

# AGRICULTURE AND SUSTAINABLE RURAL DEVELOPMENT IN INI LOCAL GOVERNMENT AREA OF AKWA IBOM STATE, NIGERIA.

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## ABSTRACT

*The concept of sustainable development is the focus of current development paradigms. In the rural settings such as Ini local government area, emphasis is on rural agriculture. The study highlighted how rural agriculture in Ini local government area has brought about sustainable development to the people. The study relied on Taro Yameni's formula to sample 400 respondents from the population of 99,084 (National Population Census, 2006). The findings of the study revealed that rural agriculture has increased food availability with food crops such as grains (rice) and root crops (cassava) doubling in production. The study further revealed that sustainable rural agriculture is fast gaining acceptance over subsistence agriculture. Income of rural dwellers are enhanced as value chain in agriculture expand, employment are generated. The study recommended that to reduce food scarcity and unemployment the rural populace should be engaged in sustainable rural agriculture, which is now the frontier for economic growth, especially in developing economies such as Nigeria.*

**Keywords:** *Agriculture, Rural Development, Sustainable Development, Food security.*

### 1.1 Background of the study

The agricultural sector and rural economy play an indispensable part in sustainable rural development. Despite the rapid rural –urban migration, the rural population is also increasing, therefore, necessitating sustainable rural development (Anderson, 2001). As stated by the United Nation Economic Commission For Africa (1974), rural development is seen “as a process where a set of social, technical, cultural and institutional measures are being put in place with and for the inhabitants of rural areas with the objectives of improving their socio economic condition in order to accomplish balance both on the national and regional levels.” This indicates that drastic transformation of the rural areas, hinge on eradication of poverty, enhancing living standard, income, and productivity” (Mabogunje, 1990).

Most economists have come to realize that agriculture and sustainable rural development is the driving force for development of rural Nigeria (Fadesere, 2011). Sustainable rural development is an integrated approach towards food production, and institutional infrastructural provision for the basic goal of qualitative and quantitative change that aim at improving the living standard of the rural populace. Agriculture is regarded as a major component for sustainable rural development because at least two-third of rural Nigerians are farmers. They live in about 97,000 rural communities and their living condition is characterized by poverty, misery, morbidity as well as underdevelopment (Ekpo & Olaniyi, 1995). According to Alabi (2008), agriculture is the cardinal point for economic growth in Nigeria, especially as emphasis has shifted from peasant (subsistence) to sustainable agriculture in urban and rural Nigeria. It is upon this strength that the paper seeks to justify sustainable agriculture as a means for poverty reduction.

Sustainable rural development, is the process of increasing the per capita income and the quality of life of the rural dwellers to enable them become prime mover of their own destiny through food security, employment etc. (Ijere, 1990). The United Nations Agency for Social and Economic Development posits that rural development is the quantitative upliftment or change in the standard of people in the rural areas, brought about through integrated approach, by both governmental and non-governmental agencies and the people themselves. Sustainable rural development involves creating and widening opportunities for (rural) individuals to realize full potential through education and sharing in decision and action which affect their lives (Obinne in Ogidefa, 2010). He also viewed it as efforts towards increased rural output and create employment opportunities while eliminating fundamental (or extreme) cases of poverty, diseases and ignorance. Therefore, combining all the essential elements of development, Rural Development can be described as the integrated approach to food production as well as physical, social and institutional infrastructural provisions with an ultimate goal of bringing about both quantitative and qualitative changes which result in improved living standard of the rural population.

Abass (1993) asserts that agricultural productivity is not synonymous with sustainable rural development but constitutes a very crucial aspect in achieving it since it is the main stay of the economy and that most of the people in rural areas across the country are engaged on land. In developing countries, such as Nigeria, rural development encompasses all efforts towards improved fortunes of the rural dwellers. They include agricultural set-up projects, rural water supply projects, rural electrification projects, rural health and disease control projects, rural education, rural feeder-road and maintenance projects, Adult education campaign, rural telecommunication system, and rural industrialization (Abass, 1993). According to Adalikwu; Isa and Usoroh (2017), agricultural development has become the foundation for economic growth today and the agricultural sector is undoubtedly the prime area of concentration for national, regional and locality economic progress.

## 1.2 Problem statement

The sustainable development of rural areas has been of concern to governments (federal, state and local), other concerned citizens including researchers, non-governmental organizations etc. One of the major challenges of rural areas in Nigeria is lack of food security, unemployment, lack of opportunity to participate in the productive process etc (Brautigan, 2009). The rural sector is characterized by absence of basic human needs and underdevelopment in agricultural and non-agricultural activities (Williams, 1994). It is important to understand that sustainable rural development is a process of not only increasing the rural areas level of per capita income but also the standard of living of the rural population measured by food security and nutrition level, education, employment, housing, recreation, productions etc. Several endeavours have been carried out by agencies and governments to develop the rural areas of Nigeria, specifically Ini Local government area. Programmes such as National Accelerated Food Production Project (NAFPP-1973), River-Basins Development Authority (RBDA-1976), Agricultural Development Projects (ADPs-1975), Operation Feed the Nation (OFN-1976), Green Revolution (GR-1980), The Better Life for rural women Programme (BLRW-1987), Agricultural Credit Guarantee Scheme (ACGS-1988), Directorate for Food, Roads and Rural Infrastructure (DFRRI-1995) etc. have been executed at different stages to bring about access to food, raw materials, employment etc (Raheem & Bako, 2014). However, these measures have not fully solved the issue of sustainable rural development. One of the major areas which the government really need to explore is the role agriculture can play towards enhancement of sustainable rural development. Therefore, the question that this study intends to answer is: to what extent can agriculture positively impact on sustainable rural development in Ini local government area?

## 1.3 Objectives of the study

The study sought to investigate agriculture and its impacts on sustainable rural development in ini local Govt area of Akwa Ibom State, Nigeria. Specifically, the study sought to:

1. Determine the relationship between food security and sustainable rural development.
2. Investigate the association between employment generation and sustainable rural development.
3. Examine the association between raw materials production and sustainable rural development.

### 1.4 Statements of hypotheses

Base on the research questions and objectives, the following hypotheses were formulated to guide the study:

1. There is no significance relationship between food security and sustainable rural development.
2. There is no significance relationship between employment generation and sustainable rural development.
3. There is no significance relationship between raw materials production and sustainable rural development.

## 2.1 Literature review

### 2.1.1 Agriculture and Rural Development in Nigeria

Over the years, Nigeria has witnessed the avalanche of different development projects and programmes such as Green Revolution, Better Life for Rural Women, Directorate for Food, Roads and Rural Infrastructure etc. (Raheem & Bako, 2014). Rural development programmes and projects in Nigeria are more often associated with agricultural development with a difference in the last two decades which witnessed the birth of the community based and people centred approach to rural and agricultural development programmes (ICARRD, 2007). The National Integrated Rural Development Policy and Strategy under the auspices of Rural Development strategy for Nigeria (RDSN) is one of Nigeria Government's policies that aimed at addressing the problem of the rural people. It is a collaborative project with the World Bank that started in 2001 (ICARRD, 2007). The policy took into cognisance other rural activities with emphasis on agriculture and also the right of people to access food. The policy has four main priority areas:

- Enhancement of enabling rural infrastructure.
- Promotion of Rural Productive Activities.
- Support Human Resource Development.
- Special programmes for Target Groups.

Also, the National Special Programme for Food Security (NSPFS) which was the collaboration of the Food and Agriculture Organization (FAO) and Nigerian Government which was based on food sovereignty, a concept recognized by National Human Rights Institution as right of every citizen of the country to food (ICARRD, 2007). Recently, the Second National Fadama Development Project (NFDP-II), a collaborative programme with World Bank on rural development that is basically on the rural populace capabilities. The project has provided a demand-driven extension services, increased local capacity to resolving disputes over natural resources, developed rural infrastructures such as roads, and also increased the capacity of beneficiaries towards management of economic activities (IFPRI, 2008).

Nigeria is part of the 189 countries that signed Millennium Development Goals in the year 2000 and responded to it by developing the National Economic Empowerment and Development Strategies (NEEDS) in year 2002, which is a replica of the Millennium Development Goals. The National Economic Empowerment and Development Strategies piloted several agencies such as Agricultural Credit Guarantee Scheme which provides for farmers loan, and Nigerian Agricultural Insurance Corporation which provides risk cover in case of crop failure, natural disaster and loss of livestock, and Small and Medium Scale Enterprises Development Agency of Nigeria to (SMEDAN) which provide micro credit (ICARRD, 2007). In 2003, the Community Based Agriculture and Rural Development Programme (CBARDP) which was the collaboration of the Federal Government of Nigeria and the International Fund for Agricultural Development (IFAD) took off. The programme aimed at improving the livelihood of the rural community dwellers with great emphasis on the women and other vulnerable groups within area of programme. This is being pursued using two main components namely awareness and capacity building; and community Developments (ICARRD, 2007).



### 2.1.2 Agriculture and sustainable rural development in Nigeria

Sustainable rural development is vital to the economic, social and environmental visibility of nations. The Nigerian Rural development policy was subsumed into the third Development Plan, 1975-1980 in order to boost rural agricultural productivity and income, diversify rural economy and as well sustain the living standard of the rural dwellers (Ogidefa, 2010). Improved agriculture can sustain rural incomes and purchasing power. Sustainable rural development was conceived in the context of agricultural expansion (Ihejiamaizu, 2002). Integrated Rural Development (IRD) emanated in the mid- seventies in Gusau and Funta, later known as Agricultural Development Project (ADP). It was a major channel for basic agricultural distribution attested to its success of the strategy as it targeted rural farmers and farming.

The River Basin Development Authorities (RBDA) was established in 1976. The regions development in which the country was divided into initiated regional development through better management of land and water resources to produce more food, income and high standard of living (Ogbuagu, 1995). Nigeria signed the Millennium Development Goals in 2000 and developed the National Economic and Development Strategies (NEEDS) in 2002 with objectives expressed in Agricultural Credit Guarantee Scheme which provides loan for farmers, Nigeria Insurance Corporation, small and medium Scale Enterprise Development of Nigeria (SMEDAN) (ICARRD, 2007), independent fund for Agricultural Development (IFAD). The concept of sustainable rural development is referred to our use of environmental resources to satisfy current demands, we must not inflict irreversible damage on the environment in such a way as to jeopardize the ability of future generations to meet their needs. Therefore, sustainable rural development advocates designed development that meet the needs of the present generation without compromising the ability of future generations in meeting their own needs (Abumere, 1997).

### 2.1.3 Food security and sustainable rural development

Food security and its relationship to agriculture and sustainable rural development have increasingly become a concern to the people. Fadesere (2011) indicated that “despite the vast achievement from agriculture and sustainable rural development programmes in the last few decades on food security, 6 percent of the population which is about 9.8million people is still undernourished and poverty level is about 54.7 percent with majority of them in the rural areas”.

The National Food Security Programme (NFSP) of 2008 was designed to combat food insecurity by ensuring that Nigerians have access to quality food while making the nation a major exporter of food items. The programme designated priority plants and crops (cocoa, palm tree, rice, cassava etc.) which the people are known for its productions for sustainable food security. As the population of the area continues to grow, much efforts and innovations are needed in order to increase and sustain food production, improve supply chain, and reduce food wastage. The agricultural system world over must become more productive and less wasteful in order to acquire food security and sustain rural development. Sustainable food systems and agricultural practices such as production and consumption must be tackled from the integrated and holistic perspective (Williams, 1994).

Healthy soil, land, water and plant genetic resources are key inputs into food production and their growing scarcity in most parts of the world makes it imperative to use and manage it sustainably. Growth in agricultural productivity will increase food availability and benefit consumers to the extent that domestic prices are lower than they would have been without the growth. Productivity gains imply lower unit costs and also translate into higher incomes for farmers’ innovation. The New Sustainable Development Goals (SDG 2) include significance number of interconnected objectives related to agriculture and food supply. It focuses explicitly on food by seeking “end hunger, achieve food security and improve nutrition and promote sustainable agriculture”. Sustainable Development Goals (SDG 1) focuses on poverty reduction, where agriculture and food have major roles to play (Eboh, 1995).

Food security exists when everyone has physical or economic access to sufficient safe and nutritious food to meet their dietary needs and food preferences for an active and healthy life at all times (FAO, 1996). Food security can be achieved through improvement of agricultural production (Nkpoyen; Bassey and Uyang, 2015). There is food security and sustainable rural development only when there is enough available and accessible food and agricultural products to provide nutrition for all inhabitants, while ensuring forage for animals and water in case of disaster, war, and crises. Food security difficulties are classified into two areas; quality (stability and health) and quantity (availability and accessibility) and have severe effects on the five dimensions of food security which are: food availability, price volatility, population access to food availability, food utilization and food stability (Nkpoyen et al, 2015).

### **2.1.4 Employment generation and sustainable rural development**

Agriculture is known as the single largest employer of labour in the world, providing livelihoods for over 40 per cent of today's global population. It is the largest source of income and employment generation for rural households. Agriculture is the major business in the rural areas where many families rely upon for survival and sustenance. According to Lin (2012), many rural communities rely on jobs in the agricultural sectors. Oladipo (2008) observed that for rural development to be sustained there must be enhanced rural income, reduced poverty and employment generation, increased rural value, added production etc. Maximum employment is the objective of any good government (federal, state and local) for its citizenry, but in reality, it is likely unachievable, but unemployment reduction to its barest minimum is practicably possible without negatively affecting other aspects of the economy.

Agriculture is a sector with great employment potential. Domestically growing and processing some of the fruits, vegetables, grains and other food products that we currently import is a very unique way towards revitalization of the agricultural sector and generate employment. A natural skill is required to perform most functions needed in the agricultural sector in order to provide opportunity to integrate employment instead of depending on social assistance (white collar job) with earned wages (Raheem, Oyeleye, & Adeniji, 2014).

### **2.1.5 Raw materials production and sustainable rural development**

Over the years, the interest of the financial sector and investors in the agriculture industry has clearly been on the increase. Raw material (known as assets class) is the major interest of most investors. Raw materials have established an alternative to classic shares and loans as the chances of higher Return on Investment (ROI) is extremely high. Raw materials provide a considerable contribution to risk diversification of the capital, as their prices are influenced by factors of production other than loans and shares. The production of agricultural raw materials cannot be increased arbitrarily, but it is subject to natural fluctuation, whereas demand grows continuously. Raw materials investment is an attractive asset alternative for many investors (Obasi & Oguiche, 1995).

According to Akhimien (2005) the agro based industries (wood, crop, milling, shoe and textile industries) utilize agricultural produce as raw materials. Agricultural raw materials as well as raw materials from the forestry and fishing industries are subdivided into those of plant (feral plants, medicinal plants, wood, grains and industrial crops etc.) or animal (fish, meat, milk, hides, wool, skins etc.) origin. Comprehensive processing of agricultural raw materials is an important source for expanding the raw materials base and increasing the economic efficiency of the industry and thereby brings a sustained development into the concerned area (Ogbazi, 2006).

## **2.2 Theoretical framework**

### **Sustainable livelihood approach**

Sustainable livelihood is inspired by the work of Robert Chambers in the 1980s, and has been further developed by Chambers, Conway and others in the 1990s (DFID, 2000). The framework is a tool for sustainable development, by highlighting how to understand, analyze and describe the main factors that affect the livelihoods of the poor people. DFID (2000) states that "a livelihood comprises the capabilities, assets (including both material and social resources) and activities required for a means of living. A livelihood is sustainable when it can cope with and recover from stresses and shocks, maintain or enhance its capabilities and assets, while not undermining the natural resource base."

In the late 1990s, there was a major paradigm shift from top-bottom to a bottom – top approach in agricultural productivity. The instrument behind this bottom-top approach detaches itself from the conventional economic theories of growth and agricultural intensification for growth. The livelihood attempts to address the problems of defusing the connection between rural life and agriculture. It begins by understanding the portfolio of livelihood strategies of the individuals, households or communities of the rural space collected at a local level. The approach is a new rural development paradigm that helps to clarify how new resource bases are created, how the irrelevant is turned into the valued (Kolliar & Gamper, 2002). Sustainable livelihood approach was developed by British Department For International Development (DFID) in mid 1980s. The approach was intellectualized after the Brundtland Commission Report (1987) put forward the concept of sustainable development.

Livelihood comprises “capabilities, assets (stores, resources, claims and access) and activities required for a means of living; a livelihood is sustainable when it can cope with and recover from stress and shocks, maintain or enhance its capabilities and assets, and provide sustainable livelihood opportunities for the next generation; and which contributes net benefits to other livelihoods at the local and global levels and in the short and long term” (Chambers & Conway, 1992). Livelihood as a concept has become increasingly popular in developmental thoughts as a means of conceptualizing the economic activities of the rural people (Adato & Meinzen-Dick, 2002). Sustainable rural livelihood has become increasingly central to the debate on poverty reduction, rural development and environmental management (Scoones, 1998). This approach is dynamic and holistic- it covers a broad range of strategies and places emphasis on both social and economic aspects of rural life. As its strength, the approach represents what is known as rural life and poverty. It recognizes the importance of multi-actors involved in the development process to form a wider range of partners. The approach is known to place greater emphasis on food security and importance of local resources as materials for production purposes and on self sufficiency of local actors. The sustainability dimension helps to reduce vulnerability of rural communities to the overall sustainability of their livelihoods.

### 3.1 Research design

This study adopted the survey method of descriptive research design because it allows usage of both qualitative and quantitative approaches. According to Osuala (1993), survey design is oriented towards the determination of research subject status. Survey research design uses both questionnaire and interviews (quantitative and qualitative) to ascertain the opinions of the rural people towards agriculture and sustainable rural development. Through this design, the researcher attempted to use the independent variables (food security, employment generation and raw materials production) to observe the response on the dependent variables. The design implied that the following sub dependent variables of food security, employment generation and raw materials production were not in the control of the researcher. However, the relationship of these variables to the dependent variable of sustainable rural development was studied in the end.

### 3.2 Area of study

The area of the study was Ini local government area of Akwa Ibom state, Nigeria. Specifically Asanting Utit Ikpe, Ekoi Atan Ubom, Ikot Ukpong Ikpe, Itu Mbon Uso, Ikpe Ikot Nkon, Mbiabet Ikpe, Mbiabong Mbat, Nkanna, Obot Mme and Ukwok. Ini has three major dialects: Ibibio, Itu and Nkari speaking people with a total population of 99,084 having male population of 50,108 and female population of 48,976 (National Population Commission, 2006). Ini local government area comprises of 6 clans; Itu, Odoro Ikono, Nkari, Ikpe, Iwere and Ukwok clans, each headed by a traditional head known as Clan head and it also comprises of 10 political wards.

Ini local government area is bounded by Ikono in the North and West, Ohafia local government area of Abia state in the East, Aruchukwu and Bende local government areas of Abia state in the South. The climate is generally tropical with a temperature of less than 40°C throughout the year. Ini people are predominant farmers producing items such as rice, cocoa, palm produce, cassava, fishery, banana, maize and plantain. Ini is nicknamed the food basket of Akwa Ibom state and as such, there are enormous potentials for agricultural expansion.

### 3.3 Population of the study

The population of this study comprised all inhabitants of Ini local government area of Akwa Ibom state. It was made up of all adults of all works of life residing in the study area that are farmers, self-employed, entrepreneurs, gainfully employed etc. Ini has a total human population of 99,084 (NPC, 2006) which is the population of the study. It is from this targeted population that a representative sample for the study was drawn.

### 3.4 Sample size

The sample for this study was 400 respondents (males and females) who were purposively selected due to their proximity to farming and activities from 10 communities of Ini local government area of Akwa Ibom state. The sample size comprised people living in Ini local government area ranging from farmers, traders/entrepreneurs etc irrespective of their status. Forty (40) respondents were selected from Asanting Utit Ikpe, forty (40) from Itu Mbon Uso, forty (40) from Mbiabet Ikpe, forty (40) from Obot Mme, forty (40) from Ukwok, forty (40) from Ekoi Atan Ubom, forty (40) from Ikot Ukpong Ikpe, forty (40) from Nkanna, forty (40) from Mbiabong Mbat and forty (40) from Ikpe Ikot Nkon making it a total of 400 participants. The computation of Taro Yameni's formula is presented below:  $n = N$

$$1 + N(e)^2$$

Where n = sample size

N = population of the study area (99,084)

E = level of significance (0.05)

1 = constant

n = 99,084

$$\frac{99,084}{1 + 99,084}$$

$$= \frac{99,084}{1 + 99,084}$$

$$= \frac{99,084}{99,085} (0.0025)$$

$$= \frac{99,084}{247.7125}$$

$$= \frac{99,084}{247.7125}$$

$$= 399.99956$$

$$= 399.99956$$

$$= 399.99956$$

Thus, sample size = 400 respondents

### 3.5 Sampling procedure

The study adopted stratified, purposive, clusters and systematic techniques in selecting respondents. The ten (10) political wards constituted the 10 strata of the study. From these 10 political wards (strata) the researcher also purposively studied only communities where agricultural activities are actively involved in sustainable rural development basis. From the 10 strata, the 10 communities were purposively studied based on their proximity to agricultural cultivation. These 10 communities constituted 10 clusters in the study. These were: Asanting Utit Ikpe, Ekoi Atan Ubom, Ikot Ukpung Ikpe, Itu Mbon Uso, Ikpe Ikot Nkon, Mbiabet Ikpe, Mbiabong Mbat, Nkanna, Obot Mme and Ukwok. The respondents were selected as follows; Asanting Utit Ikpe (40 respondents), Itu Mbon Uso (40 respondents), Mbiabet Ikpe (40 respondents), Ekoi Atan Ubom (40 respondents), Mbiabong Mbat (40 respondents), Ikot Ukpung Ikpe (40 respondents), Nkanna (40 respondents), Ikpe Ikot Nkon (40 respondents), Obot Mme (40 respondents) and Ukwok (40 respondents). The study purposively selected 400 respondents from 10 communities. The sample comprise of males and females who have fair/practical knowledge of agriculture in the rural area.

### 3.6 Sources and instrument of data collection

Data for the study were obtained from primary and secondary sources. The main instrument of the study was a 35-item questionnaire. It was entitled Agriculture and sustainable rural development scale. It consist of three sections: A, B, and C, section A: This contained items that seeks information on the demographic characteristics of respondents such as sex, age, marital status, educational qualification, religion and occupation. Section B: this section consisted 29 items measured on 4-point Likert scale type that access the opinion of people on impact of agriculture on sustainable rural development. These items measured the three major independent variables of the study. Thus, this sub section was divided into 3 sub scales (sub sectors):

Sub-scale 1: Food security.

Sub-scale 2: Employment generation

Sub-scale 3: Raw materials production.

Section C: this section consisted of sustainable rural development items. It measured six (6) items.

### 4.1 Data presentation

The presentation and the analysis of data were based on 365 out of 400 copies of the research instrument. This number represented the questionnaire completed and returned. This represented 91.25percent of total respondents. Analysis of data was done using percentages and chi square at 0.05 level of significance.



**Table 1**  
**Demographic profile of the respondents**

S/n	Items	Variables	No. of respondents	Percentage (%)
1	Sex	Male	192	52.60
		Female	173	47.39
		<b>Total</b>	<b>365</b>	<b>100</b>
2	Age	18-23	40	10.95
		24-29	47	12.87
		30-35	84	37.81
		36-41	56	23.01
		42 and above	34	15.34
		<b>Total</b>	<b>365</b>	<b>100</b>
3	Marital status	Single	120	32.87
		Married	212	58.08
		Divorced	15	4.10
		Widow	56	2.19
		Others (specify)	10	2.73
		<b>Total</b>	<b>365</b>	<b>100</b>
4	Educational level	Non formal	58	15.89
		Primary	89	24.38
		Secondary	144	39.45
		Tertiary	74	20.27
		<b>Total</b>	<b>365</b>	<b>100</b>
5	Religion	African Traditional	17	4.65
		Christianity	345	94.53
		Islamic	0	0
		Others (specify)	3	0.82
		<b>Total</b>	<b>365</b>	<b>100</b>
6	Occupation	Farming	140	38.35
		Trading	85	23.28
		Civil servant	35	9.58
		Artisan	75	20.54
		Unemployed	30	8.21
		<b>Total</b>	<b>365</b>	<b>100</b>

Source: Field Survey, 2018

Table 1 shows the respondents' responses on personal and demographic information. It is observed that in terms of sex, 52.60 percent (N =192) respondents were males while 47.39 percent (N = 173) respondents were females. This implies that the males were more represented than females. Also, the males were available during the period of the study. This affirms the fact that males are more than females in the study area.

In terms of age of respondents, 10.95 percent (N=40) were between the age brackets of 18-23years; 37.81 percent (N= 84) respondents between age brackets of 30-35 years; 23.01 percent (N=56) respondents between the age brackets of 36-41 years while 15.34 percent (N=34) respondents were between the age brackets



of 42 years and above. This indicates that majority of the respondents were between the age brackets of 30-35 years with 37.81 percent (N=84) respondents.

In terms of marital status, it is indicated that 58.08 percent (N=212) respondents were married, 32.87 percent (N=120) respondents were single; 4.10 percent (N=15) respondents were divorced; 2.19 percent (N=56) respondents were widows; while 2.73 percent (N=10) respondents were categorized as other. The finding shows that the married people participated more and they constituted majority of the respondents probably due to the fact that they were available during the study.

Responses gotten on educational level indicate that 15.89 percent (N=58) respondents had no formal education, 24.38 percent (N=89) respondents had attended primary education; 39.45 percent (N=144) respondents had attended secondary education while 20.27 percent (N=74) respondents had attended tertiary institutions. This indicates that people with secondary education level participated more in the response to the study.

In terms of religion, it is indicated that 4.65 percent (N=17) respondents were of African tradition, 94.53 percent (N=345) respondents were Christians, 0.82 percent (N=3) were for others, whereas none of the respondents responded to Islamic religion. This finding indicates that there are no practices of Islamic religion in Ini local government.

In the area of occupation, the study indicates that 23.28 percent (N=85) respondents were traders, 38.35 percent (N=140) respondents were into farming, 9.58 percent (N=25) respondents were civil servants, 20.54 percent (N=75) respondents were Artisans, while 8.21 percent (N=30) were unemployed.

#### 4.2 Data analysis

**Table 2**  
**Chi square ( $X^2$ ) analysis of the association between food security and sustainable rural development**

Cell	O	E	O-E	(O-E) <sup>2</sup>	(O-E) <sup>2</sup> /E
1	55	46.85	8.15	66.4225	1.42
2	35	43.15	-8.15	66.4225	1.54
3	30	52.05	-22.05	486.2025	9.34
4	70	47.95	22.05	486.2025	10.14
5	35	41.64	-6.64	44.0896	1.06
6	45	38.36	6.64	44.0896	1.15
7	70	49.45	20.55	422.3025	8.54
8	25	45.55	-20.55	422.3035	9.27
<b>Total</b>	<b>365</b>				<b>42.46</b>

Source: Field Survey, 2018

Since the calculated ( $X^2$ ) value was 42.46, null hypothesis which states that there is no significance association between food security and sustainable rural development was rejected in favour of the alternate hypothesis. This means that food security has a significant association with sustainable rural development. It also implies that through food security, the sustainable rural development of Ini local government has been improved.

**Table 3**  
**Chi-square ( $X^2$ ) analysis of the association between employment generation and sustainable rural development**

Cell	O	E	O-E	(O-E) <sup>2</sup>	(O-E) <sup>2</sup> /E
1	165	98.84	66.16	4377.1456	44.29
2	30	96.16	-66.16	4377.1456	45.52
3	20	86.16	-66.16	4377.1456	50.80
4	150	83.84	66.16	4377.1456	52.21
<b>Total</b>	<b>365</b>				<b>192.82</b>

Source:Field Survey,2018

Since the calculated ( $X^2$ ) value was 192.82, null hypothesis which states that employment generation has no significant association with sustainable rural development was rejected in favour of the alternate hypothesis. This means that employment generation has a significant association with sustainable rural development. It implies that employment generation has helped in improving sustainable rural development in Ini local government area.

Table 4

**Chi-square analysis of the association between raw materials production and sustainable rural development**

Cell	O	E	O-E	(O-E) <sup>2</sup>	(O-E) <sup>2</sup> /E
1	130	108.97	21.03	442.2609	4.06
2	85	106.03	-21.03	442.2609	4.17
3	55	76.03	-21.03	442.2609	5.82
4	95	73.97	21.03	442.2609	5.98
<b>Total</b>	<b>365</b>				<b>20.03</b>

source:Field Survey,2018

Since the calculate ( $X^2$ ) was 20.03, the null hypothesis which state that raw materials production has no significant association with sustainable rural development was rejected in favour of the alternate hypothesis. This means that raw materials production has a significant association with sustainable rural development. This implies that raw materials production has helped improve sustainable rural development.

#### 4.3 Discussion of findings

##### 4.3.1 Food security and sustainable rural development

The chi-square result of analysis of hypothesis one revealed that significant association exist between food security and sustainable rural development. The calculate ( $X^2$ ) values was 42.46 as evidence in table 2 earlier indicated that the people principally rely on food security for sustainable rural development. The finding here supports existing literature that food security exist when everyone have physical or economic access to sufficiently safe and nutritious food to meet their dietary needs and food preferences for an active and healthy life at all times (FAO, 1996). The term Food security can be achieved through improvement of agricultural production (Nkpoyen; Bassey & Uyang, 2015).

There is food security and sustainable rural development only when there is enough and available food and agricultural products to provide nutrition for all inhabitants, while ensuring forage for animals and water in case of disaster, war, and crises. Food security challenges are classified into two areas; quality (stability and health) and quantity (availability and accessibility) and have severe effects on the five dimensions of food security which are: food availability, price volatility, population access to food availability, food utilization and food stability

##### 4.3.2 Employment generation and sustainable rural development

The chi-square result of analysis of hypothesis two showed that a significant association exist between employment generation and sustainable rural development. The calculate ( $X^2$ ) values was 192.82 as evidence in table 3 earlier indicated that employment generation is a key to sustainable rural development. The finding supports Lynne (2013) that many rural communities rely on jobs in the agricultural sectors. Oladipo (2008) observed that for rural development to be sustained there must be enhanced rural income, reduced poverty and employment generation, increased rural value, added production etc.

##### 4.3.3 Raw material production and sustainable rural development

The chi-square result of analysis of hypothesis three showed that a significant association exist between raw materials and sustainable rural development. The calculated ( $X^2$ ) values was 20.03 as evidence in table 4 earlier indicated that raw materials production has helped improve sustainable rural development. The study corroborates the findings of Akhimien (2005) that the agro based industries (wood, crop, milling, shoe and textile industries) utilize agricultural produce as raw materials. Agricultural raw materials as well as

raw materials from the forestry and fishing industries are subdivided into those of plant (feral plants, medicinal plants, wood, grains and industrial crops etc.) or animal (fish, meat, milk, hides, wool, skins etc.) origin. Comprehensive processing of agricultural raw materials is an important source for expanding the raw materials base and increasing the economic efficiency of the industry and thereby brings a sustained development into the concerned area.

## 5. Summary, conclusion and recommendations

The study was conceived on the basis to determine the relationship between agriculture and sustainable rural development in Ini local government area of Akwa Ibom State, Nigeria. To achieve this purpose, three (3) hypotheses were formulated base on identified variables namely; food security, employment generation and raw materials production and sustainable rural development respectively. Data for the variables were generated using a 35-item questionnaire entitled agriculture and sustainable rural development. Survey method of descriptive research design was adopted in this study. Data was collected from three hundred and sixty five (365) out of four hundred (400) purposively selected inhabitants (male and female) of study area. The generated data was calculated using chi-square. The calculated data revealed that food security, employment generation and raw materials production have significant relationship with sustainable rural development.

Based on the findings of the study, it is concluded that agriculture has a significant relationship with sustainable rural development of Ini local government area of Akwa Ibom state. Agriculture has assumed a high degree of prominence in the development sector. A little more attention to agriculture is expected to empower the people and sustain rural development. Agriculture has the potential for the provision of diversified affordable and dependable source of sustainable rural development. Agriculture as stressed in the study is a potent weapon of sustainable rural development through its potential for food security, employment generation and raw materials production.

It is therefore recommended that:

- i. Since food security is positively linked with sustainable rural development, appropriate measures such as functional investment in agriculture, application of organic fertilizer which enhances small land massive production etc, should be carried out by individuals, government and organized private sectors to ensure consistent food security for all.
- ii. Unemployed youths should be encouraged to see agriculture as very essential for employment generation for the overall improved sustainable rural development. Those practicing agriculture should be aware that enhancing sustainable rural development does not only depend on putting food on the table, but accessing a better quality of life by generating employment for themselves through agriculture.
- iii. The agricultural sector should not only render food security, employment generation and raw materials production. The rural poor who are mostly men should be made to acquire more knowledge on the use of these raw materials produced for further processing.

## References

- Abass, I.M. (1993). The challenge of rural development strategies in a deregulated economy being a paper prepared for a National Seminar on Rural Development Doing more less Developing Rural Resources in a Deregulated economy organized by New Nigerian Newspapers Limited in collaboration with Arthur Green Consultants held at Shiroro Hotel Minna, Niger State.
- Abumere, S. (1997). "Some thoughts on GIS Cartography and sustainable development" in Isilkuoria [ed.] Cartography and Geographic information systems for sustainable development.
- Adaliku, R; Isa, O. & Usoroh, B. (2017) United Nations Development Programme (UNDP) Agricultural Intervention Through Micro-Finance and Poverty Alleviation in Uyo Metropolis, Akwa Ibom State, Nigeria. *IJRDO-Journal of Agriculture and Research*, 3,(11).
- Adato, M. & Meizen-Dick, R. (2002) Assessing the impact of agricultural research on poverty using the sustainable livelihoods framework. FCND discussion paper 128.
- Alabi, O. (2008) Impact of microcredit scheme of Nigerian Agricultural Cooperative and Rural Development Bank on Annual Crop Farmers in Bakori Local Government Area of Katsina State. *Int'l J. Sustain. Agric. Res.* 28:22-26

- Akheimien, F. (2005). The Role of Agro-Based Industries in Rural Development in Esan Land. Unpublished Ph.D. Thesis, Department of Geography and Regional Planning, Ambrose Alli University, Ekpoma.
- Anderson, J. (2007) Agricultural advisory services, background paper for 2008 World Development Report, Washington, D. C.: World Bank.
- Brundtland Report (1987) Our Common Future: Milestone in sustainable development, UN.<https://www.un.org/development/desa/indicators/2030agenda/un-milestones-in-sustainable-development/1987-brundtland-report.html>. Retrieved January 15, 2018.
- Chambers, R. & Conway, G. (1992) 'Sustainable rural livelihoods: practical concepts for the 21<sup>st</sup> century', IDS Discussion Paper 296, Brighton: IDS.
- DFID. (2000) Sustainable Livelihood Guidance Sheet. <http://www.livelihoodscentre.org/documents/20720/100145/Sustainable+livelihoods+guidance+sheets/8f35b59f-8207-43fc-8b99-df75d3000e86>. Retrieved January 8, 2018
- Eboh, E. C. (1995). Sustainable development: the theory and implications for rural Nigeria. In E. C. Eboh, C. U. Okoye and D. Ayichi (Eds.); *Rural Development in Nigeria: Concepts, Processes and Prospects*. Enugu: Auto-Century Publishing Company.
- Ekpo, A. & Olaniyi, O. (1995). Rural development in Nigeria: analysis of the impact of the Directorate for Food, Roads and Rural Infrastructure (DFRRI) 1986 -93. In E. C. Eboh, C. U. Okoye and D. Ayichi (Eds.); *Rural Development in Nigeria: Concepts, Processes and Prospects*. Enugu: Auto-Century Publishing Company.
- Fadesere, T. (2011) Agriculture and rural development in Nigeria: a retrospect of the last two decades (1991-2011) N. I. A. – Nigerians in America.
- FAO. (2006). The State of Food Insecurity in the World 2006: Eradicating world hunger – taking stock ten years after the World Food Summit. Rome.
- Ihejiamaizu, E. (2002). Sociology of Nigerian Rural Society. African Scholar's Publishing Company, A Division of IHENT Nig Ltd, Owerri.
- Ijere, M. O. (1990). The challenges of rural development in Nigeria. In A. I. Ikeme (Ed.); *The Challenges of Agriculture in National Development*. Enugu: Optimal Computer Solutions, Ltd.
- International Food Policy Research Institute (IFPRI) (2008). Reducing poverty and hunger in Asia Islam, Nurul, ed. 60 p.-- Washington, D.C
- ICARRD (2007) Nigeria National Report. A Paper presented at International Conference on Agrarian Reform and Rural Development by FAO in Porto Alergre. Retrieved on December, 2017 from [www.icarrd.org/en/icard\\_doc\\_down/national\\_Nigeria.doc](http://www.icarrd.org/en/icard_doc_down/national_Nigeria.doc).
- Kolliar, M. & Gamper, S. (2002). The sustainable livelihoods approach, input Paper for the integrated training course of nccr north-south, zurich: Univeristy of Zurich.
- Lin, J. Y. (2012). New Structural Economics: A Framework for Rethinking Development and Policy. Washington, DC: World Bank.
- Mabogunje, A. (1990). Urban Planning and the Post-Colonial State in Africa: A Research Overview. *African Studies Review*, 33, 121-203.
- Nkpoyen, F; Bassey, G. & Uyang, F (2015) Strategic Options for Agricultural and Rural Development Challenges in Sub-Saharan Africa: The Case of Nigeria. *Global Journal of Human Social Sciences Research*; 15(3).



- NPC (2006). Population Census of the Federal Republic of Nigeria” Analytical Report of National Level, NPC Abuja.
- Obasi, I. N. and Oguche, D. (1995). Innovative programmes in rural development in Nigeria: an evaluation of the Better Life Programme using the APBS framework. In E. C. Eboh, C. U. Okoye and D. Ayichi (Eds.); *Rural Development in Nigeria: Concepts, Processes and Prospects*. Enugu: Auto-Century Publishing Company.
- Ogbazi, N. J. (2006). The Role of Agricultural Education in Rural Development. In E. E. Umebali and C. J. C. Akuibilo. (Eds.); *Readings in Cooperative Economics and Management*. Lagos: Computer Edge Publishers.
- Ogbuagu, C. S. (1995). Nigeria: Development Policies and Programme. Calabar: University of Calabar Press.
- Ogidefa, I. (2010). Rural development in Nigeria: concept, approaches, challenges and prospect. <http://socyberty.com/issues/rural-development-in-nigeria-concept-approacheschallenges-and-prospect/>. Retrieved on January 22, 2018.
- Oladipo, O. (2008). "Foreign Direct Investment and Economic Growth in a Small Open Economy: An Empirical Investigation." Paper presented at the Northeast Business and Economic Association 35th Annual Conference, Long Island, New York, November 6th - 8th.
- Osuala, E. C. (1993). Introduction to research methodology. Onitsha Publishers.
- Raheem, W. & Bako, A. (2014). Sustainable rural development programmes in Nigeria: issues and challenges. *Asian Journal of Science and Technology*. 5, 9, 577-586.
- Raheem, W.M.; Oyeleye, O.I. & Adeniji, M.A. (2014). Farming as a panacea to unemployment in Nigeria: The Oje Owode Experience. *American Journal of Sustainable Cities and Society*. 1 (3) 419-437.
- Scoones, I. (1998). Sustainable rural livelihoods: A framework for analysis. IDS Working Paper No. 72. Inst. Dev. Studies, Sussex, UK.
- Williams, S. K. T. (1994). Issues and priority in agricultural extension in Nigeria in the 21st century. *Keynote Address Presented at the Maiden Conference of Society for Nigerian Agricultural Extension*. ARMTI, Ilorin, February 28 – March 4.