Coconut investment and Poverty Reduction in Nigeria (1999-2019)

Okoroji Nma Okechukwu

ABSTRACT

The study identified inadequate supply of implements and inputs, low rate of adoption of new technology by farmers, lack of technical knowhow, perceptions about methods, land constraints, lack of loan ageing labour, post-harvest technology problems, disease and pest management problems and other natural hazards as some of the factors that necessitated this study. In view of these, the research sought to quantify the nature of relationship between Investments in coconut production and Poverty Reduction in Nigeria. This study was anchored on the Technology Acceptance Model by Fred Davis and Richard Bagozz in 1986. The study adopted correlational survey to establish what relationship exists between two or more variables while only secondary data. The study utilized the Ordinary Least Square (OLS) method of analysis. This statistical tool seeks to establish the strength or degree of association between the dependent and independent variables. The findings of the study revealed that there is a significant positive relationship between Investments in coconut production and Poverty Reduction in Nigeria and concluded that investment in the coconut subsector has greatly reduced the level of poverty in Nigeria. the study recommended that the government should promote various investment schemes in the coconut subsector as its impact has a great influence in alleviating poverty in Nigeria.

INTRODUCTION

1.1 Background of the Study

Nigeria has always played a major economic role in the world, being referred to as the largest black nation, the Nigerian economy is one of the most developed economies in Africa with a gross domestic product (GDP) which has almost tripled from $170 billion in 2000 to $451 billion in 2012, although estimates of the size of the informal sector (which is not included in official figures) put the actual numbers closer to $630 billion. In 2017, the agricultural sector contributed 26.15% to overall GDP in real terms during the further quarter, slightly higher than

the contribution in the fourth quarter of 2017 (26.13%), but lower than the third quarter of 2018 (29.25%) (NBS, 2019).

Agriculture is the bedrock of economic growth, development and poverty eradication in the developing countries. Agriculture has also regarded as the engine and panacea to economic prosperity. According to Sertoglu, Ugural and Bekun (2017), the battle for long-term economic growth will be won or lost in the agricultural sector. Agriculture is the mainstay of Nigeria's economy accounting for more than half of the workforce with major staple crops such as cassava, yam, maize, sorghum, rice, palm kernel, millet and coconut, etc. These crops together cover 65% of the total cultivated area. The major cash crops include beans rice, sesame, cashew nuts, cassava, cocoa beans, groundnuts, gum arabic, kolanut, maize (corn), melon, millet, palm kernels, palm oil, plantains, rice, rubber, sorghum, soybeans, bananas, yams and coconut (Adesina, 2012).

Coconut is one of the most important and useful palms in the world, with Indonesia, Philippines and India respectively ranking as the Topmost producers of coconut in the world. It is fondly referred to as the **"tree of life"** for its important role in smallholders' livelihoods as a direct source of cash income, nutrition, and materials (Warner, 2007). Coconut farming is a cash-tree that receives very little attention in Nigeria. Coconut has great adaptation and incredible plasticity features that is undemanding, it adapts to many soil types and climates. It resists bad weather conditions and produce continuously from the age of 4 or 7 years to 60 years. Coconut farming is a gold mine because of its wild range of industrial application of most of the products. For a crop not indigenous to Nigeria, she is blessed with coconut trees which could be harnessed for industrial development through which the quality and standard of living of the people can be improved.

Coconut occupies a pre-eminent position in the Nigerian economy in providing employment to a large number of people living in the coconut belt if special consideration is given to its cultivation. Also, coconut production in Nigeria has the potential to be the industrial and economic springboard from which a country's development can advance geometrically as its value chain in Nigeria has provided several opportunities that are available to individuals through the processing and packaging of coconut. With value addition, coconut has much potential from itself, as it can be processed into various forms with readily available and consuming markets in Nigeria. Coconut can be processed into various products that can be used industrially or as food. Coconut products are used by many sectors and industries. Some of the

industries or sectors where coconut products are used are Pharmaceuticals, Cosmetics, Beverage etc. Coconuts are also used in the preparation of delicacies like chocolate, crepes, candy etc.

Industrially, coconut extracts are processing into the making of cosmetics (body lotions and Creams) and fruit drinks and even vinegar in Nigeria. The coir, a natural elastic fiber taken from coconut husks, can be used to make floor mats, brushes, ropes and strings. Coconut leaves can be used to make brooms, baskets, roofing thatches and temporary sheds. Coconut lumber is used for building houses and furniture (Emeaghalu, 2018). Fuel and charcoal can be produced from husks and coconut shells. A wide range of coconut products are internationally traded. There are more than 50 unprocessed, semi processed or processed coconut products entering the international markets in small and big quantities. For example, coconut water has gained popularity over the last few years—not only as refreshment but also as a sports drink. Coconut water is by far the leading plant-based water available for sale worldwide. In 2016, coconut water accounted for 96% of the volume share in the global sale of all plant-based water with over 700 million liters sold and with a market value of about $2.2 billion. Aside from the well-known exports of copra and coconut oil, other exports which have a significant volume are desiccated coconut, copra meal, coco chemicals (fatty acids, fatty alcohol, methyl ether), shell charcoal and activated carbon, fiber products, coconut cream, milk, flour and nata de coco. Indeed, a critical foresight into the coconut value chain can lead to rural transformation, redistribution, poverty alleviation and socio-economic development (Stewart, 2000)

Coconut palm is not indigenous to Nigerian agriculture but of the humid tropics; Although it is known to grow under diverse types of climate and is highly adaptable, are usually grown along the sea coast and in plain grounds, with the aid of its husky exocarp, they can float on the ocean for months and still germinate when beached, hence they may have arisen anywhere between the eastern Indian and western Pacific oceans. In Nigeria, 15,000 ha of land are estimated to be under coconut cultivation in the country, mostly in the coastal areas of Lagos State and the delta areas of Rivers State (Akpan 1994). Another estimated 1.2 million hectares have been identified as suitable for coconut cultivation. Prior to the age of discovery, coconuts were dispersed from East Africa to the Pacific coast of Panama. Coconuts provided the only source of food and water on many of the atolls across the equatorial Pacific and the natural distribution of coconut may have influenced the initial colonization of the region. It is clear that there were no coconut palms along the east coast of the Americas, western Africa, or the Caribbean prior to European exploration in the sixteenth century.

In Nigeria, coconut has the potential of generating over N10 billion annually for farmers and agribusiness entrepreneurs. For example, Lagos state has the potential for the production of more than 10 million coconut trees with annual production of over 1 billion husked nuts worth over N45 billion. Currently, the production output of dehusked nuts in Nigeria is about 267,520 metric tonnes which is used in the production of less than 1,500 metric tonnes of coconut oil. According to the United States Department of Agriculture (2016), Nigeria coconut oil domestic consumption is about 7,000 metric tonnes thus leaving a supply gap of about 5,500 metric tonnes per annum. It is against this background that the federal government has developed special attention on the crop and agricultural sector at large with the main targets of promoting investment, production and productivity as well as ensuring food security thus, improving the livelihoods of coconut farming communities (URT, 2002).

National Coconut Producers Processors and Marketers Association of Nigeria was formed in 30th August 2018 by visionary stakeholders from the coconut value chain industry in Nigeria. These Visionary stakeholders laid a solid foundation on which the Association spread its tentacles. Nigeria Coconut Producers Processors and Marketers Association is duly registered with the Nigeria Corporate Affairs Commission after a go ahead is given by the Ministry of Industry, Trade and Investment. The National Coconut Producers and Marketers Association of Nigeria (NACOPPMAN) as an umbrella body is charged basically with the responsibility of regulating the Nigerian Coconut Industry for the benefit of all stakeholders be it Coconut producers, Processors, marketers and the government at large.

The National Coconut Producers Processors and Marketers Association of Nigeria (NACOPPMAN) and the Coconut Research Institute of Nigeria (CORIN) were created to introduce improved agricultural technology packages within the coconut-based farming systems. The introduced technologies were coconut seed varieties, integrated pest management, agronomic practices and the processing technologies. These technologies were aimed at improving the household income of small-scale farmers through increasing crop productivity leading to higher income at household level (Emeaghalu, 2018).

NACOPPMAN made a flying start in 2018 as a determined association whose major goal is to make Nigeria a coconut producing hub of Africa by ensuring that a combination of very compatible breeds of coconut seedlings are planted, processed and marketed throughout the world to meet the needs of the consumers. This study is therefore intended to assess the

economic prospects of improved coconut production and its implication on economic prosperity in Nigeria.

1.2 Statement of the Problem

In a surprising note, despite the federal government's effort to ensure that the coconut subsector receives adequate attention in the forms of funding and policy formulation, which has translated to the closure of the land border to reduce imported coconut and encourage planting in the country, coconut production in the nation has been decreasing still. This in turn has dragged the nation behind in terms of development, especially as most countries with a robust coconut subsector has translated to improved overall economic growth.

Although coconut is an important smallholder crop that can grow all over the 36 states of the federation and the federal capital territory and serves as a source of income earnings to a majority of farmers in these regions, the average overall yields are extremely low when compared to the production in the major coconut producers in the world. Coconut farmers are experiencing lower yields as they are not capable of yielding maximum outputs of nuts per palm/year, particularly in the federation's coastal zone (Emeaghalu, 2018). For example, documented data shows that coconut farmers are getting yields in the range of 40-60 nuts per palm/year (NBS, 2004). It is important to understand why there are low yields despite the government's various intervention tools as factors responsible for this can be summarized as inadequate supply of implements and inputs, low rate of adoption of new technology by farmers, lack of technical knowhow, perceptions about methods, land constraints, lack of loan ageing labour, post-harvest technology problems, disease and pest management problems and other natural hazards.

The problems faced by the Nigerian coconut farmers are legions that needs to be tackled headlong before severe hunger typified by poverty and lack of adequate nutrient become real. Of these problems, provision of finance for production seems inadequate to meet the food production needs of the nation. Others problems are rooted in the implements and equipments availability, cost (Ndubizu 2003) and adaptability.

These have made it impossible to realize the benefits of maximum output. Lewis (1954) cited in CBN (2000) theorizes that highly skilled agricultural labour force can sustain the sector in the quest to attain coconut sufficiency while surplus labour is released to industrial and services

sector. This cannot not hold true in Nigeria now against the backdrop of predominance of peasant and uneducated farmers while the population of the country increased geometrically over the years to about 154 million in 2010. Therefore, this study intends to assess the prospects of coconut production in the Nigeria economy.

1.3 Objective of the Study

The broad objective of the study is to justify the influence of coconut production on economic growth in Nigeria. However, the specific objective is;

➢ To quantify the nature of relationship between Investments in coconut production and Poverty Reduction in Nigeria.

1.4 Research questions

➢ What nature of relationship exists between Investments in coconut production and Poverty Reduction in Nigeria?

1.5 Research hypothesis

The following hypothesis was hereby postulated for the research

H_i: There is a significant relationship between Investments in coconut production and Poverty Reduction in Nigeria

1.6 Significance of the Study

The findings of the study will play a vital role towards reframing strategies to boost coconut productivity as well as motivating large scale farmers engaging into coconut production.

The study is also useful to farmers, business men, academia's and the government as it improves their understanding of the prospects of coconut production on economic growth in Nigeria and its impact in creating employment opportunities to the local population thus, increasing their

standard of living and fighting the complications caused by poverty in the society and improving the revenue of the government through taxes and foreign exchange earnings.

Finally, students and researchers of both Social and Management Sciences will also find the work useful as it contributes to existing knowledge in coconut production in Nigeria and forwards the general understanding of the prospects of the coconut subsector in making the economy robust and consequently, form a basis for further research

1.7 Scope of the Study

In the light of broad coverage, the research is focused on the influence of coconut production on economic growth in Nigeria. The research therefore, covers a period of 21 years from 1999 to 2019.

REVIEW OF RELATED LITERATURE

2.1 Conceptual Review

2.1.1 Investments

Investment is defined as the commitment of current financial resources in order to achieve higher gains in the future. It deals with what is called uncertainty domains. From this definition, the importance of time and future arises as they are two important elements in investment (Emeaghalu, 2019). Investing is putting money to work to start or expand a project - or to purchase an asset or interest - where those funds are then put to work, with the goal to income and increased value over time. The term "investment" can refer to any mechanism used for generating future income. In the financial sense, this includes the purchase of bonds, stocks or real estate property among several others. Additionally, a constructed building or other facility used to produce goods can be seen as an investment. The production of goods required to produce other goods may also be seen as investing.

2.1.2 Job Creation

`Job creation is often at the top of the development agenda, for policy makers as well as for social partners and civil society. This is because labour is more than a factor of production; it is

an essential element of any development process, of well-being and social cohesion. It is the process by which the number of jobs in an economy increases. Job creation often refers to government policies intended to reduce unemployment. According to Amadeo (2019), the goal of all job creation strategies is to stimulate healthy economic growth. Economists agree that annual growth between 2%–3% is sustainable, and that usually requires adding 150,000 new jobs per month to employ new worker s entering the labor force. In a free market economy, the government doesn't need to do anything when growth is healthy; capitalism encourages small businesses to compete, thereby creating better ways to meet consumers' needs. Because of this, small businesses account for 65% of all new jobs created. The proper role of government is to provide a supportive environment for growth.

Even a healthy economy is subject to the bubbles and busts of the business cycle. When the economy contracts into a recession, the government must create solutions to unemployment. It may use expansive monetary policy, expansive fiscal policy, or both to stimulate job growth. Here are the four job creation strategies that give the most bang for the buck.

2.1.3 Importance of Coconut Sub-sector and Rationale for Farmers

Coconut is an important oil crop that supports the livelihood of majority of coastal people in Nigeria and the sustainability of their environment. It is referring as to the *Tree of Life* because of the many products that can obtain from one tree crop. However, this has not been the case and poverty continue to loom despite the many products that accrue from the crop (Mwachiro and Gakure, 2011). Despite the enormous potential of the crop, coconut farmers in Nigeria are poor and lack adequate resources to invest in technologies that would improve production (MARI, 2012). To unlock this potential, the Government of Nigeria initiated the National Coconut Producers Processors and Marketers Association of Nigeria (NACOPPMAN) and the Coconut Research Institute of Nigeria (CORIN) in 2018 with the major goal of improving the productivity of the coconut sub-sector through a number of research and development activities (MARI, 2012). The NACOPPMAN put in forth a sound scientific, technical and infrastructure capacity in research for the development of the coconut sub-sector. A number of production and processing technologies were developed, disseminated and also adopted by farmers.

2.1.4 Challenges Facing Coconut Producers

> **Challenges observed in agricultural biotechnology:** Although the country recognizes the tremendous potential that achieved from biotechnology, several challenges need to be

addressed before the goals set had achieved. The following are the challenges facing the smallholder farmers which includes the products of research will not create any measurable impact unless they had transferred to end users and/or commercialized. The challenge is to transfer products to users, particularly to small farmers and fishermen. All countries share these same challenges, opportunities, and constraints although at different levels. The above challenges, opportunities and constraints can be addressed by CGIAR Centers at the International level and by national Research and Development centers at country level, with harmonized activities at international, regional and country levels (Reynaldo, 2000).

➢ **Poor adoption of agricultural technologies:** Reasons for poor adoption of recommended agricultural technologies are many and vary from one place to another. Factors such as poor rural infrastructure, inadequate supporting services, producers limited capital and access to financial services, weak and appropriate legal framework, land tenure and taxation policy and low priority accorded to agriculture public resources allocation and disbursements mentioned by URT (2000) all lead to poor adoption of recommended agricultural technologies and especially the low use of agricultural inputs. However, of all the reasons for poor adoption of agricultural technologies producers" limited capital and access to financial services is probably the major reason facing smallholders. It was noted that most of the smallholder farmers are poor (Mwasaga, 2001).

➢ **Coconut Production Constraints:** According to MARI (2012), the main constraint of the coconut sub-sector is low production that is attributed to two main factors, namely low productivity, and low expansion and rehabilitation of the area under coconuts. Key factors for low productivity include poor coconut husbandry practices, effect of drought stress, poor soil fertility, incidence and severity of pest and plant diseases that estimated to kill more than eight million palms. Other factors are aging of coconut trees and planting of low yielding coconut varieties.
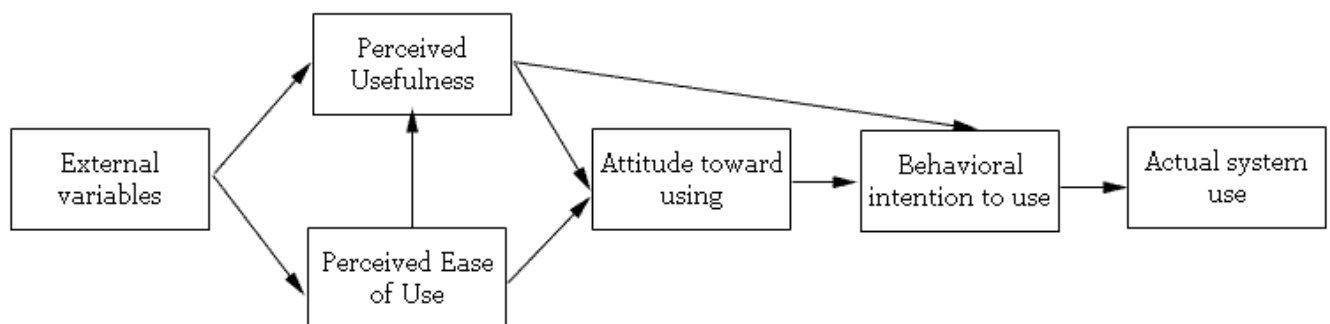
2.2 Theoretical Framework

This study was anchored on the Technology Acceptance Model by Fred Davis and Richard Bagozz in 1986. The technology acceptance model (TAM) is an information systems theory that

models how users come to accept and use a technology. The model suggests that when users are presented with a new technology, a number of factors influence their decision about how and when they will use it. Technology Acceptance Model deals more specifically with the prediction of the acceptability of an information system. The purpose of this model is to predict the acceptability of a tool and to identify the modifications which must be brought to the system in order to make it acceptable to users. This model suggests that the acceptability of an information system is determined by two main factors: perceived usefulness and perceived ease of use.

Perceived usefulness is defined as being the degree to which a person believes that the use of a system will improve his performance. Perceived ease of use refers to the degree to which a person believes that the use of a system will be effortless. Several factorial analyses demonstrated that perceived usefulness and perceived ease of use can be considered as two different dimensions (Swanson, 1987).

As demonstrated in the theory of reasoned Action, the Technology Acceptance Model postulates that the use of an information system is determined by the behavioral intention, but on the other hand, that the behavioral intention is determined by the person's attitude towards the use of the system and also by his perception of its utility. According to Davis, the attitude of an individual is not the only factor that determines his use of a system, but is also based on the impact which it may have on his performance. Therefore, even if an employee does not welcome an information system, the probability that he will use it is high if he perceives that the system will improve his performance at work. Besides, the Technology Acceptance Model hypothesizes a direct link between perceived usefulness and perceived ease of use. With two systems offering the same features, a user will find more useful the one that he finds easier to use (Dillon and Morris, on 1996).

Technology Acceptance Model from Davis, Bagozzi et Warshaw (1989) The technology acceptance model (TAM) has come to be one of the most widely used models within this paradigm (Porter and Donthu, 2006). Many technologists believe that advantageous innovations will sell themselves, that the obvious benefits of a new idea will be widely realized by potential adopters, and that the innovation will therefore diffuse rapidly. Most innovations, in fact, diffuse at a disappointingly slow rate (Rogers, 2003). The most determining factors are impact of the technologies to be adopted. Mostly, they should be grounds of improving yield, cost-effective, user-friendly, labour saving and market values. On this basis, the study has an impression that the farmers are not using the technologies as required that is why the rate of production keeps on declining.

2.3 Empirical Review

Neema (2015) assessed the adoption Technology on improved agricultural production in Tanzania. A total of 100 respondents were involved in this study. Data were analyzed using the Statistical Package for Social Science (SPSS) version 16. The findings indicate that smallholder farmers had negative attitude towards improved technologies for agricultural production. The study concluded that adoption of improved technologies had reduced agricultural production. The study recommended that the Government under the Ministry of Agriculture should support training; dissemination improved technologies, extension officers and farmers.

Oyedokun and Ajose (2018) investigated the impact of domestic investment and economic growth in Nigeria. The model was subjected to a Co-integration test in order to determine the long run relationship between domestic investment, and economic growth in Nigeria for the period of 1980-2016. The Granger causality test was also used to determine the causality between domestic investment, and economic growth in Nigeria for the period of 1980-2016. The study also found that domestic investment positively influences real gross domestic product. The study recommends that government should create enabling an environment for domestic investment to rise through the adoption of macroeconomic policies that will boost investment opportunities in Nigeria.

Odewale, Odiowaya, Agho, Enaberue and Okoye (2012) examined the relationship between crown canopy size and shape to the productivity of the different coconut varieties. The experiment was carried out in the ten (10) hectare coconut seed garden planted in 1987 at a

density of 204 per hectare. About 59% of each class of tall and 83.70% to 89.19% of the dwarf palms produced matured fruits during the period of observation. The result indicated that although there is no statistical difference in the yield of the various canopy shapes, the semi spherical canopy seems to produce more nuts than coconut with other canopy shapes. In all cases the Tall coconut were more susceptible to lethal yellowing infection.

Chidoko and Sachirarwe (2015) examined the impact of investment on economic growth from 1980 to 2013. The model used is a linear function. It has been discovered that investment positively affect economic growth in Zimbabwe. It is recommended that the investment authorities should check and monitor the magnitude of the contribution made by investment in Zimbabwe to adequately provide investment incentives to those with the resources to do so.

Igene, Solomon, Orji, Akagbosu and Osifo (2015) assessed the awareness, perception and adoption of NIFOR developed improved coconut processing technologies in Lagos state, Nigeria. A total of 120 coconut processors were sampled through a multi-stage random sampling procedure. Primary data which were obtained through administration of structured questionnaire were used for this study. Percentages, weighted mean scores and Chi-square were used for presenting the data. The findings of the study supported high perception of improved coconut processing technologies but low adoption of NIFOR developed improved coconut processing technologies. The study concluded that coconut processors should to be more aware and adopt NIFOR developed improved coconut technologies. The study, therefore, recommended that Extension arm of NIFOR in collaboration with LASCODA should carry out sensitization and training through workshops, seminars etc at least twice in a year in the study area.

2.4 Summary of Review of Related Literature

Neema (2015) assessed the adoption Technology on improved agricultural production in Tanzania. A total of 100 respondents were involved in this study. The findings indicate that smallholder farmers had negative attitude towards improved technologies for agricultural production. The study concluded that adoption of improved technologies had reduced agricultural production. The study recommended that the Government under the Ministry of Agriculture should support training; dissemination improved technologies, extension officers and farmers.

Oyedokun and Ajose (2018) investigated the impact of domestic investment and economic growth in Nigeria. The study also found that domestic investment positively influences real gross domestic product. The study recommends that government should create enabling an environment for domestic investment to rise through the adoption of macroeconomic policies that will boost investment opportunities in Nigeria.

Odewale, Odiowaya, Agho, Enaberue and Okoye (2012) examined the relationship between crown canopy size and shape to the productivity of the different coconut varieties. The result indicated that although there is no statistical difference in the yield of the various canopy shapes, the semi spherical canopy seems to produce more nuts than coconut with other canopy shapes. In all cases the Tall coconut were more susceptible to lethal yellowing infection.

Research gap

All the studies reviewed have sparsely established a positive relationship between coconut production and economic growth in Nigeria. To the best of our knowledge, works that have adequate empirical investigation on dependent and independent variable are very scanty.
This study stands to validate or nullify the findings of previous researchers or the problem identified using the most current information available in the coconut subsector. This study therefore intends to fill the gap in the literature by showing a positive relationship between the dependent and independent variables.

METHODOLOGY

3.1 Research Design

Research design is a plan or blueprint which specifies how data relating to a given problem should be collected and analyzed (Onyeizugbe, 2013). The study adopted correlational survey; this type of study seeks to establish what relationship exists between two or more variables. Usually such studies indicate the direction and magnitude of relationship between the variables. The study used time series data from the period 1999-2019.

3.2 Method of Data Collection

The study used only secondary data. These data were sourced from Statistical Bulletin Publications from National Bureau of Statistics, Bank of Agriculture, African Development Bank, the Food and Agriculture Organization, National Bureau of Statistics yearly publications, World Bank Publications, Internet, Journals and Articles.

3.3 Method of Data Analysis

The study utilized the Ordinary Least Square (OLS) method of analysis. This statistical tool seeks to establish the strength or degree of association between the dependent and independent variables. EVIEW 7 software was used for the analysis.

3.4 Model Specification

3.4.1 Investment Equation: This equation examines the nature of relationship between Investments in coconut production and Poverty Reduction in Nigeria.

$$INV = f (GDP, UNEM, EXR, NSME) \ e_t \ .. . . \quad (i)$$

This model is restated in econometric form as follows:

$$INV = b_0 + b_1 LGDP + b_2 LUNEM + b_3 LEXR + b_4 LNSME \ e_t ....\ .. ..(ii)$$

Where:

e_t = Stochastic or error term

LINV =Log of Investments

LUNEM = Log of Unemployment Rate

LGDP = Log of Gross Domestic Product

LEXR = Log of Exchange Rate

LSME = Log of No of New Small and Medium Scale Enterprises

3.5 Summary of Complete Equation

$$INV = b_0 + b_1LGDP + b_2LUNEM + b_3LEXR + b_4LNSME \; e_t \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots (i)$$

3.6 Structure of Parameter Estimate of Complete Equation

$b_0 - b_4 =$ Investments Equation. $\ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots$ (i)

Regression Analysis

H_2: There is a significant relationship between Investments in coconut production and Poverty Reduction in Nigeria

Regression Result

Dependent Variable: INV
Method: Least Squares
Date: 04/29/16   Time: 23:56
Sample: 1990 2019
Included observations: 30

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	2014730.	482500.0	4.175606	0.0005
UNEM	1313.814	774.3820	1.696597	0.0153
GDP	38390.06	9419.019	-4.075802	0.3206
NSME	3.751165	6.920663	0.542024	0.0538
EXR	-578.3650	576.6685	-1.002942	0.0279

R-squared	0.868101	Mean dependent var	47249.86
Adjusted R-squared	0.841721	S.D. dependent var	41171.41
S.E. of regression	16379.75	Akaike info criterion	22.42234
Sum squared resid	5.37E+09	Schwarz criterion	22.66611
Log likelihood	-275.2792	Hannan-Quinn criter.	22.48995
F-statistic	32.90776	Durbin-Watson stat	1.181671
Prob(F-statistic)	0.000000		

	GDP	INV	NSME	UNEM	EXR
Mean	51.66400	47249.86	1539.160	11.85200	9.407200
Median	51.40000	31563.80	1501.000	12.70000	7.490000
Maximum	52.80000	109455.2	2908.000	23.90000	39.76000
Minimum	50.60000	653.5000	431.0000	1.900000	0.120000
Std. Dev.	0.670746	41171.41	558.2701	7.478587	10.61731
Skewness	0.194516	0.120691	0.481892	0.033755	1.290891
Kurtosis	1.653225	1.240427	3.326150	1.622532	4.114117
Jarque-Bera	2.047029	3.285792	1.078388	1.981224	8.236305

Probability	0.359330	0.193419	0.583218	0.371349	0.016275
Sum	1291.600	1181247.	38479.00	296.3000	235.1800
Sum Sq. Dev.	10.79760	4.07E+10	7479971.	1342.302	2705.454
Observations	30	30	30	30	30

Model is significant at 0.05 per cent which implies the model is adequate and can be used for decision making. In the test of significant of parameters in the model using t-test, the p-values of parameters are less than 0.05 per cent except Exchange Rate (EXR) which is greater than 0.05 per cent. The p-values of t-test imply all parameters in the model are significant. The coefficient of determination (R-Square) of the model is 86 per cent which implies the independent variables contributed up to 84 per cent to the fluctuation of the dependent variable.

The Regression equation shows that

INV=   2014730 + 1313.814UNEM + 38390.06GDP + 3.751164NSME - 578.3650EXR

Investment was regressed on unemployment (UNEM), Gross Domestic Products (GDP), Number of New SME (NSME) and Exchange Rate (EXR).

Model is significant at 0.05%. The estimated coefficient of the constant term is 2014730 and it is statistically significant at 0.0 percent.

 The coefficient of Unemployment carries a positive sign and is statistically significant at 0.1 percent which implies that Investment in the coconut subsector has a significant effect on Unemployment in Nigeria.

The coefficient of Gross Domestic Products carries a positive sign and is statistically significant at 0.02 percent. This implies that Investment in the coconut subsector contributed to the growth of the Gross Domestic Products in Nigeria.

The coefficient of Number of new SME carries a positive sign and is statistically significant at 0.05 percent. This implies that Investment in the coconut subsector contributed to the rise of NSME in the country.

The coefficient of Exchange Rate carries a negative sign and is statistically not significant at 0.3 percent. This implies that Investment in the coconut subsector did not contribute to the rise in exchange rate in Nigeria.

The coefficient of R- Square (R^2) is 86 percent indicating a high casual relationship between the dependent variables and independent variables.

Adj.R^2 is 84 percent shows that all the variables are correlated. The value of Durbin-Watson Statistics (1.181671) is greater than the R^2 (0.868101). This means that there is no case for autocorrelation in the model and the result is respectable.

SUMMARY OF FINDINGS, CONCLUSION AND RECOMMENDATIONS

This chapter focuses on the summary of findings, conclusion and recommendations of the study as follows:

Summary of Findings

The regression result of the hypothesis; H_i a showed that there is a significant positive relationship between Investments in coconut production and Poverty Reduction in Nigeria

Conclusion

Finally, based on the econometric result on the influence of Technology Adoption in coconut production on Job Creation in Nigeria, this paper concluded that investment in the coconut subsector has greatly reduced the level of poverty in Nigeria.

Recommendation

In line with the above conclusion, the study recommended that;

a. The government should promote various investment schemes in the coconut subsector as its impact has a great influence in alleviating poverty in Nigeria.

References

Akpan, H. (1994). The empirical investigation of the nexus between agricultural and industrial sectors in Malaysia. *International Journal of Business and Social Science, 3(8), 225-230.*

Aragon, C. (2000). Coconut Program Area Research Planning and Prioritization. Discussion Paper Series No. 2000 -31, Philippine Institute for Development Studies, Makati City, Philippines.

Central Bank of Nigeria, (2000). Annual Report and Statement of Accounts for the Year Ended 31st December 2000. Available at: http://www.cbn.org.ng.

Doss, C. (2003). Understanding Farm- level Technology Adoption: Lesson Learned from CIMMYT's Micro Survey in Eastern Africa. Economic Working Paper No. 03-07, CIMMYT, Mexico. 26pp.

Emeaghalu, I.E. (2018). The Timing of New Technology Adoption: Theoretical model and Empirical evidence. *Journal of University of Manchester, 70(1):56-76.*

Gollwitzer, P. (1999). Implementation Intention. Strong Effects of Simple Plans USA, 54(7): 493-503.

Liddell, A., George, H. and Scott, R. (2000). A Greek-English Lexicon (Abridged Edition). United Kingdom: Oxford University Press, UK.

Lopes, H. (2010). Adoption of Improved Maize and Common Bean Varieties in Mozambique. Dissertation for Award of MARD degree at Sokoine University of Agriculture, Morogoro, Tanzania.

Masumbuko, L. (2005). Study of Genetic Diversity and Micropropagation of Coffea Arabica L. and Evaluation of Cocos nucifera L. from Tanzania. Thesis for Awarded of Doctor of Philosophy Degree at University of Agriculture Sueciae, Swedish.

Maswaga, K. (2001). The influence and credit cooperative on the adoption of improved crop production techniques by smallholder farmers in Songea Rural District. Dissertation for Award of MA degree at Sokoine University of Agriculture, Morogoro, Tanzania.

Mikocheni Agriculture Research Institute (MARI), (2012). Improving Income and Food Security of Coconut Farmers through Productivity Enhancement in Coconut Based Farming System. Dar es Salaam, Tanzania.

Mitropoulos, P. and Tatum, C. (2000). Forces Driving Adoption of New Information Technologies. *Journal of Construction Engineering and Management, 126 (5): 340-348*

Mwachiro, E. and Gakure, R. (2011). Factors Affecting the Cococnut Industry from Benefiting the Indigenous Communities of Kilifi District- Kenya. *International Journal of Humanities and Social Science, 1(4):1-17.*

National Bureau of Statistics, (2019). *Federal Government of Nigeria: The Presidency - GDP Expenditure Report.* National Bureau of Statistics available at www.nigerianstat.gov.ng

Neill, S and Lee, D. (2001). Explaining the Adoption and Disadoption of Sustainable Agriculture: The Case of Cover Crops in Northern Honduras. Working Paper No.31, Department of Agricultural, Resource, and Managerial Economics, Cornell University, USA.

Parvan, A. (2010). Agricultural Technology Adoption: Issues for Consideration when Scaling – up. The Cornell Policy Review is the official public policy journal of the Cornell Institute for Public Affairs. Dissertation for Award of Master of Public Administration (MPA) at Northern Honduras.

Reynaldo, E. (2000). Challenges, Opportunities and Constraints in Agricultural Biotechnology and the poor. Paper presented at Conference organized by CGIAR, Philippines. 5pp

Rogers, E. (2003). Diffusion of Innovations (5th Ed). The Free Press Publishers, New York, USA.

Sertoğlu, K., Ugural, S, and Bekun,F.V. (2017). The Contribution of Agricultural Sector on Economic Growth of Nigeria. *International Journal of Economics and Financial Issues, 2017, 7(1), 547-552.*

Stewart, R. (2000). Welcome Address" Proceedings of the 7th World Sugar Farmers Conference. Durban. www.sugaronline.com/sugarindustry/index.htm

URT (2002). Zanzibar Agricultural Policy. Ministry of Agriculture and Natural Resources and Livestock and Fishery. Zanzibar, Tanzania.