship at every level.
- II. Curriculum of secondary school pupils should accommodate formal and informal clubs where sustainable environmental issues will be incorporated in their activities to increase public awareness. Environmental clubs like Innovative Climate Change Education should be developed in secondary schools.
- III. Guidebooks on green skills and lifestyles should be made available in

schools for teachers to train pupils. We should have climate change ambassadors who train their peers across schools in our nation. Non-governmental Organizations should get involved this way.

- IV. Schools should deliver disaster preparedness education to ensure that children know what to do and are not at risk when a disaster strikes.

## REFERENCE

- BBC World Service Trust (2009): *Least Responsible, Most Affected, Least Informed: Public Understanding of Climate Change in Africa*. London: BBC World Service Trust.
- Brechen, S. (2003): Comparative Public Opinion and Knowledge on Global Climatic Change and the Kyoto Protocol: The U.S. versus the World? *International Journal of Sociology and Social Policy*, 106-134.
- Intergovernmental Panel on Climate Change (2007): "Climate Change 2001 Impacts, Adaptation, and Vulnerability," IPCC Third Assessment Report. Cambridge: Cambridge University Press.
- Kalas, P. P., and Finlay, A. (2009): *Planting the Knowledge Seed, Adapting to Climate Change Using ICTs: Concepts, Current Knowledge and Innovative Examples*. Geneva: Building Communication and opportunities Alliance.



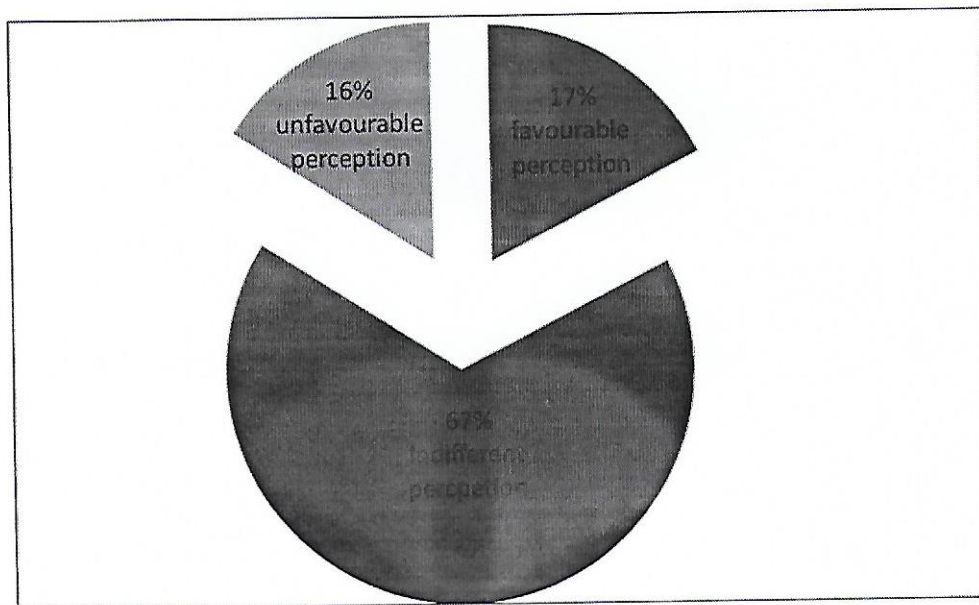
Khattabi, A., and Demers, M. (2010): Challenges and Possibilities in Climate Change Education. *US-China Education Review*, 15-23.

Leiserowitz, A., Maibach, E., Roser-enouf, C., and Smith, N. (2010): *Global Warming's Six Americas, June 2010*. New Haven, CT Yale Poject on Cilmate Change: Yale University and George Masosn University.

Whitmarsh, L., and O'Neill, S. (2009): Reorienting Climate Change

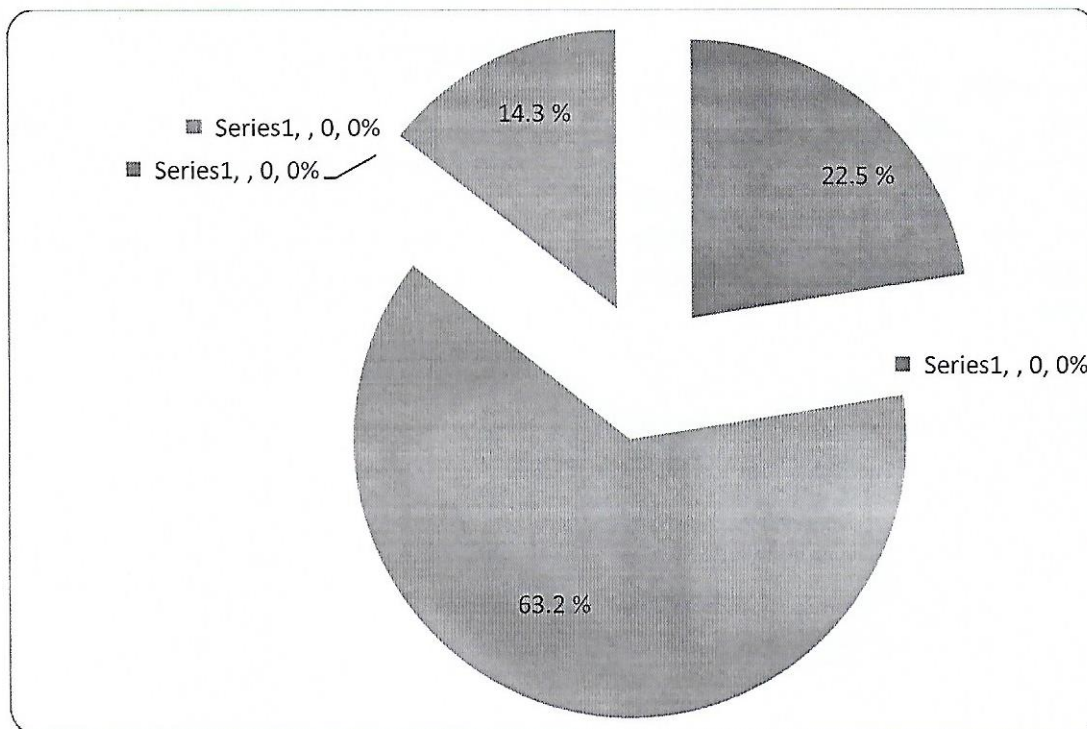
Communication For Effective Mitigation – Forcing People to be Greener Fostering Grassroots Engagement? *Science Communication*, 305-327.

Rabe, B., and Borick, C. (2008): *Climate Chang and American Public Opinion: The National and State Perspectives*. Virginia: Miller Centre of Public Affairs.



Source: Field survey, 2013

Figure 1: Pie chart showing the level of perception of in-school teens about climate change



Source: Field Survey, 2013

Figure 2 shows the level of awareness of in-school teens about the impact of climate change.



**Table 1: Distribution of respondents by age, sex, family size and source of information  
N=300**

Variables	Frequency	Percentage
<b>Age</b>		
11-13	6	2.0
14-16	231	77.0
17-19	63	21.0
<b>Sex</b>		
Male	123	41.0
Female	177	59.0
<b>Family size</b>		
2-4	49	16.3
5-7	225	75.0
8 and above	26	8.7
<b>Source of information on climate change</b>		
School	150	50.0
Media	73	24.3
Friends and family	66	22.0
All	11	3.7

**Source:** Field Survey, 2013

**Table 2: Chi-square Result of socio-economic characteristics of in-school teens**

Variable	( $\chi^2$ )	Df	P-value	Contingency coefficient	Decision
Religion	430.367**	4	0.005	0.490	S
Family type	119.430	1	0.761	0.222	NS
Sex	9.720**	1	0.008	0.312	S
Sources of information	237.433*	3	0.014	0.730	S

**Source:** Field Survey, 2013

\*\*significant at  $p \leq 0.01$ ; Source: Field Survey, 2013



**Table 3: Result of correlation analysis between the personal characteristics of respondents and their perception**

Variables	R	r <sup>2</sup>	p-value	Decision
Age	0.391**	0.153	0.000	S
Family size	0.380**	0.144	0.001	S
Cosmopolitaness	0.242**	0.059	0.003	S

Source: Field Survey, 2013      \*\*significant at  $p \leq 0.01$ ; Source: Field Survey, 2013

**Table 4: Distribution of respondents' perception of climate change**

Statement of perception	SA		A		SD		D		UD		Mean
	Freq	%	Freq	%	Freq	%	Freq	%	Freq	%	
i. there are visible changes in the weather conditions	153	51.0	130	43.3	7	2.3	9	3.0	1	0.3	4.42
ii flood, drought and windstorm are no longer news	101	33.7	114	38.0	41	13.7	35	11.7	9	3.0	3.87
iii vegetation cover has changed	79	26.3	134	44.7	32	10.7	46	15.3	9	3.0	3.76
iv, rainfall pattern has changed and its intensity has reduced	68	22.7	126	42.0	38	12.7	59	19.7	9	3.0	3.62
v. some insects have disappeared somehow in my environment	55	18.3	129	43.0	60	20.0	45	15.0	11	3.7	3.57
vi. temperature intensity has increased	76	25.3	95	31.7	61	20.3	59	19.7	9	3.0	3.57
vii. amount of rainfall has increased	73	24.3	84	28.0	63	21.0	68	22.7	12	4.0	3.46
viii. some plants and flowers are no longer found	38	12.7	94	31.3	86	28.7	75	25.0	7	2.3	3.27
ix. soil erosion is now rampant	46	15.3	79	26.3	94	31.3	71	23.7	10	3.3	3.27

Source: Field Survey, 2013



**Table 5: Distribution of respondents based on their awareness about the impact of climate change Multiple Responses**

Impacts of climate change	Heard Freq (%)	Seen Freq (%)	Experienced Freq (%)	Mean	Rank
<b>Changing weather condition affects human health</b>					
Yes					
No	172(57.3)	150(50.2)	112(37.3)	2.45	1 <sup>st</sup>
	128(42.7)	84(29.2)	188(62.7)		
<b>Decrease in food quality</b>					
Yes	140(46.7)	127(42.3)	95(31.7)	2.22	2 <sup>nd</sup>
No	160(53.3)	173(57.6)	205(68.7)		
<b>Agricultural production has generally reduced</b>					
Yes	181(60.3)	78(26.0)	91(30.3)	2.17	3 <sup>rd</sup>
No	119 (39.6)	222 (74.0)	209(69.7)		
<b>Disappearance of some water sources</b>					
Yes	118(39.5)	85 (28.3)	76 (25.4)	2.16	4 <sup>th</sup>
No	181(60.5)	215(71.7)	223(74.6)		
<b>Pest attack and outbreak of disease</b>					
Yes	153(51.0)	95 (31.7)	82 (27.3)	1.10	5 <sup>th</sup>
No	147 (49.0)	205 (68.3)	218 (72.7)		
<b>Increased erosion, leaching and run-off</b>					
Yes	148(49.3)	103(34.3)	66 (22.0)	1.06	6 <sup>th</sup>
No	152(50.7)	197 (65.7)	234 (78.0)		
<b>Irregular rain pattern and distribution</b>					
Yes	124 (41.3)	92(30.7)	94 (31.4)	1.03	7 <sup>th</sup>
No	176 (58.7)	208 (69.3)	205(68.6)		
<b>General harsh weather condition which bring discomfort</b>					
Yes	112(37.3)	110(36.7)	107(35.7)	0.93	8 <sup>th</sup>
No	188(62.7)	190(63.3)	193(64.3)		

Source: Field survey, 2013



**Table 6: Distribution of respondents based on the extent to which perceived control of climate change were discussed in secondary schools n=300**

Statement of perceived control	Never		Rarely		Often		Always		Mean
	Freq	%	Freq	%	Freq	%	Freq	%	
Use of Proper waste management	34	11.3	78	26.0	66	22.0	122	40.7	2.92
Use of organic manure	42	14.0	69	23.0	73	24.3	115	38.7	1.87
Use of Afforestation reforestation	51	17.0	69	23.0	51	17.0	127	42.0	1.85
Use of irrigation system	42	14.0	74	24.7	79	26.3	103	34.0	1.76
Recycling of waste products	57	19.0	65	21.7	69	23.0	108	36.0	1.76
Creating awareness of climate change	47	15.7	82	27.3	66	22.0	103	34.0	1.76
Modifying school curriculum to accommodate current issues of climate change	53	17.7	81	27.0	56	18.7	110	36.7	1.74
Setting up climate change clubs in secondary schools	71	23.7	74	25.0	58	19.3	87	29.0	1.56

Source: Field Survey, 2013



## PERCEPTION OF FEMALE TEENAGE HAWKERS ABOUT HAWKING ACTIVITIES IN LAGOS AND OSUN STATE, NIGERIA.

**Okorie V.O., Falode O.M. and Olorunkoya O.A.**

Department of Agricultural Extension and Rural Development,  
Obafemi Awolowo University, Ile-Ife, Osun State, Nigeria.  
falodeoladayo@gmail.com

### Abstract

*The study assessed the perception of female teenage hawkers about hawking activities in Lagos and Osun states. The main objective of the study was to determine the perception of female teenage hawkers about hawking activities in Lagos and Osun states. Validated interview schedules and questionnaires were used to elicit information from 300 respondents aged between 13 and 19 who were sampled through random sampling procedure in the two states. Qualitative and quantitative data analyses were used to analyze data collected. The results reveal that the mean age of the respondents was  $16.61 \pm 2.11$  years, with larger percentage (63%) being Christian. Larger percentage (64%) of them stated that they were not comfortable with hawking goods because it lowers their self-esteem and exposes them to risks. Likewise (45.7%) percent of the female teenage hawkers indicated that hawking is as a result of poverty in the society. Also, (31%) of them strongly disagreed that people will respect them for who they are. There was a significant relationship between self-esteem and their perception towards hawking ( $p \leq 0.05$ ,  $r = 0.211$ ). It was concluded that female teenage hawkers had negative perception towards hawking and the study further recommended that their negative perception towards hawking can only be made positive if there are strict and active protective measures put in place by the corporate and social responsibility arm of the government of both state for the female teenage hawkers who are vulnerable.*

**Keyword:** Vulnerable, Self-esteem, Perception, Hawking.

### INTRODUCTION

A teenager is a young person between 13 and 19 years old (Cambridge Advanced learner's Dictionary, 2013). Hawking was seen to involve carrying of goods about for sale. Teenage hawking has become a topical issue globally because of the unhealthy circumstances which these teenagers are exposed to, making them prone to various forms of abuse (Idris *et*

*al*, 2014). A hawker sells the goods by calling out loud what she is hawking, or by going from door to door, (Idris *et al*, 2014).

A teenager who loses her parents and is handed over to a member of the extended family to take the responsibilities of parenting over her, is believed to be in good condition. But in cases where the



member of the extended family is not well to do and cannot even afford to take care of his immediate family, and still adding the burden of a female orphan to his responsibility, there is a very high tendency that this could result into sending the teenage girl to the street to hawk goods with a view to boosting the financial base of her newly found family, thereby exposing such a teenage girl to various challenges associated with hawking along the streets.

The rate of occurrence has recently been on the increase and has raised a lot of questions on the minds of the people. Hence this research work focuses on the perception of female teenage hawkers about hawking activities in Lagos and Osun states of Nigeria considering the fact that Lagos is more of a commercial center as compared to Osun state which is more of a civil servant states.

## **LITERATURE REVIEW**

The concept of Teenagers: It has been discovered that during this phase of their lifespan, teenagers spend increasing amount of their time in the company of their peers (Brown and Klute, 2003; Collins and Laursen, 2000). During this period due to increase

in hormonal levels in them, it has been said that girls tend to be more influenced by social factors such as parental attitudes and friends' sexual behavior (Crockett, Raffaelli and Moilanen, 2003; Katchadourian, 1990). These various views are accurately in line with a popular English adage that says 'birds of a feather flocks together', meaning that teenagers will always mingle and relate with their fellow teenagers, giving rise to imbibition of habits of their fellow teenagers whether good or bad. In a situation where a female teenage hawker exist among this teenage peer group, some of her behaviours will also be imbibed by her peer group, giving rise to a certain mindset and disposition toward female teenage hawking which may further lowers the self-esteem of such female hawker and ultimately making her to be vulnerable to challenges associated with hawking.

The concept of Vulnerability of female : Culturally, there are a number of issues associated with the female gender that makes them to be vulnerable and these issues had continue to trend even to this present age. The overthrow of mother right was the world historical defeat of the female sex, which makes the man took command in the home also, and making



women to be degraded and reduced to servitude, became slaves of his lust and a mere instrument for the production of children. The above positions placed female in a position of been vulnerable to any form of oppression by the male folk and other socio-economic challenges. The noticeable nature of this vulnerability of female had given rise to several interventions in this present age even to the extent of including gender responsive goal in the Millennium Development Goals (MDGs) that was wrapped off after 15 years of implementation in the year 2015.

The concept of Perception: Like most concepts within the social science disciplines, perception (or what other scholars refer to as social perception) has been defined in a variety of ways since its first usage. From the lay man's perspective, perception is defined as an act of being aware of "one's environment through physical sensation, which denotes an individual's ability to understand" (Chambers Dictionary, 2014). However, many social psychologists have attempted to develop the concept around one of its most essential characteristics that the world around us is not psychologically uniform to all individuals. This is the case

in all probability, that accounts for the difference in the opinions and actions of individuals/groups that are exposed to the same social phenomenon in their day to day activities.

Nelson & Quick (1997) defined social perception as the process of interpreting information about another person. In their own words, "perception is the process whereby people select, organize, and interpret sensory stimulations into meaningful information about their environment." They argue that perception is the single most important determinant of human behaviour, stating further that "there can be no behaviour without perception."

Berelson & Steiner (2005) defined perception as a complex process by which people select, organize and interpret sensory stimulation into a meaningful and coherent picture of word. Therefore, perception is a psychological term that involves the process an individual undergoes to understand his environment both social and physical world through his senses. It can also be viewed as a process by which people form impressions of things, situations, other people's traits and personalities.



The concept of Hawking: Hawking in its real sense is an economic activity that is been carried out by people to support their existences. Several reasons such as poverty, e.t.c. account for the involvement of people in hawking activities and in the process, the hawkers are exposed to one form of challenge or the other. From the PM News of Friday May 23, 2014 article, titled “More Teenage Hawkers on Lagos Roads”, it was reported that the number of teenage hawkers on the streets of Lagos state keeps rising on a daily basis. It was gathered that on Acme road in Ogba, Lagos state, was where teenagers were seen in their large numbers hawking divers of things ranging from ‘groundnut’ to ‘gala’, e.t.c. the article reveals the life experience of a fourteen (14) year old girl named Blessing Clement who hails from Benue and hawks groundnut at Ogba, in Lagos state. The primary four pupil Blessing stated that she was brought to Lagos by her aunt to acquire better education, but due to the sickness of her aunt’s husband, little Blessing had to be sent to the street to hawk groundnuts with a view to supporting her academic, but this action is in no doubt affecting little blessing in her disposition to and perception of life.

From the article of Orient Journal of Medicine Vol 26 [1-2] January-June, 2014, titled “Problems of Teenage Hawkers”, it was stated that ‘one of the basic principle of International Convention on the Rights of the child is that every child must be protected against all forms of exploitation, indecent or degrading treatment including child labour, abduction and sale’. But this cannot be categorically affirmed as functioning in Nigeria, as teenage hawking still remains a major activity been practiced despite the several legislative measures taken to counter it.

The concept of Self-Esteem: Weiten *et. al.* (2012) defined self-esteem as a collection of beliefs about one’s own nature, unique qualities and typical behaviour. It can be measured as either high (positive) or low (negative). The self-esteem of an individual is said to be high or positive if such individual perceives himself or herself, including his or her profession, socio status, capabilities, abilities and potentialities very favourable (having a good opinion about oneself), and vice-versa. Furthermore, psychologists use the term ‘self-esteem’ to portray an individual’s overall sense of self-worth or personal value.



## **METHODOLOGY**

The study was carried out in two southwestern states of Nigeria namely Lagos and Osun states. Lagos state is divided into five administrative divisions which are further divided into 20-local government areas and they include Agege, Alimosho, Ifako-Ijaye, Ikeja, Kosofe, Mushin, Oshodi-Isolo, Shomolu, Apapa, Eti-Osa, Lagos Island, Lagos Mainland, Surulere, Amuwo-Odofin, Ojo, Badagry, Ikorodu, Ibeju-Lekki, Epe, and Ajeromi-Ifelodun.

Osun state consists of 30-local government areas and they include Aiyedire, Aiyedade, Atakumosa East, Atakumosa West, Boluwaduro, Boriye, Ede South, Ede North, Ife South, Ife Central, Ife East, Ife North, Ila, Ilesa East, Ilesa West, Irewole, Irepodun, Isokan, Iwo, Obokun, Odo-Otin, Olaoluwa, Oriade, Orolu, Osogbo, Egbedore, Ejigbo, Ifelodun, and Ede.

Lagos and Osun states were selected for the study, Simple random sampling procedure was used in the selection of respondents. Validated interview schedule and questionnaire were used to gather information from 150 female teenage hawkers between ages 13 and 19 in Lagos states and another 150 female teenage

hawkers between ages 13 and 19 in Osun states, making a total of 300 female teenage hawkers.

## **MEASUREMENT OF VARIABLES**

The dependent variable is the hawker's perception towards their hawking activities; perception statements were used and were measured on a 5-point likert scale, where those who chose strongly agreed to the statements were awarded 5-points and 1-point for those who strongly disagreed with the statements.

The independent variables include some selected personal and social-demographic characteristics of the hawkers such as age, religion, level of education, status of family, marital status.

Descriptive statistics such as frequency, mean, percentage, standard deviation, were used to describe the data collected. Pearson's correlation ( $r$ ) analysis was used to determine the relationship between the dependent variables and the self-esteem of the female teenage hawkers, using SPSS17 data analysis instrument.

## **RESULTS AND DISCUSSION**

### **Socio-economic characteristics of the respondents**

The result in Table 1 shows that 54.0 percent of the hawkers were between the



ages of 17-19 years, 36.7 percent were between ages 14-16 years. 9.3 percent were between ages 12-13 years. The average age of female teenage hawker was between 16.61 with a standard deviation of 2.11. Meaning that a larger percentage of these female teenage hawkers were at puberty stage which is liable of making them to be more attracted to the opposite sex.

The result in Table 1 also shows that more the half (63.0 percent) of the female hawkers were Christian, 31.0 percent were Muslim while the remaining 6.0 percent were traditionalist.

The analysis shows that 95 percent of the female teenage hawkers were not married, 2.7 percent were married, while 2.3 percent were separated. The percentages got for those who were married and separated are a strong indication that their hawking activities made them to be involved in early marriage due to unwanted pregnancy.

The result of the analysis shows that 86.0 percent of the female teenage hawkers had formal education while 13.7 percent did not have any level of formal education. It was further gathered that 84.3 percent completed their primary school education (6 years), 2.3 percent did not complete

their primary school education or were still on-going (4 years), while 13.3 percent of the respondents did not attend at all.

The result also reveal that 8.0 percent of the female teenage hawkers attended secondary school but could not complete it, 10.7 percent have their secondary school ongoing, 10.0 percent have completed their secondary school education, 8.3 percent have spent 4 years in secondary school, 2.0 percent have spent 5 years, while 30.3 percent have spent 6 years in the secondary school. Giving a total of 69.3 percent of the female teenage hawkers been privileged to attend secondary school education, while 30.7 percent were not privilege to attend secondary school. Meaning that their involvement in hawking activities made them to lose focus of formal education as a way out of their predicament.

Furthermore, the analysis shows that 2.3 percent of the hawkers came from divorced families, 15.3 percent came from separated families and 45.3 percent came from polygamous families. 12.7 percent of the respondents were orphan, 3.3 percent were fathered orphan, 2.7 percent were mothered orphan and 18.3 percent still have their parents living together. The result reveals that the status of family that



the female teenage hawkers come from goes a long way in determining their vulnerability to human trafficking, because of the push factor in the family that forces the respondents to the street.

### **Perception of female teenage hawkers towards hawking activities**

The result in table 2 reveals that 45.7 percent of the female teenage hawkers strongly agreed with the statement 'hawking is as a result of poverty in the society. 29.7 percent agreed with the statement, 1.3 percent were undecided, 5.3 percent disagreed with the statement, and 18.0 percent of the respondents strongly disagree with the aforementioned statement. The result further shows that 64 percent of the respondents were not very comfortable with hawking, 25.7 percent were not comfortable, 2.3 percent were undecided, 5.0 percent were comfortable with hawking while the remaining 3.0 percent very comfortable with hawking. The result also reveals that 25.3 percent of the respondents strongly agreed that hawking has a negative impact on their status in the society, 20.3 percent agree that hawking has a negative impact on their status in the society, 31.0 percent were undecided, 15.0 percent disagreed

that hawking has a negative impact on their status in the society, while 4.3 percent strongly disagreed to the statement. Furthermore, the result reveals that 24.7 percent of the respondents strongly agreed that hawking exposes them to adverse condition and calamity such as accidents, 50 percent of them agreed to the statement, 11.0 percent were undecided, 11.3 disagreed that hawking exposes them to adverse condition and calamity such as accidents, while 2.4 percent strongly disagreed to the statement. The findings also reveals that 19.0 percent of the female teenage hawkers strongly agreed that hawking exposes them to sexual abuse, 39.3 percent agreed that hawking exposes them to sexual abuse, 18.7 percent were undecided, 9.7 percent disagreed that hawking exposes them to sexual abuse, while 13.3 percent strongly disagreed that hawking exposes them to sexual abuse.

### **Level of self-esteem of the hawkers**

The result in table 3 shows that 2.7 percent of the respondents strongly agree that people respect them for who they are, 24.7 percent agree that people respect them for who they are, 13.3 percent are undecided, 28.3 percent disagree that people respect



them for who they are, while the remaining 31.0 percent strongly disagree that people respect them for who they are. The result also reveals that 0.7 percent of the respondents have a positive attitude towards oneself, 4.3 percent were undecided, 73.7 percent of the respondents disagree that one has a positive attitude towards oneself, 21.3 percent strongly disagree that one has a positive attitude towards oneself.

### **HYPOTHESIS TESTING**

The result in table 4 reveals that there is a positive significant relationship between self-esteem and perception of the female teenage hawkers towards hawking. ( $p \leq 0.05$ ,  $r = 0.211$ ).

The positive significant relationship between self-esteem and perception of the female teenage hawkers towards hawking implies that the decrease in their level of self-esteem led to their negative perception towards hawking, likewise an increase in their level of self-esteem will lead to a positive perception towards hawking. This means that female teenagers who have high level of self-esteem have a higher perception towards hawking activities and vice-versa.

### **CONCLUSION AND RECOMMENDATIONS**

The study concluded that the challenges associated with hawking activities in these two states were much related because female teenage hawkers, their abusers and the circumstances they face exist within the confines of space. Furthermore female teenage hawkers are vulnerable to various challenges associated with hawking activities in these two states which make them to have negative perception towards hawking, hence the study recommended that their negative perception towards hawking can only be made positive if there are strict and active protective measures put in place by the corporate and social responsibility arm of the government of both state for the female teenage hawkers, coupled with enlightenment campaigns to enable the female teenage hawkers to see the hidden bright future within them which can only be revealed to benefit them and their society if only they can diligently embrace their hawking activities as a learning process that will equip them to become employers of labour and a force to reckon with in the business world.



## REFERENCES

- Berelson B. and Steiner G.A. (2005), Human behaviour: An Introductory of Scientific Findings.
- Brown B.B. and Klute C. (2003), Friends, Cliques and Crowds. In G.R. Adams and M.D. Berzonsky (eds). *Blackwell handbook of Adolescence*. 330-348).
- Cambridge Advanced learner's Dictionary (2013). Cambridge Advanced learner's Dictionary, 4th edition. Cambridge university press 2013. ISSN: 9781107619500.
- Chambers dictionary (2014). The Chambers dictionary, 13th edition. Chambers Harrap Publishers 2014. ISBN: 9781473602250.
- Collins W.A. and Lausen B. (2000). Adolescent relationship: The art of fugue. Inc. Hendric (eds), close relationship: *A source book*. 59-70).
- Crockett L.J., Raffaelli M. and Moilanen K.L. (2003). Adolescent sexuality: Behaviour and meaning. Faculty publication, department of psychology. Paper 245.
- Idris S.H., Yahaya S.S., Sambo M.N., Amu'Azu M.A. and Isa O. (2014). Medico-social problems of teenage hawkers in Sabon-Gari Local Government Area, Kaduna, North-West Nigeria. *Orient Journal of Medicine* (2014). 26 [1-2]. ISSN 1115-0521.
- Katchadourian H. (1990). Sexuality. In Feldman S.S. and Elliot G.R. (eds). *At the threshold: The developing adolescent* (pp330-351). Cambridge, M.A: Harvard University Press.
- Millenium Development Goal Final Report (2000). UNDP Millenium Declaration.
- Nelson D.L. and Quick J.C. (1997). Preventive stress management in organizations, second edition. Washington D.C. American Psychological Association.
- Weiten W., Dunn D.S. and Elizabeth Y.H. (2012). *Psychology Applied to modern life: Adjusting in the 21st century*.



**Table 1: Distribution of respondents based on selected personal and socio-demographic characteristics of respondents**

VARIABLE	FREQUENCY	PERCENTAGE	MEAN
<b>Age</b>			
17-19 years	162	54.0	16.61±2.11
14-16 years	110	36.7	
12-13 years	28	9.3	
<b>Religion</b>			
Christianity	189	63.0	
Islam	93	31.0	
Traditionalist	18	6.0	
<b>Marital status</b>			
Never married	285	95.0	
Married	8	2.7	
Separated	7	2.3	
<b>Education</b>			
No	41	13.7	
yes	258	86.0	
<b>Primary education</b>			
4 years	7	2.3	
5 years	253	84.3	
<b>Secondary education</b>			
Uncompleted	24	8.0	
On-going	32	10.7	
<b>Completed</b>			
4 years	25	8.3	
5 years	6	2.0	
6 years	91	30.3	
<b>Status of family</b>			
Divorced family	7	2.3	
Separated family	46	15.3	
Polygamous family	136	45.3	
Orphan	38	12.7	
	72		



Fathered orphan	10	3.3
Mothered orphan	8	2.7
Parents living together	55	18.3

Source: Field Survey, 2014.

**Table 2: Respondents perception of hawking activities.**

VARIABLES	SA (F%)	A (F%)	UD (F%)	D (F%)	SD (F%)	MEAN	RANK
I am not comfortable with hawking goods	192(64.0)	77(25.7)	7(2.3)	15(5.0)	9(3.0)	4.43	1st
Hawking exposes me to adverse conditions and calamity such as accidents	74(24.7)	152(50.7)	33(11.0)	34(11.3)	7(2.4)	3.84	2nd
Hawking is as a result of poverty in the society	137(45.7)	89(29.7)	4(1.3)	16(5.3)	54(18.0)	3.79	3rd
Hawking has a negative impact on my status in the society	76(25.3)	61(20.3)	105(31.0)	45(15.0)	13(4.3)	3.47	4th
Hawking exposes me to sexual abuse	57(19.0)	118(39.3)	56(18.7)	29(9.7)	40(13.3)	3.41	5th

Source: Field Survey, 2014.



**Table 3: Respondents level of self-esteem.**

VARIABLES	SA (F %)	A (F%)	UD (F%)	D (F%)	SD (F%)	MEAN	RANK
I take a positive attitude towards myself	2(0.7)	13(4.3)	221(73.3)	64(21.3)		2.84	1st
People respect me for who I am	8(2.7)	74(24.7)	40(13.3)	85(28.3)	93(31.0)	2.40	2nd

Source: Field Survey, 2014.

**Table 4: Correlation relationship between the perception and self-esteem of the respondent**

S/N	Variable	Correlation coefficient (r)	Coefficient of determination (r <sup>2</sup> )
1	Self-esteem total	0.211*	0.0188

Number of respondents = 300

\*= r is significant at p≤0.05 level

Source: Field Survey, 2014.



## FACTORS AFFECTING TECHNOLOGY TRANSFER AMONG YOUTHS IN OGBOMOSO AGRICULTURAL DEVELOPMENT PROGRAMME ZONE, OYO STATE.

<sup>1</sup>Oyegbami G.A, T. Ogunlade<sup>1</sup>, A.B Ogunwale<sup>2</sup> and M.A Ojetayo<sup>1</sup>

<sup>1</sup>Department of Agricultural Extension and Rural Development University of Ilorin, Nigeria.

<sup>2</sup>Department of Agricultural Extension and Rural Development, Ladoke Akintola University, Ogbomoso, Oyo State.

Corresponding author e-mail-gabrieloyee2011@gmail.com

### Abstract

*Given that agriculture is one of the continent's biggest economic Sectors, generating broad economic development and providing much of the population with food; thus poses a serious threat to the future of farming and meeting the demands of a rapidly growing urban population. This study examined agricultural extension framework technology transfer among rural youth in Ogbomoso zones in Oyo State. Random sampling technique was used in selecting 110 respondents across five local government areas in Ogbomoso and the respondents were distributed throughout the 40 agricultural extension cells. It was found out among others that youths in the study areas were educated (M=14.6), males (66%) and single (93.8%). It was revealed that there are constraints limiting the rate of technology transfer among youths when includes complex production recommendation (M=1.7), poor financial conditions of agricultural programmes (2.08\*), insignificance income differential with non-farm business (2.0\*), in correct communication devices channels and methods (1.6), loss of self esteem (1.8) among other. The research recommends that agricultural extensions activities can be improved through an organized, holistic agricultural reformation and rehabilitation by the Federal Government this will later "entice" youth into agricultural productions.*

**Key words:-** Technology transfer, Youths .Agricultural development programme.

### INTRODUCTION

Agricultural productivity was the most single sector influencing Nigeria's economy in the pre-independence and pre-civil war periods. The exploration of crude oil over the years has relegated agriculture to the availability of well-paid non-farming employment have also resulted in a big drift of labour from the farm to the cities leaving only old people on the farm.

The rural-urban migration has led to a reduction of labour force on the farm with significant reduction in the agricultural

production (Adeyemi and Adekunmi 2005). Since then, government has been making different attempts to resuscitate agricultural production and achieve self-sufficiency in food production (Adebayo and Okunleye, 2005). In Africa, over 200 Million people are aged between 15 and 24, the youngest population in the world (Can we feed the World, 2014). This age group according to the African Economic outlook is expected to double in number by 2045(Can we feed the World, 2014). Low profitability, poor security of land tenure, and high risks are just some of the



reasons Africa's youth are leaving rural areas to seek jobs in cities, a migration that could see Africa with a shortage of farmers in the future. Given that agriculture is one of the continent's biggest economic sectors hence Nigeria "The giant of Africa", generating broad economic development and providing must of the population with food, this poses a serious threat to the future farming and to meeting the demands of a rapidly growing urban population. Growing youth unemployment ageing farmers and declining crop yields under traditional farming systems mean engaging youth in agriculture should be a priority.

Youth in agriculture programme has been described as a very important structure for land and agrarian reform which will go a long way towards promoting the interest of youth in agriculture sector of the economy (Gwanya, 2008). Since agricultural development is the basic tool for economic development, there is need for more emphasis to be place on the role youth can play in agriculture (Fatula 1996).

Many Agricultural Programmes have been financed by both state and federal governments without much positive impact on the rural residents. Also, majority of these programme have not been eradicated so as determine areas that need to be strengthened so as to increase production benefits to the farmers of any farmers (in which all the farm families are included) needed to be provided with administrative and logistic support to workers in order to improve agricultural extension services to farmers.

Rural extension is a planned activity for the transfer of knowledge or skills and the change of attitudes of rural populations carried out by an agency with the objective to improve rural living standard

with the use of different means of communication and efforts.

Furthermore, one can conclude that, rural extension should be looked upon as one of the instruments for rural development. Extension is only one of the parts of a more comprehensive mix of instruments which together should bring about rural development. In more countries, this instrument mix consists of a system of agricultural research and agricultural education which are to some degree linked with rural extension. The instrument mix requires services of credit, input provision, processing and storage agricultural produce, marketing, transport, roads, water utilization, soil management and seed multiplication.

Chukwudi (1990) explained that agricultural extension services wherever established as that which is set up in order to change the knowledge, skills and attitudes of the rural people, that farmers that has to be assisted to develop a frame of mind and attitude conducive acceptance of new technology. However, it is an educational assistance and advice given by an organization or an individual who seeks to help particular farmer to identify and solve their farming progress by themselves, as it is created to fill the cultural gap between farmers and extension workers.

The objectives and policy of extension include achieving farming efficiency, conservation and wise use of natural resources, efficient farm management, farm welfare, social and economic improvement of the community and extension "per se", bridges the yarning gap between the farmer and the research stations.

Saito and Weideman (1990) stated that, considerable attention has been given in recent years to the fact that a large proportion of agricultural work in many



countries is done by women, where as in most of these countries, only a small proportion of the agricultural extension agents are women (even in Nigeria). This importance can make it difficult to reach such an important target group. The role of women in agriculture is becoming more important in many countries where many men have found higher paid job in the city or in the mines. These men leave all of the work on the farm for their women, children and parents. In certain parts of Nigeria, culturally, a male extension agent is not allowed to talk with the women, especially if he comes from outside the village if he teaches, the men and they in turn teach the women, much of the information is lost especially in the feedback of ideas from the women to an extension agents. In other countries where male extension agents can talk directly with the women, communication may be less open as it would be with female extension agents. Often the women are not supposed to go to meetings, or if they go, they are not supposed to speak unless asked. It may be necessary in such situation to organize meetings for women only, so that they can speak freely. It is a known fact that female extension agents in some countries are more effective, especially when their works extension beyond agriculture to all decision women made such as in home economics, child care, and family nutrition and so on.

In addition, there are also countries where a female extension agent can give advice to men although she may have to perform better than a colleague to gain farmer's confidence in the first place, in some parts of the world like philippines, majority of the agricultural Village Extension Workers (VEWS) are women they even got marriage to a farmers which give them added local in right into

problems and opportunities. Women extension agent should be opportunities to occupy supervisory position as their male colleagues and that decision regarding the role of female extension agent should be based on a sound understanding of the culture of the country and often on the culture of a specific region or tube as well.

When considering the activities of women in food chain, women play an important role in agricultural production marketing, food processing, storage and preparation as well as in home making generally. Most member of a farm family get involved in the farming, in the light of this extension education must necessarily serve the whole family because farm activities and interwoven with home activities: women are for and feed their children. They (women) need education on better family foods domestic resource management.

Youths as component integral and functional member of a named society is to be adequately taken care of so far they are known for their productive man power. Though youths have desirable qualities that can promote agriculture, most of them have strong apathy toward it. (Jibowo, 1998, Adedoyin, 2005). This has resulted in mass unemployment and lack of sustainable livelihood activities among the youths (Breitenbach, 2006). This has further led most youths in to cultism, prostitution and street begging, among the youths (Sodique, 2006). With fewer youths into agriculture, the long-term future of the agricultural sector is in question. The development of the agricultural sector of the Nigerian economy therefore depends on the young people, more especially the rural youths. This is because a larger population of youths represents the link between the



present and the future as well as a reservoir of labour (Okeowo et al. 1999).

The successful regimes at the Federal Government level have introduced various agricultural development schemes with the aim of encouraging the youth and boosting food production and farmer's income through provision of agricultural infrastructure, input and effective extension work (Jibowo, 2005). The state and local governments also introduced some agricultural programmes aimed at boosting food production and youth's participation. One of such programmes is the Youth – in – Agriculture programme (YIAP) introduced in 2004 by the Ondo state government. The programme is designed to create rapid employment for the youth through active participation in modern agricultural practices by raising the production efficiency and productivity beneficiaries.

It is pertinent to note that the usage of internet vary, as people use internet either for educational purposes, networking, agricultural information assessment and / or leisure. In more advance countries of the world, the usage of internet may be more for information and education purposes. This is very much unlike the developing countries (e.g. Nigeria) where the usage may primarily tilt towards social networking and the likes. A study by Aduwa-Ogiegbaen and Uwameiye (2009) in Southern Nigeria discovered that agricultural educators were in experienced in the use of the internet. Similarly, Agbulu and Ademu (2010) also found that agricultural educators were not knowledgeable in the use of ICT for teaching. This could be attributed to limited/lack of possession of the operating skills associated with the use of the computer and internet or unawareness

of the vase resources available in these devices.

For effective technology transfer to the youths or learners in this of vast information technology that had reduced the entire world into a global village, it is necessary that agricultural educators/extensionists alike possess the relevant skills for operating the internet or through any quick and accessible agricultural technology transfer to the clients (especially youths) and constantly making use of these skills for their teachings and research purposes. It should be noted at this juncture that sustainability and productivity of the agricultural sector depends largely on the quality and effectiveness of extension service delivery among other factors. Kimaro, Makandiwa and Mario, (2010) asserted that there is a gap between agricultural performances and available information in developing countries. This gap can be attributed to poor extension service delivery as well as limited interactions among technology developers, extension workers and farmers. Poor communication among major actors in the extension services delivery-government, NGOs, private sector (agribusiness) as well as farmers hinders the flow of developed innovations to farming communities.

A mobile phone, cell phone or hand phone is an electronic device used to make mobile phone calls across a wide geopolitical area, served by many public cells, allowing the user to be mobile. In addition to telephony, modern mobile phones also support a wide variety of other services such as text messaging, multimedia services, email, internet access, short-range wireless communication (infrared, blue tooth), business application and photography



([http://en.wikipedia.org/wiki/mobile\\_phone](http://en.wikipedia.org/wiki/mobile_phone)).

One of the basic functions of any extension services remains the transfer and/or exchange of practical information from research to the end-users (farmers) to improve their livelihoods. Extension services assist farmers (youths) in deciding where, what and when to plant, how to prepare for planting and best practices related to growing of crops and raising of animals, dealing with pests and diseases, harvesting and post harvest processing methods. (<http://www.anancy.net/documents/file-en1WD8034.pdf>).

By improving the communication flow, improved information technologies could potentially strengthen the link between farmers (youths), extension agents and research centers, and vice-versa-there by overcoming the disconnect that exists between the two in many developing countries.

### **OBJECTIVES OF THE STUDY**

The need to analyze agricultural extension frame work technology transfer among rural youths was the basis for this study. Specific objectives for the study include.

- i. examine the socio-economic characteristics of respondents
- ii. identify factors affecting agricultural technology transfer among youths in the study area, and
- iii. identify ways of improving technology transfer for youths development in the study area.

### **METHODOLOGY**

This study was carried out in Ogbomoso Local Government Areas in Oyo State. The land comprises of five local government namely:- Ogo-Oluwa, Oriire, Ogbomoso South, Ogbomoso North and

Surulere local governments. The town is situated in the derived savannah area of the forest zone; and it is located in the latitudes  $07^{\circ} 48^1$  N and  $08$  while her longitudes has between  $04^{\circ} 150^1$  and  $04^{\circ} 29^{1E}$ . (Accola, 1963). The respondents for the study were drawn from youths within the study areas of the extension programmes (OYSADEP); Five Extension Blocks made up of 40 extension cells. 110 respondents were randomly selected for the study. Objectives for the study was subjected to Likert-type scale with options of “very adequate; adequate”, and not adequate” to ascertain adequacy of needed information. To identify the factors affecting agricultural technology transfer among youths, 3 point Likert-type scale with response option of “very serious”, “serious” and “not serious” scaled 3 to 1 were used to determine perceived constants affecting technology transfer. Also frequency counts, percentages and mean score statistics were used to summarize the data relating to the objectives.

### **RESULTS AND DISCUSSION**

#### **Socio-economic characteristics of the respondents**

Tables 1 showed that (mean=45.9); majority (66%) of the respondents were males. also, nearly all (93.8%) of the respondents were single majority 72.5% of the respondents were between age range 21-25 years 77.9% of the respondents had secondary education(M=14.6) and at least five years farming experience (M=16.8). This is in line with the assertion of Okeowo *et al*, (1999) who emphasized that larger youths aged 24years should be developed and linked together with the present to the future.



### **Factors affecting the use of agricultural technology transfer among youths in the study areas.**

Data on Table 2 showed the constraints affecting technology transfer include: Poor Financial condition of agriculture (M=2.0), significance income difference with non-frame business (M=2.0) while associate factors include delay of some extension workers (M=1.9), poor government agricultural policy implementation (M=1.9), weather hazards (M=1.8), loss of self esteem (M=1.8), poor marketing strategies (M=1.8). From the perspective of Safo (1990) who contributed that, the success or failure of an extension activities depends on the relevance of its content and the degree of popular interest it generates , It is essential for an extension programme to be preceded by a field survey in which the management. Objectives of farmers (youths) and their problems are identified and acceptable solution devised. (Can We Feed the World, 2014).

### **Ways of improving Agricultural Extension for Youth Development**

Table 3 shows that Agricultural extension workers can majorly be developed for youth productivity in agriculture through holistic agricultural reformation and rehabilitation (M=2.8), quick government reformation of extension programme (M=2.6), pre-field survey study (M=2.3), Relevant extension content (M=2.3); others include periodic training and re-training exercise for extension workers (M=2.2) cordiality between extension and research (M=2.2) as well as supportive government policy (M=2.1). The assertion was supported by Abiodun (1992) that lack of essential facilities, inadequate office accommodation and likes undermining the efficiency of

extension service for youth development in the rural areas..

### **CONCLUSION**

It was concluded that a “holistic” agricultural “rehabilitation”, “reformation”, requires pre-field survey study of youth interest, deviation from linear chain of command, adequate rural infrastructure provision by both the government and the stake holders, improved communication and information efficiency as well as through understandings of rural youth self esteem; that if agriculture is going to be considered as a lucrative and viable business by youths, the process has to be guided with an improved and modern methods of technology transfer in the study areas.

### **REFERENCES**

- Abiodun A. et al (1992) Rural Development in Nigeria. Jo urnal of the Federal Department of Agriculture, Abuja, Nigeria. Volume 4, Nos 2, June, 1992.
- Adebayo, K. & Okuneye, P.A (2005), “Economics of Agricultural extension” in: Agricultural Extension in Nigeria. Adedoyin, S.F. (ed) 251pp.
- Adekunmi, A. O & Adeyemi A. A (2005) “Assessment of Rural Children Involvement in Arable crops production Activities in Odo-Otin Local Government Area of Osun State, Nigeria in proceedings of the 7<sup>th</sup> National Research Conference and Network Meeting of CYAI in Nigeria Held in Tai Solarin University of education, Ijebu-Ode. Nov.28-Dec 1 (edls) Torimiro, D.O and Adisa, B.O pp 3-38.



**Table 1:- Socio-economic characteristics of the Youths in the study areas.**

Socio-economic characteristics	%	M	SD
<b>AGE</b>			
15-20	16.8		
21-25	72.5	45.9	4.7
26-30	11.2		
<b>SEX</b>			
Male	66		
Female	34		
<b>MARITAL STATUS</b>			
Single	93.8		
Married	4.7		
Others	1.6		
<b>EDUCATIONAL EXPERIENCE</b>			
Non-Formal Edu	1.6		
Primary Edu	6.3	14.6	0.9
Secondary Edu	71.9		
Post Sec. Edu.	20.3		
<b>FARMING EXPERIENCE</b>			
Less than 5 years	8.1		
5 years	77.5	16.8	6.0
6-10 years	101.1		
Greater than 10 years	4.0		

Source:- Field survey, 2014 M-Mean, SD-Standard Deviation

**Table 2:- Factors (Constraints affecting technology transfer among youths in the study area.**

* Constraints	M	SD
Complex production recommendations	1.7	0.7
Poor financial condition of agriculture	2.0*	0.6
Inadequate farm inputs/ land tenure	1.3	0.4
No significance income difference with non-farm activity	2.0*	0.6
Reduction in contact hours	1.7	0.8
Incorrect communication devices and method	1.6	0.8
Distance of some extension	1.5	0.8
Delay of some extension	1.9*	0.6
Nature of agricultural extension program	1.3	0.7
Weather hazard	1.8*	0.8
Lack of Agricultural production knowledge	1.2	0.5
Too much risk and little reward	1.6	0.8
Loss of self esteem and self interest	1.8	0.8
Strenuous nature of agricultural activities	1.6	0.8
Poor Government Agricultural policy implementation	1.9*	0.8
Poor marketing strategies of farm produce	1.8	0.8
Others e.g ignorance, Network fluctuation	1.6	0.7

Source:- Field survey, 2014 \* Multiple choice Response M-Mean, SD Standard Deviation



Breitenbach, M. C (2006), "A Model for Rural Youth participation in Local Government: A South African case Study" *Annals of Child and Youth Studies I* (1): 72-84

Can We Feed the World (2014); a ways to engaged youth in Agriculture <https://canwefeedtheworld>. World press: 2014/04/25/9 ways-to=

Chukwudi O, (1990), *Fundamentals of Agricultural Extension*. ABK publishers Enugu and Lagos Nigeria pp 98-99

Fatula, G. T (1996), "Socio-Economic issues in the Education of Children of Migrant Fishermen in Nigeria 9 (1): 31-61

Gwanya T. (2008) Address by the Director-General at the Launch of Youth in Agriculture and Rural Development (Yard on 20-22 June, 2008, GoudiniSpa. Western Cape Department of Land Affairs, Republic of South Africa retrieved on 1<sup>st</sup> August, 2008 at <http://www.land.pwy.gov.za/publications/2008/speech%20DG%20at%20YARD%20Launch%20Goudini%20Spa.pdf>.

Jibowo, A. A. (1998), *Agrological Transmission: The Secrets of National Food Surplus*. An Inaugural Lecture Delivered on July 11<sup>th</sup> at the Obafemi Awolowo University, Ile-Ife.

Jibowo, A. A. (2005), "History of Agricultural Extension in Nigeria" in: *Agricultural Extension in Nigeria* (ed Adedoyin, S.F). 251pp.

Kimaro, W. H; Mukandiwa, L and Mario, E. Z. J. (2010). *Towards Improving Agricultural Extension Service Delivery in the SADC region*. Proceedings of the Workshop in Information Sharing among Extension Players in the SADC region 26<sup>th</sup>-28<sup>th</sup> July, 2010, Dares, Salaam, Tanzania.

Okeowo, T. A, Agunbiade, J. B. & Odeyemi, L. A. (1999). "An Assessment of the Level of Involvement of Farm-Children in Farming Decision in Ikorodu Area of Lagos State". In *Farm Children and Agricultural Productivity in the 21<sup>st</sup> century*. Proceedings of the Second Annual Conference of Children in-Agricultural Programme (CIAP) held at the Conference centre, O.A.U, Ile-ife (eds Stella, B. W., Oginni, F. O. and Akinloye, J. F.) May. Pp275-282.

Sodique, F. R. (2006), "Bee Honey Production: A Strategy for poverty Alleviation among Youths in Nigeria". *Annals of Child and Youth Studies* 1.(1): 113-124.

Saito, K. A. & Weideman, C. J. (1990) *Agricultural Extension for Woman Farmers in Africa*. (Washington D. C. World Bank pp 290.

<http://en.wikipedia.org/wikil/mobile-phone>.

<http://www.anancy.net/documents/file-en/WD8034.pdf>



**Table3: Ways of Improving Extension Services for Youth Development in the study area.**

<b>* Improvement methods</b>	<b>M</b>	<b>SD</b>
Pre-field study survey	2.3	0.8
Relevant extension content	2.3	0.8
Cordiality between extension and Research	2.2	0.8
Supportive Government policy	2.1	0.7
Mass youth literacy awareness	2.3*	0.7
Adequate infrastructures for extension workers	1.8	0.9
Diverse source of information to foster extension work	1.8	0.8
Extension agent Job security	2.6*	0.7
Government quick reformation of extension programme	2.6*	0.7
Holistic Agricultural reformation & rehabilitation	2.8*	0.5
Adequate Rural Infrastructure	1.8	0.8
Periodic Training and re-training exercise	2.2	0.8
Avoidance of linear chain (single) of command	1.8	0.8

**Source:-** Field survey, 2014 Multiple choice responses



**LIST OF EXECUTIVE FOR INTERNATIONAL RESEARCH CONFERENCE AND NETWORK MEETING OF CYIAP**

<b>S/N</b>	<b>NAME</b>	<b>POST ELECTED TO FILLED</b>	<b>AFFILIATED INSTITUTIONS</b>
1	Prof. A. Olusegun Adekunle	President	University of Ilorin, Ilorin, Kwara State
2	Prof. C. J. C Akuibilo	Vice President (South East)	Enugu State University of Technology, Enugu, Enugu State
3	Prof. Joseph Pur	Vice President (North East)	University of Maiduguri, Maiduguri, Borno State
4	Dr. (Mrs.) Grace M. Adebo	Vice President (South West)	Ekiti State University, Ado-Ekiti, Ekiti State
5	Dr. Julius Olatunde Ayinde	General Secretary	Obafemi Awolowo University, Ile-Ife, Osun State
6	Dr. (Mrs.) S. A. Aderinoye Abdulwahab	Assistant General Secretary	University of Ilorin, Ilorin, Kwara State
7	Prof. (Mrs.) Confort I. Sodiya	Treasurer	Federal University of Agriculture, Abeokuta, Ogun State
8	Dr. Kolawole A. Adeloye	Financial Secretary	Wesley University, Ondo, Ondo State
9	Dr. Akin O. Olaniyi	Auditor	Ladoke Akintola University, Ogbomoso, Oyo State
10	Dr. S. O. Ayansina	Public Relation Officer	Federal University of Agriculture, Abeokuta, Ogun State
11	Prof. D. O. Torimiro	Ex –Officio	Obafemi Awolowo University, Ile-Ife, Osun State
12	Dr. Banji O. Adisa	Editor-in-Chief	Obafemi Awolowo University, Ile-Ife, Osun State
13	Dr. V. O. Okorie	Managing Editor	Obafemi Awolowo University, Ile-Ife, Osun State