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Editorial

This issue of KIU *Journal of Social Sciences* focuses on Development Administration, Social Philosophy, Communication Studies as well as Teaching and Learning Skills.

The first part of the Journal addresses issues in Development Administration such as Rural Development, Food Security, Governance, Election Administration, Crime Control, Social Security and so on. It is argued in one of the papers that without effective leadership function, no security agency can function well. As the solutions to the challenges of ineffective leadership function in the Nigerian security organizations, the paper suggested that: rule of law should been forced on all Nigerians including the Police and other security personnel; management section of the security agencies should ensure proper checkmating between the different divisions; police corruption must be fought by frequently monitoring the activities of the organization; the reward package(salary) of the Nigerian Police and other security agencies should be reviewed.

Section two explores issues in Social Philosophy such as Environmental Sustainability, Religion, Conflict Management Strategies, Political Freedom and Ecologisation. Based on the findings that there is significant prediction of the use of conflict management strategy on peace culture among undergraduates ($F_{(1,1798)} = 18.709$; $P < .000$) and an indication of a significant difference in the undergraduate perception of university peace culture (MD = 8.38; t = 5.205; $P <.05$), one of the papers in this section recommends that the school management should ensure that non-violent means is employed as an intervention technique for conflict resolution in schools. This, according to the paper, will encourage peaceful co-existence and teamwork between students, staffs and other members of the school community.

In the Section on Communication Studies, one of the papers examines the effects of video drama intervention on the knowledge of breast cancer and practice intention of its early detection methods among Aboh Mbaise women of Imo State, Nigeria. Based on the findings which show that the intervention significantly improved participants' knowledge of; breast cancer ($\bar{x}$=42.02 experimental and $\bar{x}$=26.02 control), early detection methods ($t(49)=22.74$, $p=0.000<0.05$) and intention to practice the methods ($t(49)=19.50$, $p=0.000<0.05$), with a significant difference of ($t(49)=1.95$, $p=0.057>0.05$), it is concluded that frequent exposure to health based video drama is effective means of enlightening the rural women on breast cancer concerns, while recommending it application on regularly basis.

Papers in the last section are on Teaching and Learning Skills. Using Public High Schools in Osun State Nigeria as Case Studies, one of the papers in these sections reveals that the teaching methods mostly used by the Economics teachers for the implementation of Economics curriculum contents in High Schools include: discussion method, question and answer method, problem solving method, project method, role play method, and demonstration method. Economics teachers utilize teaching resources for the implementation of Economics curriculum in High Schools to a medium extent and students' perception on the objectives of Senior Secondary School Economics curriculum was good. It therefore recommends, among others, that teachers should utilize the available resources for the implementation of Economics curriculum; principals in all senior secondary schools should embark on regular supervision of delivery of Economics instructions in the classroom to ensure that the appropriate methods and materials are used by the teachers; and Economics teachers should always utilize students-centred methods for the implementation of Economics Curriculum.

In all, this edition of *KIU Journal of Social Sciences* features many interesting research papers. Some of these papers are empirical in nature while others have theoretical base. Each of them focuses on one specific social and management problem or the other; trying to proffer solutions to them. Readers are therefore advised to make proper use of the ideas presented by the various authors.

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Part One

Development Administration

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Oil Price Volatility and the Nigerian Economy: ARDL and Granger Causality Approaches

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Abstract. For the past four decades, crude oil has been a major source of revenue, energy and foreign exchange for the Nigerian economy. Nigeria depends heavily on revenue from crude oil but volatility in price of the product has always put the country in precarious economic situation. Against this background, this paper analyzed the relationship between crude oil price volatility and the Nigerian economic performance from 1970 to 2018. It applied Granger causality test and autoregressive distributed lag (ARDL) model as estimation techniques. It could be inferred from the findings that the influence of oil price volatility, gasoline domestic pump price and exchange rate are both short-run and long-run phenomena while that of inflation and monetary policy rate are only long term phenomenon. It was found that crude oil price volatility, domestic pump price of gasoline, exchange rate, inflation rate and monetary policy rate have significant positive impact on economic growth on the long-run periods, which means that increase in earnings from crude oil and appreciation of Naira increases the economic growth of the country and decrease in crude oil earnings and depreciation of Naira decreases the economic growth of the country. Therefore, government should diversify its earnings by developing agriculture, industrialization and investment in order to reduce the heavy reliance on crude oil and income fluctuation resulting from the fluctuation in crude oil prices in order to protect the country's economy. In addition, government should reduce gasoline pump price by deregulating the downstream sector and at the same time encouraging private sector's participation in crude oil refining in order to encourage competition thereby bringing down the price of fuel. Considering the importance of exchange rate variable, these findings eventually suggest that a systematic exchange rate via monetary policy should be properly developed to promote the stability and sustainability of economic growth in Nigeria.

Keywords: Crude Oil Prices, Economic Growth.

1. Introduction

Crude oil as a source of energy since its discovery in the 1800s has been very important to the world economy. Crude oil has an important position in society as a crucial input to global, national and individual production and consumption. Therefore, it is a strategic resource that attracts the interest and attention of nearly everyone on the planet. The prominence of oil has risen to the extent that in a world suddenly without oil, all the major distribution systems that allow economic transactions on a more than local basis would fail and the global economy would collapse (Hathaway, 2009).

Fluctuation in the price of crude is a common phenomenon in the global oil market as the world economy has witnessed a number of changes in the price of crude oil at different times. These price changes, often referred to as crude oil price volatilities are usually described by the events that herald their occurrences. As Hamilton (2011) succinctly puts it, the major post-World-War-II oil volatilities are the Suez Crisis of 1956-57, the OPEC oil embargo of 1973-1974, the Iranian revolution of 1978-1979, the Iran-Iraq War initiated in 1980, the first Persian Gulf War in 1990-91, and the oil price spike of 2007-2008. Crude oil price surged to a historic height in 2008 when it was sold at $140 per barrel; this was about the highest price recorded in the oil market in recent times (Sanya, 2015).

However, the second half of 2014 marked the beginning of another wave of oil price volatility. By the year 2015, crude oil price had dropped by more than half of its price in the previous year with its attendant consequences on countries of the world. The immediate cause of this fall was the market imbalance sparked by excess supply of crude oil to the market by oil producing countries. Maugeri (2016) noted that the significant output growth experienced by major oil producers like the United States and Iraq as well as the imposition of the policy of no production cutbacks by Saudi Arabia on the Organization of Petroleum Exporting Countries (OPEC) created an output level that could not be absorbed by demand. The steep crash in the prices of crude oil in the international market which was at a time selling above $140 per barrel to selling as low as $40 per barrel occurred too sudden for government to take proactive actions to either prevent or minimize its effect.

The oil revenues play a key role in the economic structure of the oil exporting countries. In most of these countries, the oil revenues are an important source of financing the budget and the government budget dependence on oil revenues is very high. It is expected that volatility of the oil market influenced economy aggregate demand, because the government budget constitutes a significant portion of aggregate demand (Yusuf, 2015). Nigeria as a major exporter of oil is not an exception about this matter among OPEC countries. On the one hand, Nigeria's oil exports was rationed by OPEC, on the other hand, the oil price was determined by the global supply and demand. So, the macroeconomic variables were influenced by the change of the oil revenues following the global changes of the oil prices. This dependence of the macroeconomic variables on oil affected the economic growth. So that the impact of declining oil price is reflected much broader on the economic activities. Increasing in the oil price caused a transfer of income from oil- importing countries to the oil-exporting countries. Since the oil sector is one of the important economic sectors in the oil-exporting countries and it has a major contribution in the economic value added, increasing the oil price caused the development of the oil sector which increases the domestic and foreign investment in these countries, and following that the tide of economic growth has flowed.

The major economic investment undertaking by the government in Nigeria is in construction and infrastructural development which arose from increases in oil revenue. The gross domestic product (GDP) is increased by upsurge in the amount of investment in construction projects, and therefore the government has experienced positive economic growth. In contrast, decline in the oil price decreased the oil revenues in these countries, so at the same times, the government expenditure reduced as a result of declining in the oil revenues. This problem reduces the GDP and subsequently reduces economic growth.

Since the 1970s, oil producing states have experienced rising budget deficit largely due to the volatile global crude oil prices, and as a result, rising debt-to-gross domestic product (GDP) ratios. In the world's largest crude oil exporter, Saudi Arabia, public debt has been fluctuating since the years following the oil boom (Muye, Kaita, & Hassan, 2016). The recent crash in oil prices undoubtedly plunged Nigeria into an economic quagmire with debilitating effects on some of her major macroeconomic variables. For instance, inflation rates began a steady rise while the exchange rate continued to depreciate, causing enormous economic difficulties among the populace. Interestingly, as crude oil price was falling at the global market, domestic pump price of petrol in Nigeria suffered distortion and upward review (Ogboru, Rivi & Idisi, 2017).

The stronger naira during the oil boom encouraged import-oriented consumption habit that soon turned Nigeria into a perennial net importer, which became a major problem when oil earnings decreased with lower international oil prices. External reserves collapsed, fiscal deficits mounted and external borrowing ensued with the "jumbo loans" taken in 1979. Nigeria's debt profile is rising and currently stood at N31.01trn (US$85.90bn).

Most of Nigeria's macro-economic indices became unstable and worrisome as there was a progressive decline of GDP with the value of naira over the years. For instance, the GDP growth rate which was 25% in 1970 when the naira was N0.7 to a dollar declined to 5% GDP growth rate when the nation's currency depreciated to N101.7 in 2000 and further reduced to 2% GDP growth rate when naira nosedived to N363.5 per dollar in 2018. The progressive decline of GDP also correlates with increases in crude oil and gasoline pump prices as well as unemployment rate and oil rents from 1970 to date. Nigeria's unemployment rate as at the second quarter of 2020 was 27.1%, indicating that about 21,764,614 (21.7 million) Nigerians remain unemployed. Ayoola (2013) argued that Nigeria as a mono-product economy remains susceptible to the movements in international crude oil prices. Yusuf (2015) also contended that oil plays a critical role in Nigeria in the conduct of fiscal and monetary policies because it accounts for an average of 80% of government revenue, 90-95% of the foreign exchange earnings and 12% of the real gross domestic product. Despite such windfall, Nigeria has an increasing proportion of impoverished population and experienced continued stagnation of the economy (Okonjo-Iweala & Osafo-Kwaako, 2007).

Nigeria's dependence on oil revenue has been a cause for concern, especially as oil is an internationally traded commodity whose price is subject to unpredictable changes. The volatility in price of oil has various implications for both oil importing and exporting countries alike. However, oil export revenue dependent nations are more prone to the consequences, especially during periods of negative volatility. Nigeria's economy is highly dependent on crude oil export revenue, hence, fluctuations in oil prices affects Nigeria's macroeconomics. As was indicated before, Nigeria is a big oil producing country in Africa and its economy depends heavily on crude oil exports revenue. In addition, she imports refined gasoline to meet up with domestic demand due to inadequate local production. Consequently, Nigeria's case is cut in the irony of being an exporter of crude oil as well as an importer of refined petroleum products. This scenario makes Nigeria unique when considering the oil price and economic growth nexus.
Based on the research problems identified above, this study shall provide answers to the following questions:

- What is the causal relationship between crude oil price volatility and economic growth in Nigeria?
- What is the causal relationship between gasoline pump price and economic growth in Nigeria?
- Which of the crude oil price volatility and domestic pump price of gasoline has more impact on economic growth in Nigeria?

The main objective of this paper is to examine the impact of oil price volatility and gasoline pump price on Nigerian economy. Following this introduction, the rest of the paper is organized as follows. Section II presents the literature with conceptual framework, theoretical framework and the empirical review. Section III presents the methodology and Section IV focuses on pre-tests and analysis. Section V presents estimation results and discussion while Section VI concludes the study with policy implications,

2. Literature Review

2.1 Conceptual Framework

2.1.1 Concept of Oil Price Volatility

Oil price volatility (OPV) is defined as the standard deviation of oil prices in a given period while an oil price shock is a manifestation of extreme volatility (Ebele, 2015). For the purpose of this study which focuses on oil price volatility as opposed to shocks, it is reasonable to understand the distinction between both measures in terms of the size of price deviations. Acute deviations in oil prices, such as those seen in early 2008 are termed shocks, while relatively minor price deviations are referred to as price volatility (Ebrahim, Inderwildi, & King, 2014). According to Donwa, Mgbame, and Aigboduwa (2015), the term oil price volatility refers to instability, changes, a rise or fall, in the supply or demand side of oil prices in the international oil market. The rise or flux in the prices of oil can be termed positive (i.e. a rise) or negative (i.e. a fall).

2.1.2 The Concept of Economic Growth

An economy's growth is measured by the change in the volume of its output or in the real incomes of its residents (World Bank, 2006). Economic growth is the continuous expansion of the productive potential of an economy; it means that the capacity utilization to produce goods and services as well as to meet the wants of the populace is increased. Apart from the productive expansion in the goods market, it also refers to a situation whereby improvements in the quality and quantity of resources (including technological improvements) contribute to the overall growth in the real domestic output of an economy. The measurement of economic growth could be in either real or nominal terms; real growth implies that inflationary and exchange rate adjustments had been taken into consideration. Nevertheless, macroeconomic output is generally measured by Gross Domestic Product (GDP) or one of the other national accounts.

2.2 Theoretical Framework

2.2.1 The Mankiw, Romer and Weil's Theory of Economic Growth

In view of the shortcomings of Solow's growth model, the amplified version of the model was specified by Mankiw, Romer and Weil (1992). In this augmented version of the model, a Cobb-Douglas production function is assumed. This started off by adding human capital accumulation to the Solow model. According to Mankiw, Romer and Weil (1992), the aggregate output of the economy can be written as:

$$Y_T = A_T K_T^{\square} H_T^{\square} L_T^{\square\square\square\square} \qquad (1)$$

Where,

A - index of technical change that varies overtime but for the moment held constant, K - the capital stock,
L - labour supply and

H- stock of human capital.

It should be noted that the coefficients α and β are assumed to lie between 0 and 1 and ($\alpha+\beta$) < 1, implying that there are decreasing returns to all capital. Assuming sk to be the fraction of income invested in physical capital and sh the fraction invested in human capital, the evolution of the economy is determined by:

$$kt = skyt - (n + g + \square)\, kt\,, \qquad (1a)$$

$$ht = shyt - (n + g + \square)\, ht\,. \qquad (1b)$$

Where, $y = Y/AL$, $k = K/AL$, and
$h = H/AL$ are quantities per effective unit of labour.

It is assumed that the same production function applies to human capital, physical capital, and consumption. In other words, one unit of consumption can be transformed at no cost into either one unit of physical capital or one unit of human capital. Human capital (H) is the knowledge acquired by workers, often as the result of specific investment in education. Since human capital involves investment just as physical capital, it also depreciates. In a case where $\alpha + \beta$ equals one, then there are no constant returns to scale in the reproducible factors and there will be no steady state for the model. It is implied in equations (1a) and (1b) that the economy converges to a steady state defined by:

$$k^* = \left(\frac{s_k^{1-\beta} s_h^{\beta}}{n+g+\delta}\right)^{\frac{1}{1-\alpha-\beta}}, \quad h^* = \left(\frac{s_k^{\alpha} s_h^{1-\alpha}}{n+g+\delta}\right)^{\frac{1}{1-\alpha-\beta}} \qquad (2)$$

Substituting equation (2) into the production function and taking the natural logs gives an equation:

$$In\left[\frac{Yt}{Lt}\right] = InAo + gt - \frac{\alpha-\beta}{1-\alpha-\beta}\, In(s) - \frac{\alpha-\beta}{1-\alpha-\beta}\, In(n + g + \delta) + \frac{\alpha}{1-\alpha-\beta}\, In(sk) + \frac{\beta}{1-\alpha-\beta} In(sh) \qquad (3)$$

This equation shows how per capita income (proxy for economic development – a superset of economic growth) depends on population growth and accumulation of physical and human capital. In adopting the model above for this study, the researcher was motivated by Ahmed, Mahalik and Shahbaz (2016) and Odularu (2008) in which focus was restricted to human capital investment in the form of crude oil, ignoring investment in health, among others. This study, therefore, adopted the Mankiw, Romer and Weil's theory of economic growth

2.3 Empirical Review

The idea that oil price volatility affect economic growth was first put forth by Hamilton (1973) and then subsequent enormous scholarly works stemmed out. Several other economists have investigated this relationship but there is no uniformity in their findings as some authors argued that crude oil price volatility could promote growth or has the potential of doing so (Akpan, 2009; Aliyu, 2009; Olomola. 2006; Donwa, Mgbame & Aigboduwa, 2015; Akinlo & Apanisile, 2015; Ogboru, Rivi & Idisi, 2017, etc.) while others said it could also inhibit growth (Darby, 1982; Cerralo, 2005; Cantah & Asmah, 2015 ; El-Anshasya, Mohaddesby & Nugent, 2015). Yet, other findings were inconclusive or insignificant (Ani, Ugwunta, Oliver & Eneje, 2014).

For instance, Amir and Mohammad (2017) investigate the relationship between volatility in oil prices and economic growth in Iran. In their paper, the impact of oil price volatility (OPV) on the economic growth in Iran has been tested by using the threshold regression model on time series data 1980-2014 extracted from the Central Bank of Iran. Findings of their study show that the OPV equal to 1147.77 acts as a threshold value. Also, due to the fact that the coefficient of OPV has decreased in the second regime compared to the first one, the effectiveness amount of the OPV on economic growth has decreased over time. Their assertion that due to the fact that the coefficient of OPV has decreased in the second regime compared to the first one, the effectiveness amount of the OPV on economic growth has decreased over time is too declarative. They should have found out if the decrease in OPV coefficient in the second regime was due to episodic factors that would have necessitated the application of structural breakes.

On the other hand, Jawad (2013) analyzed the impact of OPV on the economic growth of Pakistan using data from 1973 to 2011. Linear regression analysis used to analyze the dependency among the dependent and independent variables. All variables including oil price, oil supply, oil demand, GDP, public sector investment, private sector investment and trade balance were stationary at 1st difference through ADF test. Results showed that the trade balance, private sector investments have a significant effect on GDP and public sector investment, OPV have insignificant impact on GDP. He believed that the government should make a proper plan and procedure according to Pakistan's economic growth and requirement which would help to maintain the equilibrium of oil demand and supply and decrease the impact of OPV on the economic growth. Meanwhile, the government of Pakistan should focus on trade balance and also tries to increase private sector investment to increase economic growth. The omission of exchange rate variable from Jawad's study could probably accounted for OPV having insignificant impact on GDP.

Moreover, Mureithi (2014) in his study established the causes of oil import volatility and its effect on economic growth in Kenya. His study used quarterly data from Kenyan National Bureau of Statistics (KNBS), Central Bank of Kenya (CBK), and OPEC to determine the long-run and short-run causes of oil import volatility, and to study the effects of the volatility on GDP growth. The variables of interest are GDP growth rate, exchange rate, OPEC oil production, quantity of money (M2), traffic volume, total manufacturing index, international oil prices, and domestic energy (electricity) production. The analysis is based on the Johansen-Juselius approach to co-integration test and vector error correction. Results indicate that exchange rate was has a statistically significant effect on oil import volatility in the short-run. In the long-run, oil import volatility is determined by several macroeconomic variables. Specifically, exchange rate, traffic volume, total manufacturing index, and GDP growth rate have positive and statistically significant effects on oil import volatility. OPEC oil production has a negative relationship with oil import volatility. Mureithi used too many variables (8 variables) with some of them like domestic energy (electricity) production irrelevant. He should have used domestic energy (gasoline) pump price.

Moreover, Ani, Ugwunta, Oliver and Eneje (2014) investigated chiefly the casual relationship between oil prices and key macroeconomic variables in Nigeria in a multivariate framework using time-series data from 1980 to 2010. To examine whether there is prediction between oil prices and macroeconomic indicators (inflation, interest rate, exchange rate and real GDP) as well as the impact of oil prices on the applied macroeconomic indicators, their research adopted the Granger causality and the Ordinary Least Square (OLS) respectively. After ensuring data stationarity, their results suggest that in the short-run, changes in the GDP is not influenced by oil price volatility, nor do they found evidence of influence on key macroeconomic variables. Again, the findings indicated that there is a positive but insignificant relationship between oil price and the Nigerian GDP and that, overall, oil prices have no significant impact on real GDP and exchange rate in Nigeria. Their findings suggested that Nigeria has a special case of the Dutch Disease, where a country seemingly good fortune proves ultimately detrimental to its economy. The authors employed outdated models like OLS and Granger causality test and yet they didn't utilize important variables like gasoline price and monetary policy rate that would have shed more light on the relationship between oil price volatility and economic growth in Nigeria.

In addition, Akinlo and Apanisile (2015) investigated the impact of the volatility of oil price on economic growth in 20 Sub-Saharan African countries from the period of 1986-2012. These countries were divided into Group A and Group B. Group A consists of 10 oil exporting countries, while Group B consists of non-oil exporting countries in sub-Saharan Africa. Panel data were used for the analysis. Panel pooled OLS, panel fixed effect model and generalized method of moment (GMM) models were employed in the estimation for both oil exporting and non-oil exporting countries. The estimation of panel A model consisting of the oil exporting countries showed that the OPV has a positive and significance effect on the economic growth of oil exporting countries. The result of panel B consisting of non-oil producing countries showed that the volatility of oil price also has a positive and insignificant impact on economic growth. The Panel pooled OLS, panel fixed effect model and generalized method of moment (GMM) models employed by Akinlo and Apanisile for this study are not appropriate for this study. The most appropriate model should have been Panel ARDL.

Similarly, El-Anshasya, Mohaddesby and Nugent (2015) examined the long-run effects of oil revenue and its volatility on economic growth as well as the role of institutions in this relationship. They collected annual and monthly data on a sample of 17 major oil producers over the period 1961 to 2013, and used the standard panel autoregressive distributed lag (ARDL) approach as well as its cross-sectionally augmented version (CS-ARDL) for estimation. Therefore, in contrast to the earlier literature on the resource curse, the authors took into account all three key features of the panel: dynamics, heterogeneity and cross-sectional dependence. Their results suggest that (i) there is a significant negative effect of oil revenue volatility on output growth, (ii) higher growth rate of oil revenue significantly raises economic growth, and (iii) better fiscal policy (institutions) can offset some of the negative effects of oil revenue volatility. They, therefore, argue that volatility in oil revenues combined with poor governmental responses to this volatility drives the resource curse paradox, not the abundance of oil revenues as such. Their conclusion that that volatility in oil revenues combined with poor governmental responses to this volatility drives the resource curse paradox and not the abundance of oil revenues as such is questionable and against realities. It is endemic corruption in the oil industry in Nigeria for instance which retard growth.

Cantah and Asmah (2015) employed the ARDL approach to cointegration to examine the relationship between crude oil price and Ghana's economic growth using annual data set from 1967 to 2011. Unlike previous studies on crude oil price economic growth relationship for Ghana, this study controlled for the effect of fiscal policy in the relationship. The results of the study indicated the existence of a long run relationship between crude oil price and economic growth in Ghana. Also, the study revealed that oil price increases had a negative impact on economic growth in both the short run and long run and this was reinforced by increases in government expenditure in response to the oil price in the form of fuel subsidies. The policy implications are that fuel subsidies should be removed and the country should consider alternative sources of energy such as Compressed Natural Gas (CNG), liquefied Petroleum Gas (LPG), or Ethanol (Fuel made from sugar cane) which are cheaper relative to crude oil price. The ARDL approach to cointegration employed by Cantah and Asmah to examine the relationship between crude oil price and Ghana's economic growth was appropriate but the weakness of their study was omission of domestic pump price of gasoline.

On the other hand, Ogunsakin and Oloruntuyi (2017) examined the relationship between oil price volatility and macroeconomic performance in two top net oil exporting countries in Africa (Angola and Nigeria). Quarterly data which were sourced from international monetary fund online database and Central Bank of Nigeria and Angola were used to carry out the empirical analysis. Structural Vector Autoregressive model (SVAR), E(GARCH) and Granger Causality test were used as estimation techniques. Findings from the results showed that oil price volatility has marginal impact on growth rate of Gross Domestic Product of both countries. However, both Impulse Response Function and Variance Decomposition showed that shocks to exchange rate from oil price volatility was the highest. That is, exchange rate appreciates when oil price increases and depreciates when oil price reduces. This has much impact on the economies of Angola and Nigeria being net oil exporting countries. The Granger causality test showed that the direction of causality between oil price volatility and macroeconomic variables in Nigeria was bi-directional while the relationship in Angola was uni-directional during the study period. Based on these findings, it is recommended that, both countries Angola and Nigeria should improve upon their crude oil refining capacity. Also Economic diversification should be strengthened to promote indigenous production so as to reduce importation of those goods that could be endogenously produced.

Amagoh, Odoh and Okuh (2014) in their multivariate study of the implications of pump prices of petroleum products change on some economic variables reveals that PMS has significant impact on all economic variable studied. The AGO also has significant impact on only GDP and Per capita GDP while DPK only has significant impact on GDP per capita. Ocheni (2015) examined the impact of fuel price increase on the Nigerian economy in 2014. The study adopted a survey research design approach to evaluate the level of effect the fuel price increase has on the Nigeria economy. Finding revealed that there is a significant relationship between the recent increases in fuel prices and economic growth in Nigeria. It was also discovered that the Nigeria economy is not developing because of the effect of fuel price hike on purchasing power and finally the finding showed that there is significant relationship between increase in pump price of petroleum and food security.

Nwosa (2013) examined the effect of gasoline price on economic sectors in Nigeria from 1980 to 2010. The objectives of the study are to examine the long and short run relationship between gasoline price and sectoral output in Nigeria. Six sectors (agriculture; manufacturing; building and construction; wholesale and retail; transportation and communication) of the economy were examined. The long run regression estimate showed that gasoline price is a significant determinant output in all sectors examined with exception to the building and construction sector while the short run error correction estimate revealed that only output of the agriculture and the manufacturing sectors of the Nigerian economy is affect by gasoline price increase in the short run.

In the same vein, Donwa, Mgbame and Aigboduwa (2015) based on the empirical review found that there is a significant and positive relationship between OPV and Nigeria economic growth. He believes that oil price changes determines government expenditure level, rate of inflation, level of unemployment, which in turn determines the growth of the Nigerian economy. Considering the destabilizing effects of oil price fluctuations on economic activity and government spending in Nigeria, the study makes some recommendations which includes that the country should diversify its export revenue base as a means of minimizing reliance on crude oil and petroleum product thereby diversifying to agriculture, operations of budgetary, fiscal prudence, corporate governance, encourage savings and proper accountability. This will further protect the economy from the impact of OPV on the economy, and thus prevent the effect of the shocks from attaining a statistical significance level. The study by Donwa, Mgbame and Aigboduwa (2015) was only an empirical review and as such, didn't estimate the relationship between oil price and economic growth in Nigeria.

In contrast, Alhassan and Kilishi (2016) (2016) gave a diagnostic insight on macroeconomic modelling and oil price volatility in Nigeria. They used GARCH model and its variants (GARCH-M, EGARCH and TGARCH) with daily, monthly and quarterly data. They found that the macroeconomic variables included in the model in terms of (real gross domestic product, interest rate, exchange rate and oil price) are exceptionally unstable; the asymmetric models (TGARCH and EGARCH) outperform the symmetric models (GARCH (1 1) and GARCH – M); and oil price is a noteworthy source of macroeconomic fluctuation in Nigeria. By suggestion, the Nigerian economy is vulnerable to both internal shocks (interest rate volatility, real GDP volatility) and external shocks (exchange rate volatility and oil price volatility). In this way, it is reasoned that more assurance ought to be given to symmetric models in dealing with macroeconomic volatility in Nigeria and oil price volatility should be considered as pertinent variable in examining macroeconomic fluctuations in Nigeria. The authors employed many models and variables yet they didn't utilize important variables like gasoline price and monetary policy rate that would have shed more light on the relationship between oil price volatility and economic growth in Nigeria.

Likewise, Mai-Lafia, Eneji and Nnandi (2016) assessed the impact of oil price volatility on macroeconomic variables and sustainable development in Nigeria. They argued that the significant role of oil in the Nigerian economy cannot be overestimated. They acknowledged that there were studies by other researchers on oil prices and macroeconomic variables, but the findings by such studies were contentious and country-specific. They used secondary time series data in a Vector Autoregression (VAR) analysis. They found that fluctuations in oil prices do substantially affect the real GDP, exchange rates, Unemployment, Balance of payments and interest rates in Nigeria, and that negative volatility in the international oil market, have significant impact on price fluctuations. They concluded that due to increased imports in the Nigerian economy, inflationary pressures are inevitable and are pronounced and that government revenues and expenditures have decreased significantly. They, therefore, recommended diversification of the economy and energy sources for sustainable development in Nigeria. The study didn't utilize important variables like gasoline price and monetary policy rate that would have shed more light on the relationship between oil price volatility and economic growth in Nigeria.

However, Orlu, (2017) investigated the impact of Premium Motor Spirit (PMS) Price on the growth of Nigerian economy as well as the effect of gross domestic investment (GDI), labour employment (LEMP) and lending interest rate (LIR) between 1970 and 2013 on economic growth of Nigeria. The study focused on PMS pricing due to government foot dragging on the deregulation of PMS Price in Nigeria. For his study, secondary data were obtained from Statistical fact sheets of National Bureau of Statistics (NBS) and Central Bank of Nigeria (CBN) publications. Using the Error Correction Mechanism approach, the study reveals that increase in PMS Price had a negative significant impact on the Nigerian economy (Real GDP) at 5% level of significance. This indicates that 1% rise in PMS price of one year lag leads to 0.7% decrease in Real GDP. That is, increase in energy (PMS) price will negatively impact on the production of the firms, individuals (household) or Government Institutions, which will consequently lead to a fall in real GDP.

Similarly, Ogboru, Rivi and Idisi (2017) empirically examined the impact of changes in crude oil prices on economic growth in Nigeria from 1986 to 2015. Variables used were crude oil price, inflation rate, real effective exchange rate, fuel pump price and GDP growth rate. They applied Ng-Perron and Zivot-Andrews Tests, Johansen's co-integration Test, Granger Causality Test and the Vector Error

Correction Model (VECM) as techniques of analysis. The time series property examined showed the existence of co-integration among the variables while the empirical results suggest that the ECT coefficients have negative signs and are statistically significant in all VECMs. In addition to that, the significance of ECT also exhibits that if the system is exposed to shock, it will converge to the long-run equilibrium at the following speed: for GDP (-0.8002), inflation (-0.6714) and real effective exchange rate (-0.5715). VECMs compare to the convergence speed of fuel pump price (-0.6047) and crude oil price (-0.0436), VECMs. The study found out that a positive and unidirectional relationship that runs from crude oil prices to GDP growth rates exists. The value of R2 and that of adjusted R2 stood at 0.6177 and 0.5085 respectively. The value of F-statistic is 5.6570 and it is greater than the tabulated value of 2.76. The study concluded that crude oil price exert positive influence on the economic growth of Nigeria. The study recommends the need for diversification, building of buffers, more refineries and overhaul of the existing ones as well as the adoption of floating exchange rate policy. A critique of this study is in the choice of methodology: Johansen's co-integration Test, Granger Causality Test and the Vector Error Correction Model (VECM) as techniques of analysis. It has been demonstrated that ARDL bounds test approach to cointegration gives more robust results in small samples than the Johansen's approach.

Yakubu and Akanegbu (2019) examined empirically the effect of oil price volatility on economic growth in Nigeria using annual time series data from 1985 – 2016. Their study adopts the econometric method of multiple linear regression approach using Ordinary Least Square (OLS). The findings revealed that OPV has a negative and insignificant effect on economic growth in Nigeria. It was also found that the variables used in the study have a long-run relationship and finally no evidence of causality was found between oil price volatility and economic growth in Nigeria. The study recommends that exploring other alternatives has the potential to make the Nigerian economy stronger to face volatility crisis. Their findings are conflicting. It indicates problems of multicollinearity, model misspecification and inappropriate stationary test as well.

2.3.1 Research Gaps

From the foregoing review of literature it was found that the debate on oil price and economic growth relationship remains largely unresolved with three strands emerging. One thought argued that changes in crude oil prices have positive impact on economic growth, others opined that the effect is a negative one and yet still, the third category of researchers saw no link between the two. The combination of these factors provoked many questions than answers and further stimulates the need for this study. Moreover, Nigeria's case is cut in the irony of being an exporter of crude oil as well as an importer of refined petroleum products. As such, it will be difficult to make a conclusive and authoritative statement on the impact of oil price on the Nigerian economy without a simultaneous assessment of the joint effect of crude oil price volatility and gasoline price on growth. However, very few studies (Ogboru, Rivi, & Idisi, 2017) simultaneously considered the joint effect of crude oil price and domestic pump price of gasoline in the study of the relationship between oil price and the Nigerian economy. Even then, no specific study on the impact of oil price volatility on the Nigerian economy has concurrently applied crude oil price volatility and gasoline pump price as variables. As such, the area of research is still pretty grey and would require further investigation compared to other fields with abundant extant literature. Hence, there is the need to fill the gap by adding gasoline pump price to the model in order to test for its simultaneity impact with crude oil price volatility on economic growth in Nigeria.

In addition, even though Olubusoye, Oloko, Isah and Ogbonna (2016) added monetary policy rate (MPR) to their model, their study focused on impact of oil price and monetary policy shocks on macroeconomic fundamentals and not on oil price volatility. Hence, this study filled this gap by adding the MPR to the model of assessing the impact of oil price volatility on the Nigerian economy. This is in line with Bohi (1989), Bernanke, Gertler and Watson (1997), DeLong (1997), Barsky and Killian (1999), Clarida, Gali and Gertler. (2000) and Hooker (2002) who suggested that there is a role for monetary policy when dealing with oil price volatilities.

Moreover, this research encompassed the time period from 1970 to 2018, thereby captured most of the known volatility time frame which makes the scope of this study wider when compared to previous researches. In addition, the adoption of the Autoregressive of order one [AR (1)] model to extract volatility from annual data instead of the ARCH/GARCH and the standard deviation methods commonly used to extract volatility from daily, weekly and monthly dataset makes this study unique in terms of methodology in the Nigeria's setting. Even though few studies (Loayza & Ranciere, 2006; Shahbaz, 2013; and Devereux & Sutherland, 2009) used an approach similar to AR(1) method to generate volatility in foreign countries, its application in Nigeria is still lacking. The addition of a stochastic or deterministic time trend to the AR(1) which absolute value of the residuals is extracted as the oil price volatility is still a grey area in application in the Nigeria's setting. Hence, the need to fill this gap with an adoption of AR(1) with a stochastic or deterministic time trend to extract oil price volatility. Finally, the combination of Granger causality test with ARDL models for estimation enables a comparative analysis of findings which make this study unique.

3. Methodology

The quantitative method and ex-post factor research design were adopted in this study as the data used is available in secondary form from reputable sources such as the National Bureau of Statistics (NBS), the Central Bank of Nigeria (CBN), the World Bank, the International Monetary Fund (IMF) and the World Trade Organization (WTO). Since it is a time series study where the mean of the variables are expected to be time variant, that is, non-stationary (Obaka & Arshed, 2019), ordinary least square (OLS) estimation cannot be used as time variant variables violate OLS assumptions. As the emphasis of this study is to examine the relationship between crude oil price volatility as well as domestic pump price of gasoline and economic growth, the most suitable estimation techniques to adopt are a cointegration analysis, error correction modeling (ECM) and causality tests. Accordingly, this study has opted to use Autoregressive Distributed Lags (ARDL) estimation method (Pesaran, Shin, & Smith, 2001) and Granger Causality Test (Granger, 1969).

Hamilton (2003) suggests that the regressions of output growth on its own lagged values and lagged oil price changes can have a causal interpretation. The causality test examine whether there is a prediction between crude oil/gasoline prices and macroeconomic indicators (inflation, exchange rate and GDP). The Granger causality test determines whether one time series is useful in predicting another time series.

However, the choice of ARDL methodology is because of its flexibility and ability to handle variables with different stationarity levels such as I(0) and I(1) as well as allowing for policy analysis, multiplier analysis, mean and median lag and forecasting. In addition, ARDL modeling incorporates adequate number of lags to capture the data generating process from general to specific modeling framework (Laurenceson & Chai, 2003 as cited in Shrestha & Chowdhury, 2005). Also, the ARDL approach to cointegration gives more robust results in small samples than the Johansen approach (Pesaran & Shin, 1999). Thus, the ARDL approach to cointegration is more efficient in finite samples compared with the Johansen approach that requires large data samples for one to get a valid result (Pesaran & Shin, 1999). In addition, the problem of endogeneity is addressed in this technique.

Pesaran and Shin (1999) argued that modeling the ARDL with the appropriate lags will adjust for both serial correlation and endogeneity problems. Jalil and Feridun (2011) contend that endogeneity is less of a problem if the estimated ARDL model is free of serial correlation. The problem of endogeneity is primarily important since the causal relationship between crude oil price volatility as well as domestic pump price of gasoline and economic growth cannot be ascertained in advance (Cantah and Asmah, 2015). The use of the ARDL approach is further justified by the relatively small sample size of this study dataset covering annual dataset from 1970 to 2018. The dataset is small because it is annual and not a high frequency dataset of daily, weekly, monthly or quarterly. The ARDL approach is, therefore, considered to be very suitable for analyzing the underlying relationship.

To undertake the empirical analysis, secondary data and Eviews 10 statistical package were used. The period of study was from 1970 to 2018, which was dictated by the availability of data. Since the crude oil price data is annual and not quarterly or monthly there was no arch effect to necessitate the adoption of the commonly used Autoregressive Conditional Heteroskedasticity (ARCH) and the Generalized Autoregressive Conditional Heteroskedasticity (GARCH) models to extract crude oil price volatility (OPV). Instead, the study utilized the Autoregressive of order one [AR (1)] model to extract crude oil price volatility (OPV). The AR(1) approach is similar to the method employed by Loayza and Ranciere (2006) and Shahbaz (2013) to generate volatility in which absolute value of residuals that have been acquired by regressing the dependent variable on its lagged value with stochastic time trend was used.

Moreover, the study did not use standard deviation to extract crude oil price volatility as it is commonly done because of its inherent weakness (Shahbaz, 2013). This is because while the AR(1) gives conditional volatility, the standard deviation gives unconditional volatility, which means that there are actually two types of volatility; the unpredictable volatility and the inherit/inertia volatility which is of past event. In addition, standard deviation is not able to differentiate between both volatilities but AR(1) splits them in which the unpredictable volatility is used. In fact, it has been demonstrated in literature that annual data could be used for volatility (Fatas & Mihov, 2005; Calvacanti, Mohaddes & Raissi, 2011; Khalil, 2011; Dickson, 2012; Ogundipe, Ojeaga & Ogundipe, 2014; Awel & Gashaw, 2018; Latief & Lefen, 2018; and Ho & Iyke, 2018). For estimation in Eviews 10, the extracted OPV was then used with domestic gasoline pump price as key regressors while economic growth proxied by GDP was used as a dependent variable. In addition, the exchange rate of naira to US dollar and inflation rate (INF) were used as control variables.

3.1 The Model

Based on the research questions and the hypotheses, there are three models for this study as follows:

*Ln*GDP = F(OPV, *Ln*GDP, *Ln*DOP, XCR, INF, MPR) (4)

Where,

***Ln*GDP =** Natural log of Gross National Product (GDP).

OPV = Crude oil price volatility.

***Ln*DOP =** Natural log of domestic pump price of gasoline.

XCR = Naira's exchange rate to the US dollar.

INF = Inflation rate.

MPR = Monetary policy rate.

The Granger causality test equation for oil price volatility causes Gross Domestic Product (GDP) is specified as:

$$GDP_t = a_0 + \sum_{i=1}^{n} \alpha_1 \ OPV_{t-1} + \sum_{j=1}^{n} \beta_1 \, GDP_{t-1} + \mu_{1t} \qquad (5)$$

Equation 5 above is modified and repeated for each of the dependent and independent variables to show their casual relationships. The ARDL econometric model for this study is specified as:

$$LnGDP = \alpha_0 + \alpha_1 OPV + \alpha_2 LnDOP + \alpha_3 INF_2 + \alpha_3 XCR_3 + \alpha_5 MPR + \varepsilon_t \qquad (6)$$

The equation 6 above is the functional relationship between gross domestic product, oil price volatility, domestic pump price of gasoline, exchange rate of naira with the United States (US) dollar, and inflation rate with monetary policy rate as a control variable. It means that gross domestic product: a proxy for economic growth is influenced by crude oil price volatility, gasoline pump price, exchange rate and inflation rate and also controlled by monetary policy rate. The equations 5 and 6 above will both be evaluated by Granger causality test and ARDL estimation technique.

3.1.1 Justification for Inclusion of MPR in the Model

Given its implications on economic activities, the increasing spate of fluctuations of oil price remains a great challenge to policy-makers anywhere in the world and one of the tools of economic stabilization often employ to correct this, is monetary policy (Olubusoye, Oloko, Isah & Ogbonna, 2016). The monetary policy rate (formerly called discount rate) itself is an official interest rate fix by central banks and it is instrumental to changes in various private interest rates in the economy. The fact that the CBN often varies the MPR in reaction to oil price volatility explains the possibility of oil price rise and fall affecting the MPR. Similarly, the MPR has been a very useful monetary policy instrument used by the CBN to channel the movement of interest rate, exchange rate and inflation rate towards achieving price level stability in the country (Olubusoye, et al., 2016). In fact, Bohi (1989) and Bernanke, Gertler and Watson (1997) claim that the downtown in economic activity that often follows oil price fluctuations is caused by a combination of direct impacts of the oil price volatilities as well as the monetary policy response to these volatilities. DeLong (1997), Barsky and Killian (1999), Clarida, Gali and Gertler. (2000) and Hooker (2002) were among others those who suggest that there is a role for monetary policy when dealing with oil price volatilities. Hunt, Izard and Laxton (2001), Bachmeier (2008) and Plante (2014) examine the response of monetary policy to oil price changes and Hunt et al (2001) specifically suggest that the effects of oil price volatilities on economic activities can be limited if appropriate monetary rules are chosen. Therefore, it will be justifiable to assume that MPR affect the exchange rate and inflation rate while in addition to these, oil price volatilities affect the MPR (Olubusoye, et al., 2016). Consequently, this study adopts the MPR as a control variable which is further justified in line with Olubusoye, et al. (2016) who adopted the MPR as a variable in their model.

4. Pre-Estimation Test Results

4.1 Descriptive Analysis

The summary statistics and correlation are posted in the appendix and are labeled tables 4 and 5 for descriptive statistics and correlation coefficient respectively. Table 4 reveals the summary statistics of all the variables used in this research irrespective of the models they are included. It should be noted that not all the relevant variables used for this research was converted to natural logarithm. The GDP and DOP were converted to natural logarithm since there are in local currency unit (LCU) of naira. Other variables that were not expressed in natural logarithm include XCR, INF and XCR because they are already in rates.

Before going into the main regression analysis, to show the relationship between oil price volatility and Nigerian economic growth, it will be important to determine the basic statistical features of the variables used in the research. The GDP shows an average of N27.67134 trillion for the period under study. This indicates that on average, Nigeria's GDP grows at the N27.67134billion annual value approximately for the forty-nine years under review. Oil price volatility (OPV) show a mean of 6.667437 while domestic oil price (LnDOP) has a mean of 1.173100 naira. It should be remembered that even though OPV is in the US dollar it was not logged because its volatility was already extracted. The mean of other variables are 70.90050, 18.41688 and 11.01959 for XCR, INF and MPR respectively.

Table 4: Summary Statistics

Type	LNGDP	OPV	LNDOP	XCR	INF	MPR
Mean	27.67134	6.667437	1.173100	70.90050	18.41688	11.01959
Median	27.57504	4.559038	2.397895	21.88600	12.87658	12.00000
Maximum	32.39488	38.54320	4.976734	363.5000	72.83550	26.00000
Minimum	22.91620	0.022539	-2.813411	0.546781	3.457650	3.500000
Std. Dev.	3.149392	8.176636	2.868204	90.80881	15.76133	4.976040
Skewness	0.069439	2.176181	-0.075030	1.360434	1.902539	0.405864
Kurtosis	1.566886	7.867249	1.311179	4.435602	5.802330	3.044873
Jarque-Bera	4.232583	87.04271	5.869042	19.32248	45.59382	1.349367
Probability	0.120478	0.000000	0.053156	0.000064	0.000000	0.509318
Sum	1355.896	326.7044	57.48192	3474.125	902.4271	539.9600
Sum Sq. Dev.	476.0962	3209.154	394.8764	395819.6	11924.13	1188.527
Observations	49	49	49	49	49	49

Source*: Author's Compilations using Eviews 10 Edition*

Keynotes: LnGDP= Natural log of Goss Domestic Product in naira, **OPV**= crude oil price volatility, **LnDOP** = Natural log of domestic pump price of gasoline, **XCR** = naira exchange rate (XCR) to US dollar, **INF** = Inflation rate and **MPR**= Monetary Policy Rate.

Median is the middle value of the series when the values are arranged in an ascending or descending order. From table 4 above, the median for LnGDP is N27.58trillion approximately, while the median for OPV, LnDOP and XCR are 4.56, 2.40 naira and 21.89 respectively. Other variables have the following median; 12.88 and 12 for INF and MPR.

Maximum and Minimum is the highest and lowest values of the series for the period under study. The table 4 indicates that the maximum values for LnGDP is 32.39 trillion naira approximately, while the maximum values for OPV, LnDOP and XCR are 38.54, 4.98 naira and N363.50 respectively. Other variables have the following maximum values; 72.84 and 26 for INF and MPR. On the other hand, the minimum values for LnGDP, OPV, LnDOP, XCR, INF and MPR are 22.91 trillion naira, 0.02, -2.81, 0.55, 3.46 and 3.50 respectively.

Standard Deviation is a measure of spread or dispersion in the series. From table 4 above the standard deviation for LnGDP, OPV, LnDOP, XCR, INF and MPR are 3.149392, 8.176636, 2.868204, 90.808881, 15.76133 and 4.976040 respectively. This shows that exchange rate has the largest spread over the period under study while LnDOP has a minimal spread over time, partly due to its conversion to natural logarithm which reduced it absolute value.

Skewness is a measure of the probability distribution of a real-valued random variable about it mean. A normal distribution is symmetrical at point 0. If the value is greater than zero it is positively skewed but if it is less than zero, it is negatively skewed. From the above table 4, it is observed that all the variables have positive skewness except for LnDOP which is also partly due to its conversion to natural logarithm.

Kurtosis measures the peakness or flatness of the distribution of the series. If the kurtosis is above 3, the distribution is peaked or leptokurtic relative to the normal and if the kurtosis is less than three, the distribution is flat or platykurtic relative to normal. From table 4 above, all the variables are above three, therefore they are leptokurtic relative to normal except for Ln GDP and LnDOP which is also partly due to their conversion to natural logarithm. Jarque-bera is a test statistic to test for normal distribution of the series. From the table 4 above the Jarque-bera for LnGDP, OPV, LnDOP, XCR, INF and MPR are 4.232583, 87.04271, 5.869042, 19.32248, 45.59382 and 1.349367 respectively. The probability value of the Jarque bera statistic of all the variables were found to be less than 5% level of significance which implies rejection of the null hypothesis which states that the residual of the variables is normally distributed with zero means and constant variance except for LnGDP, LnDOP and MPR which are greater than 5% level of significance.

Before formal pretest (unit root tests), the study plot the time series of the variables under study as it may help reveal the integrating nature of the variables. The natural log of GDP, the crude oil price volatility (OPV), the natural log of domestic pump price of gasoline, the naira exchange value to the US dollar (XCR), the inflation rate (INF) and monetary policy rate (MPR) are examined graphically as depicted below in figure 1 which shows clear trend spanned 1970-2018.

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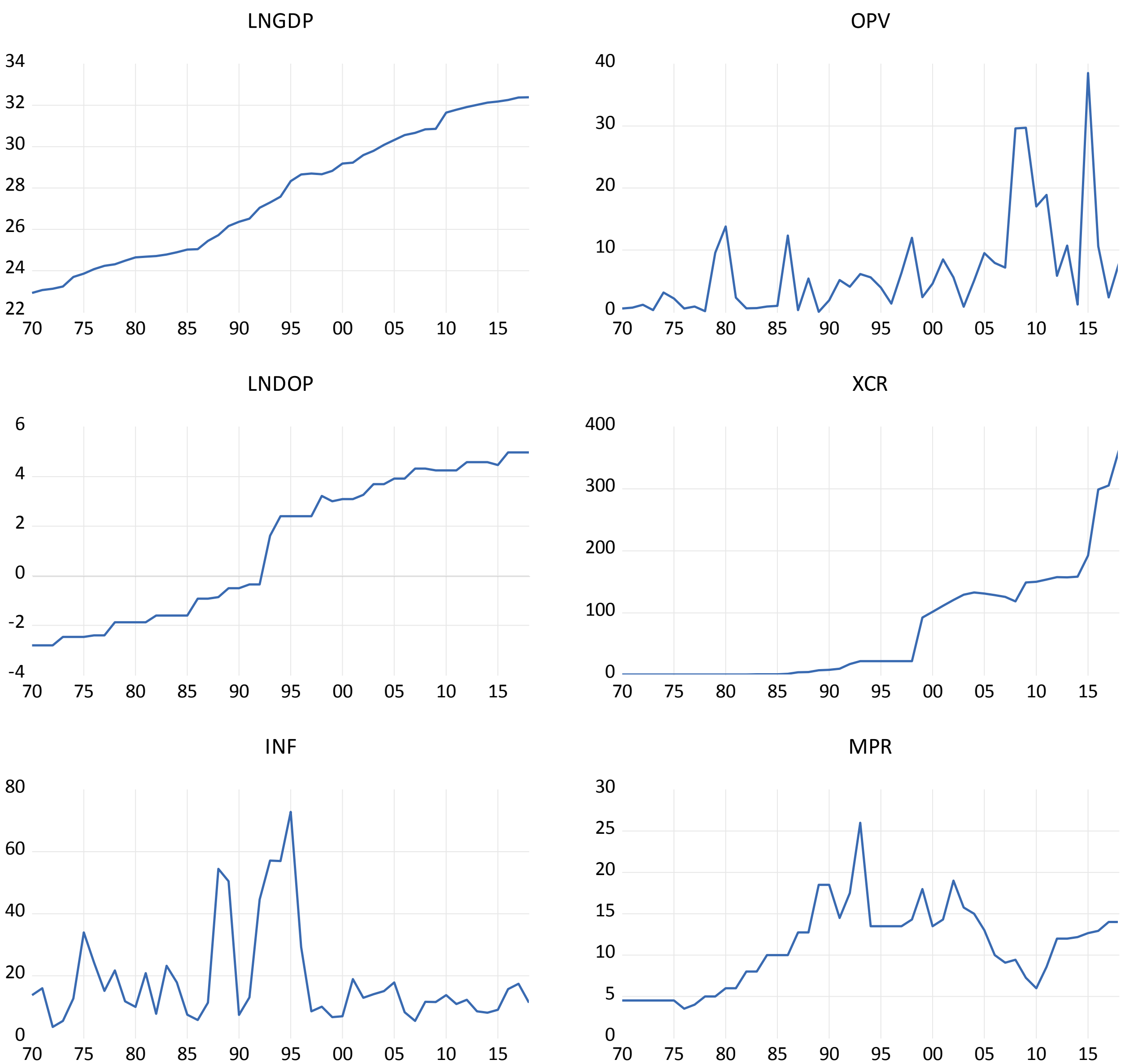

Figure 4.2: Graphs of the variables from 1970-2018.

Source: Author's computation in Eviews 10 Edition
Keynotes: LnGDP= Natural log of Goss Domestic Product in naira, **OPV**= crude oil price volatility, **LnDOP** = Natural log of domestic pump price of gasoline, **XCR** = naira exchange rate (XCR) to US dollar, **INF** = Inflation rate and **MPR**= Monetary Policy Rate.

The correlation result is shown in table 4.2 below

Table 5: Correlation

Variable	LNGDP	OPV	LNDOP	XCR	INF	MPR
LNGDP	1.000000	0.515470	0.984752	0.863895	-0.124495	0.457290
OPV	0.515470	1.000000	0.496145	0.405368	-0.182169	-0.007762
LNDOP	0.984752	0.496145	1.000000	0.825724	-0.093729	0.490950
XCR	0.863895	0.405368	0.825724	1.000000	-0.247097	0.257258
INF	-0.124495	-0.182169	-0.093729	-0.247097	1.000000	0.327800
MPR	0.457290	-0.007762	0.490950	0.257258	0.327800	1.000000

Source: Author's computation in Eviews 10 Edition

The correlation coefficients in table 5 above show that none of the independent variables is highly correlated with each other. This will ease the problem of serial correlation. However, it is observed that LnGDP is highly and positively correlated with LnDOP as well as with XCR. High correlation of independent variable with dependent variable is good but between independent variable is bad (Gujarati). With ARDL, the issue of serial correlation will be automatically corrected as per Muhammad et al (2018) and therefore is expected not to distort the model during estimation.

4.2 Unit Root Test

The unit root results presented in table 6 below is the augmented dickey fuller test (ADF) which was chosen because it is widely used and its output are said to be robust. The stationarity of the variables is concluded based on the outcome of both ADF at constant only or at constant and trend techniques. The results show that all the variables are stationary at either level or first difference. While the summary result is posted in table 6, the raw outcomes could be seen in table 7. Therefore, based on the result of this stationarity test, the adoption of ARDL technique could be given a pass since none of the variables is stationary beyond order one.

Table 6: Unit Root Test (Constant Only)

Variables	ADF	**Critical Values**			**Order of**	**Remarks**
		1%	**5%**	**10%**	**Integration**	
LnGDP	-6.116459	-3.577723	-2.925169	-2.600658	I(1)	No Unit Root
OPV	-4.689965	-3.574446	-2.923780	-2.599925	I(0)	No Unit Root
LnDOP	-6.602309	-3.577723	-2.925169	-2.600658	I(0)	No Unit Root
XCR	-5.151201	-3.577723	-2.925169	-2.600658	I(1)	No Unit Root
INF	-3.414711	-3.574446	-2.923780	-2.599925	I(0)	No Unit Root (5% and 10%)
MPR	-7.267343	-3.581152	-2.926622	-2.601424	I(1)	No Unit Root

Source: Author's Computation in Eviews 10

Table 7: Unit Root Test (Constant and Trend)

Variables	ADF	**Critical Values**			**Order of**	**Remarks**
		1%	**5%**	**10%**	**Integration**	
LnGDP	-6.042074	-4.165756	-3.508508	-3.184230	I(1)	No Unit Root
OPV	-5.831184	-4.161144	-3.506374	-3.183002	I(0)	No Unit Root
LnDOP	-6.533696	-4.165756	-3.508508	-3.184230	I(1)	No Unit Root
XCR	-6.072153	-4.165756	-3.508508	-3.184230	I(1)	No Unit Root
INF	-3.980718	-4.165756	-3.508508	-3.184230	I(0)	No Unit Root (5% and 10%)
MPR	-7.267343	-3.581152	-2.926622	-2.601424	I(1)	No Unit Root

Source: Author's Computation

4.3 Co-integration Test

The Johansen Juselius test for co-integration could not be used for this study due to the mixed levels of integration of the variables at levels [I(0)] and first difference [I(1)]. Consequently F-Bounds Test was employed. The null hypothesis of no co-integration (H0: 1 2 3 0 ψψψ = = =) was tested against the alternative hypothesis of the existence of a co-integration relationship (Ha: 1 2 3). The result of this test presented in Table 8 indicated that the null hypothesis could not be accepted for the period under study (i.e. 1970 to 2018), at 5% level of significance. The F-statistics (5.085611) exceeded the upper bound value (3.38) of the critical value at the aforementioned level of significance, which fulfilled the criteria established by Pesaran et al (2001) that for cointegration the F-statistics must fall outside the lower and upper bounds at 5 percent significant level. Also, in the model following the assumptions and criteria of Banerjee et al (1998) for establishing cointegration in ARDL, it is satisfying that there is a negative ECM_{-1} of -0.246444 which is significant at five percent. As such, a co-integration relationship exists in this case. Therefore, there is a long run relationship between the variables in the model.

Table 8: Co-integration Test

F-Bounds Test Null Hypothesis: No levels relationship

Test Statistic	Value	Signif.	I(0)	I(1)
			Asymptotic: n=1000	
F-statistic	22.19216	10%	1.99	2.94
K	6	5%	2.27	3.28
		2.5%	2.55	3.61
		1%	2.88	3.99

Source*:* Author's Computation in Eviews 10 Edition

5. Model Estimation and Results Evaluation

5.1 Causality Result

The causal relationship among the variables was examined by employing Granger causality test to test the direction of causality between the variables in the model. The existence of co-integration necessitates the existence of a causal relation in at least one direction. The Granger causality test was used to determine the predictive power of the variables. The Granger causality test results are presented in table 9 below. The result suggests that there is no causality running from crude oil price volatility (OPV) to economic growth (*Ln*GDP). The OPV is crude oil price volatility which is the absolute values of oil price (OIP) regressed against its lagged values with time trend. Thus, OPV does not Granger cause natural log of GDP; in other words, oil prices volatility could not be used to predict changes in economic growth. This direction of causation is in contrast with the conclusions of the causal relationship between oil price (OIP) itself and economic growth (*Ln*GDP) in which it was found that OIP could be used to predict *Ln*GDP,

Table 9. Granger Causality between Dependent and Independent Variables

S.No	Null Hypothesis, H_o	F-statistics	P-value	Direction	Decision
1.	OPV does not Granger Cause LNGDP	1.00126	0.3760	No causality	Accept null hypothesis
2.	LNGDP does not Granger Cause OPV	3.76488	0.0313	Unidirectional	Reject null hypothesis
3.	LNDOP does not Granger Cause LNGDP	3.89537	0.0281	Unidirectional	Reject null hypothesis
4.	LNGDP does not Granger Cause LNDOP	2.84575	0.0693	No causality	Accept null hypothesis
5.	XCR does not Granger Cause LNGDP	1.65036	0.2042	No causality	Accept null hypothesis
6.	LNGDP does not Granger Cause XCR	1.56622	0.2208	No causality	Accept null hypothesis
7.	INF does not Granger Cause LNGDP	3.59041	0.0364	Unidirectional	Reject null hypothesis
8.	LNGDP does not Granger Cause INF	0.84071	0.4385	No causality	Accept null hypothesis
9.	MPR does not Granger Cause LNGDP	6.43867	0.0036	Unidirectional	Reject null hypothesis
10.	LNGDP does not Granger Cause MPR	0.20763	0.8133	No causality	Accept null hypothesis
11.	LNDOP does not Granger Cause OPV	3.55788	0.0374	Unidirectional	Reject null hypothesis
12.	OPV does not Granger Cause LNDOP	0.34481	0.7103	No causality	Accept null hypothesis
13.	XCR does not Granger Cause OPV	4.54276	0.0164	Bidirectional	Reject null hypothesis
14.	OPV does not Granger Cause XCR	11.0783	0.0001	Bidirectional	Reject null hypothesis

15.	INF does not Granger Cause OPV	0.97695	0.3848	No causality	Accept null hypothesis
16.	OPV does not Granger Cause INF	0.15616	0.8559	No causality	Accept null hypothesis
17.	MPR does not Granger Cause OPV	0.14106	0.8688	No causality	Accept null hypothesis
18.	OPV does not Granger Cause MPR	0.04106	0.9598	No causality	Accept null hypothesis
19.	XCR does not Granger Cause LNDOP	0.24503	0.7838	No causality	Accept null hypothesis
20.	LNDOP does not Granger Cause XCR	0.05824	0.9435	No causality	Accept null hypothesis
21.	INF does not Granger Cause LNDOP	1.31087	0.2804	No causality	Accept null hypothesis
22.	LNDOP does not Granger Cause INF	1.60032	0.2139	No causality	Accept null hypothesis
23.	MPR does not Granger Cause LNDOP	4.84274	0.0128	Unidirectional	Reject null hypothesis
24.	LNDOP does not Granger Cause MPR	2.51463	0.0930	No causality	Accept null hypothesis
25.	INF does not Granger Cause XCR	0.25775	0.7740	No causality	Accept null hypothesis
26.	XCR does not Granger Cause INF	0.99748	0.3774	No causality	Accept null hypothesis
27.	MPR does not Granger Cause XCR	0.26089	0.7716	No causality	Accept null hypothesis
28.	XCR does not Granger Cause MPR	0.00199	0.9980	No causality	Accept null hypothesis
29.	MPR does not Granger Cause INF	3.54997	0.0376	Unidirectional	Reject null hypothesis
30.	INF does not Granger Cause MPR	3.14213	0.0535	No causality	Accept null hypothesis

Source*: Author's Eviews 10 output*

The natural log of the domestic pump price of gasoline (*Ln*DOP) does granger cause economic growth (LnGDP) in Nigeria but it is a unidirectional causality. That means at the beginning, increase in gasoline price may tend to increase the revenue to the nation as an immediate impact. The reverse causality shows that economic growth does not granger cause gasoline pump price. This means that the price of gasoline is fixed by government.

There is no causality running from exchange rate (XCR) to economic growth (*Ln*GDP). The result implies that increase in exchange rate will not increase the economic growth in Nigeria. The reverse causality shows that economic growth does not granger cause exchange rate in Nigeria. The result implies that increase in economic growth will not increase the exchange rate in Nigeria.

On the other hand, inflation rate (INF) does Granger cause economic growth in Nigeria. The reverse causality shows that economic growth does not Granger cause inflation rate in Nigeria. Consequently, the causal relationship between inflation rate and economic growth is unidirectional. Monetary policy rate (MPR) should positively and significantly affect Nigerian GDP because it is a rediscount rate which commercial banks based interest rate on. This expectation seems be in agreement with actual results herein as monetary policy rate (MPR) does Granger cause economic growth in Nigeria. According to result posted in table 9 above, the casual relationship between monetary policy and economic growth is positive (6.43867) and significant with p-value of 0.0036. This robustness of this positive impact indicates that monetary policy does improve the growth of Nigerian economy.

Generally, the pairwise Granger causality also reveals the independence between natural log of domestic pump price of gasoline (*Ln*DOP) and crude oil price volatility (OPV). There is no causality running from domestic petrol pump price to crude oil price volatility. The reverse causality also shows that OPV does not Granger cause *Ln*DOP. This suggests there is no Granger-causality in any direction between *Ln*DOP and OPV. In addition, exchange rate (XCR) does not Granger cause crude oil price volatility (OPV) but the reverse causality shows that crude oil price volatility does granger cause exchange rate which shows a unidirectional causal relationship.

Granger causality also reveals the independence between inflation rate (INF) and crude oil price volatility (OPV). The reverse causality also shows that crude oil price volatility does not Granger cause inflation rate. This suggests there is no Granger causality in any direction between INF and OPV. Similarly, monetary policy rate (MPR) does not Granger cause crude oil price volatility (OPV) and it is the same with the reverse causality in which there is no causality between the two variables. Further analysis of table 9 above shows that there is independence between exchange rate (XCR) and natural log of domestic pump price of gasoline (*Ln*DOP). In other word no causality between exchange rate and gasoline and vice versa. Similar results are obtained between inflation rate (INF) and natural log of domestic pump price of gasoline (*Ln*DOP) where no causality between them indicating independent causal relationship between the two variables. In contrast, there is causality running from monetary policy rate (MPR) to natural log of domestic pump price of gasoline (*Ln*DOP) but no causality in the reverse case.

For a second time, causality reveals the independence between inflation rate (INF) and exchange rate (XCR), same thing with the reverse causality. Similarly, monetary policy rate (MPR) does not Granger cause exchange rate (XCR), also the same with reverse causality, indicating independent causal relationship between the two variables.

Finally, there is causality running from monetary policy rate (MPR) to inflation rate (INF) but the reverse causality shows that inflation rate does not Granger cause monetary policy rate.

5.2 ARDL Result

After tactical and technical consideration of available methods of analysis, the research also favoured use of ARDL technique for the analyses. After establishing a co-integration relationship among the variables, and following the procedures and the lag selection as earlier conducted the result for the model considered in this research is posted in tables 10, 11 and 12. After the bound test for cointegration using ARDL technique, the model reveals that there is cointegration irrespective of the cases considered. All the controls satisfied that there is a long run relationship by meeting all the assumptions and criteria of Banerjee et al (1998) as well as that which was established by Pesaran et al (2001). It should be noted that Banerjee et al (1998) is of the opinion that a long run relationship exists if there is a negative and statistically significant ECM_{-1} while Pesaran et al (2001) is of the opinion that the F-statistics fall outside the lower and upper bounds respectively for any of the respective significant levels. All these were met in the cases which established that in the model there is a long-run relationship between the variables used. In the model following the assumptions and criteria of Banerjee et al (1998) for establishing long-run in ARDL, it is satisfying that there is a negative ECM_{-1} of -0.157554 which is significant at five percent (Table 11). It also fulfilled the criteria established by Pesaran et al (2001) when the F-statistics falls outside the lower and upper bounds at 5 percent significant level. Therefore, there is a long run relationship between the variables in the model.-

Table 10: Model Evaluation

Evaluation	Test
F-statistic	2925.748
Prob(F-statistic)	0.000000
Durbin-Watson stat	2.120348
R-squared	0.998883
Adjusted R-squared	0.998541

Source*: Author's Computation in Eviews 10*

From table 10 above, by examining the overall fit and significance of the model, it can be observed that the model have good fit, as indicated by the high value of the F-statistic, 2925.748 and it is significant at the 5.0 per cent level. That is, the F-statistic value of 0.0000 is less than 0.05 probability levels. More so, the R^2 (R-square) value of 0.99 shows that the model does have a good fit too. It indicates that about 99 per cent of the variation in growth (GDP) is explained by OPV, *Ln*DOP, XCR, INF and MPR collectively, while the remaining 1 percent is captured by the error term (white noise). The Durbin Watson (DW) statistics which is also used to test for the presence of autocorrelation indicates that there is no autocorrelation among the variables as captured by (DW) statistic of 02.06. This shows that the estimates are unbiased and can be relied upon for policy decisions.

Table 11: ECM (Short Run) Estimates

Variables	**Coefficients**	**Standard Error**	**t-Statistic**	**Prob.**
D(OPV)	0.000126	0.001825	0.069193	0.9452
D(LNDOP)	-0.187228	0.049644	-3.771398	0.0006
D(XCR)	-0.004026	0.000836	-4.818280	0.0000
D(DUM)	0.045194	0.026447	1.708873	0.0961
CointEq(-1)*	-0.157554	0.010819	-14.56223	0.0000

Source*:* Author's Computation in Eviews 10 Edition

5.2.1 Error Correction/Short Run Results Analyses

The error correction model (ECM) is applied for estimation of the short-run coefficient and also used for determination of the error correction which justifies whether there a long-run relationship or not. The application of the techniques is done for the model made available for ARDL method. The result of ARDL with respect to the error correction model is automatically generated by the Eviews software and would automatically drop some variables having no impact on growth on the short run. In so doing, even the major variables could be dropped. The post-diagnostic test will always justify the outcomes. Only two variables (inflation and monetary policy rate) were dropped during estimation which goes a long way to tell that the econometric issues have been corrected. Various stability tests will attest to this fact. The estimations were done taking into consideration the various lag provision made available for ARDL method. Various stability tests will attest to this fact. The estimations were done taking into consideration lag provision made available for ARDL method.

From the results on table 11 above, the oil price volatility (OPV) has a positive influence on economic growth at level and statistically significant on the short-run. The outcome at level is contrary to the expectation of this research. Oil has been reported to be inelastic both in demand and supply hence, the consumption and supply literarily is not being affected by their price changes. The frequency of the change in price would bring the issue of volatility. The reason why the result at level seems to have positive impact being that as the change in price occurs, consumers may require adjusting and making new budget for future purchase. The new budget will have to take care of the new prices but may literarily not affect the quantity of purchase, since gasoline and other petroleum products seems to be necessity.

The analyses show that the short-run impact of gasoline domestic pump price (DOP) on economic growth is negative and statistically significant at 5 percent at level. That means at the beginning, increase in gasoline pump price may tend to increase the revenue to the nation as an immediate impact but along the line, this will translate into an increase in cost of production resulting to high cost of finished goods of which some are exported. Such increase in cost will hinder people from the outside the nation from patronizing the product of the nation. Again, increase in prices will tend to reduce purchasing power which will further decrease output within the year. This is not far from the reason why the outcome at level yields negative impacts. The impact of *Ln*DOP on economic growth in Nigeria is, therefore, negative at level (-0.187). This result seems to agree with the appriori expectation.

Exchange rate seems to exhibit negative effect on the growth of Nigerian economy given by the result of the analyses but this negative impact seems to be significant at level. The impact although still negative became statistically significant at five percent. This shows that as exchange rate increases, the impact on economic growth tends to be negative and significant on the same year. The result demonstrates that the increase in exchange rate or devaluation will only have a significant negative impact on economic growth within the year it has occurred.

5.2.2 Long Run Estimation Interpretations

Following the procedure adopted for this research, the model is estimated using the ARDL technique. In it all, it has been established there is a long-run relationship between the variables hence, the estimation of long-run coefficients. Considering the impact of the main variables of interest, there are different impacts on economic growth which are subject to lag selection. The long-run results in table 12 below revealed that crude oil price volatility (OPV) is positive and significant at 5% level in determining economic growth in Nigeria. Meaning that increase in crude oil price volatility will increase economic growth likewise decrease in oil price volatility will decrease economic growth. Precisely, a 1% increase in crude oil price volatility will lead to 0.09 percent increase in economic growth. The positive impact of OPV seems to be robust and should be relied on in making inference and conclusion. Oil has been reported to be inelastic both in demand and supply hence, the consumption and supply literarily is not being affected by their price changes. The frequency of the change in price would bring the issue of volatility. The international crude oil price is exogenously determined. Therefore, one may say that as the volatility of oil price increases by one percent, there is the tendency of increase in economic growth by 0.09 percent. This result corroborates the findings of (Aliyu, 2009; Donwa, Mgbame & Aigboduwa, 2015; and Akinlo & Apanisile, 2015). But contradict the finding of Cantah and Asmah (2015) who showed that crude oil price have negative and significant impact on economic growth.

Table 12: Long Run Estimates

Variables	Coefficients	Standard Error	t-Statistic	Prob.
OPV	0.088233	0.028618	3.083114	0.0039
LNDOP	0.827187	0.105983	7.804899	0.0000
XCR	0.006914	0.002900	2.383973	0.0225
INF	0.033978	0.014149	2.401479	0.0216
MPR	0.106138	0.040615	2.613265	0.0130
DUM	-0.576953	0.379583	-1.519965	0.1373
C	25.62854	0.486459	52.68385	0.0000

Source*:* Author's Computation in Eviews 10 Edition

The domestic pump price of gasoline (*Ln*DOP) is also positive and significant at 5% level of significance which is more stringent at long-run. Meaning that, 1% increase in petrol pump price will lead to 0.83% increase in economic growth of Nigeria in the long-run. *Ln*DOP seems to influence growth positively in the long-run and statistically significant. That means on the long-run, increase in gasoline pump price may tend to increase the revenue to the nation. This finding is inconsistent with appriori expectations which is of the opinion that the gasoline domestic pump price (DOP) should negatively and significantly affect Nigerian GDP because of it increases cost of transport. Increase in transport cost would a long way lead to increase cost of goods and to large extend, cost of doing business in Nigeria. This result contradicts the findings of researchers such as (Ogboru et al., 2017; Orlu, 2017), who found petrol pump price to be negatively influencing economic growth.

The official exchange rate is also positive and significant at 5% level of significance. Meaning that, 1% increase in exchange rate will lead to 0.01 percent increase in economic growth of Nigeria in the long-run. This result contradicts short-run findings that as exchange rate increases, the impact on economic growth tend to be negative on the same year. However, on the long-run, the impact will change to positive. The long-run demonstrates that the increase in exchange rate or devaluation will only have a positive impact on economic growth years after it has occurred. This result contradicts the findings of researchers such as Habib, Mileva and Stracca (2016), who found exchange rate to be negatively influencing economic growth but the finding is in line with the work of researchers such as Kogid, Asid, Lily, Mulok and Loganathan (2012) who found positive effect of exchange rate on GDP in Malaysia. Our overall conclusion is that the exchange rate does matter for growth in developing economies, but substantially less so in advanced ones, which confirms and strengthens the conclusions of Rodrik (2008)

The official inflation rate is also positive and significant at 5% level of significance. Meaning that, 1% increase in inflation rate will lead to 0.03 percent increase in economic growth of Nigeria in the long-run. Similarly, MPR is said to influence economic growth positively and significant at 5 percent level. This implies that as MPR increases by one unit, it tends to affect Nigerian's economic growth positively by an increasing to the tune of 0.11 units, all things being equal. On the long-run, MPR is said to have a positive coefficient which implies a positive influence on economic growth. This result is in line with the work of researchers like Habib, Mileva and Stracca (2016), who found positive effect of monetary policy rate on GDP in some selected developing countries.

Based on these findings, it could be inferred that the influence of oil price volatility, gasoline domestic pump price and exchange rate are both short-run and long-run phenomena while of that of inflation and monetary policy rate is only long term phenomenon.

5.3 Post Estimation Test Result

Table 13 below shows the result for diagnostic test. This test was done to ascertain the extent of dependability of the model applied in the study. It has absorbed the use of Jarque-Bera test for Normality test, Breusch-Godfrey test for serial correlation Lagrange Multiplier statistics. Two different Heteroscedasticity tests were also conducted, first with Breusch-Pagan-Godfrey and another with Harvey Heteroscedasticity test. All these tests further indicated that the model is normal with no sign of serial correlation and heteroscedasticity. The R-square and Adjusted R-Square are high enough which means the independent variables have high degree of influence over the dependent variable. The null hypotheses for normality test, serial correlation test and heteroscedasticity test could not be rejected (we do not reject the null hypothesis) since their probabilities is greater than 0.05 level of significant, therefore, there is no issue of serial correlation and heteroscedasticity. Generally, this implies that the short run co-efficient in the ECM model are stable and therefore dependable.

The need for stability test could not be over emphasized. It is of necessity to test for the stability of the model employed to ensure dependency and reliability of the results. These tests are conducted to determine the suitability and stability of the model applied in this study. Cumulative sum of recursive residuals (CUSUM) and cumulative sum of squares of recursive residuals (CUSUM of Square) tests were used. The test statistic based on the CUSUM of recursive residuals was introduced in Brown, Durbin, and Evans (1975) and adapted herein. In a model study, Ploberger and Kramer (1992) show that the CUSUM Test based on recursive residuals has better power to detect parameter instability occurring early in the sample than the test based on OLS residuals. Both CUSUM and CUSUM of Square test could be graphically represented to show such needed stability of the models. In the model herein, there is an indication of perfect stability with no specification errors since the plotted lines are within the region of stability. A drift from this region of stability will mean an error in model specification but the result has stated otherwise, hence this report could be relied up for further reference.

Table 13 below is the post-regression diagnostics which shows that there is no autocorrelation (given that p> 0.05). The table also shows that there is no heteroskedasticity, the Ramsey RESET test shows that the model for this paper was not mis-specified (given that p> 0.05).

Table 13: Post regression diagnostics

Diagnostics	Test (Prob)
JB Normality Test	2.12 (0.34)
BG Serial Correlation LM Test	0.63 (0.54)
BPG Heteroskedasticity Test	1.91 (0.07)
RESET Test	0.47 (0.64)

Source*:* Author's Computation in Eviews 10 Edition

Figures 1 and 2 below are the model stability tests (CUSUM and CUSUM of squares), which shows that the model is stable and well fitted.

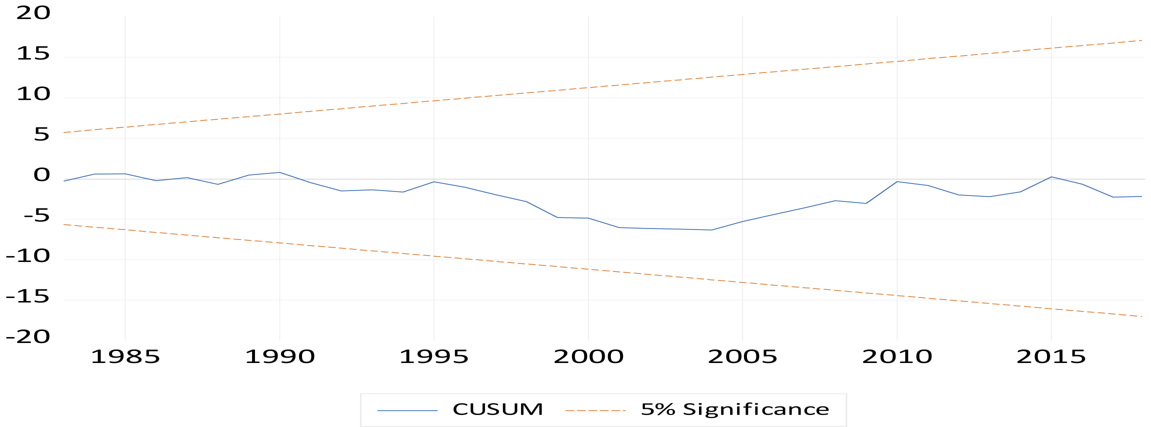

Figure1. Model Stability Test (CUSUM)
Source: Author's Computation in Eviews 10

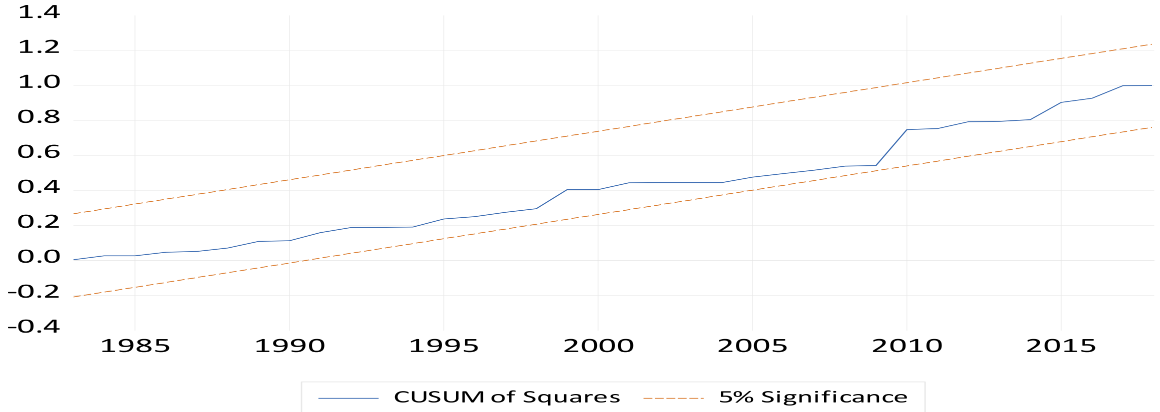

Figure1. Model Stability Test (CUSUM)

Source: Author's Computation in Eviews 10

6. Conclusion and Policy Recommendations

An increase or decrease in crude oil price can both be pain and gain to the Nigerian economy simultaneously because a strong link between the country's budgetary operations and the happenings in the international oil market exists. Therefore, this research employed the Granger causality test and autoregressive distributed lag (ARDL) technique, to empirically investigate into the predictive power and impact of oil price volatility on Nigeria's economy from 1970 to 2018. It could be concluded from the findings that the impact of oil price volatility, gasoline domestic pump price and exchange rate are both short-run and long-run occurrences while of that of inflation and monetary policy rate is only long term phenomenon. It was also found that crude oil price volatility, domestic pump price of gasoline, exchange rate, inflation rate and monetary policy rate have significant positive impact on economic growth on the long-run. This implies that increase in earnings from crude oil exports as well as the appreciation of Naira increases the economic growth of the country. On the other hand, decrease in crude oil earnings and depreciation of Naira decreases the economic growth of Nigeria. Consequently, government should diversify its earnings by developing agriculture, industrialization and investment in order to reduce the heavy reliance on crude oil and income fluctuation resulting from the fluctuation in crude oil prices so as to protect the country's economy. In addition, government should reduce gasoline pump price by deregulating the downstream sector and at the same time encouraging private company participation in crude oil refining in order to encourage competition thereby bringing down the price of fuel. Considering the importance of exchange rate variables, these findings eventually suggest that a systematic exchange rate regime via monetary policy should be properly developed to promote the stability and sustainability of economic growth in Nigeria.

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Challenges of Educational Development in Nigeria: Issues of Chemical Sciences

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Abstract. A wealth of research has revealed that scientific skill is crucial for national development and material well-being of any country. While lack of scientific knowledge is often a critical limitation to economic progress, hence, the importance of science in Nigeria Educational system cannot be over emphasized. So there is a need to improve on science subjects/courses in our schools and institutions if the country is to meet the rising expectation of people. This paper, discusses among other things the place of science in Nigeria Educational system as stated in the National Policy of Education. It brings into fore the importance of science programmes in the National development. However, the paper focuses more importantly on chemical sciences, because of the role it plays among the basic sciences, afterall, after God, the power of creation is given to chemists. The paper discusses further the challenges that are facing the effective teaching and learning chemistry in Nigerian schools. At the tail end of the paper it proffers likely solutions. Finally, the paper is ended with suggestions, recommendations and conclusion. It is important that government at all levels should fund education and increase annual budgetary allocation to minimum recommendation of United Nations Educational, scientific and cultural education (UNESCO) which is 26%.

Keywords: Science and Technology, Chemistry, Educational Development, Nigerian Schools.

1. Introduction

The 21st century is witnessing tremendous changes that require an importance of technological advances that benefit human kind. For example progress in science and technology has helped nations to promote efficiency, self reliance and overall well-being of human kind, through the inventions and innovations in telecommunication, transportation, health, agriculture etc. (Erinosho, 2000:165). Every nation that intends to be scientific and technological advanced must strengthen the scientific and technological skills of its citizenry.

Science and technology makes immense contributions to the material well being of any country, if certain requisites are met. But in most developing countries, lack of scientific and technological knowledge is often a critical limitation to economic progress. This fact is borne out by the experiences of developing countries which are ready to acquire, adopt and apply techniques derived from scientific knowledge. There is a clear need to improve on science subjects in our schools, if the country is to meet the rising expectations of the people. With the goal to increase the materials well being of the expanding population, there is a need to improve in scientific knowledge. Therefore, all students at all levels of Education must have unrestricted access to the knowledge of science to gain insight into the foundation of many of the achievements of humanity (Lederman, 1992: in Erinosho, 2005). However, despite the relevance of science to national[1] development, science subjects are not interested to many students in our country. One may be compelled to know the factors that may account for this or serve as barriers against their interests in science. Certainly, any country that wishes to attain a scientific and technological advancement, all students of such nation must have scientific skills.

Consequently, quest for science and technology has now gained currency in our country. Hence, Nigeria as a nation is becoming increasingly concerned about science. She realises the role of science as a basis to National development and commits to Science and Technology, as this features prominently in the national Policy on Education.

1.2 Science Defined:

The word science is taken from the Latin word *Scio* or *Scientia* meaning knowledge or to know. The Encyclopedia Britannica defines science as any intellectual activity concerned with the physical world and entailing unbiased observations and systematic experimentation (2003:553, vol. 10). George Sarton defines science as a positive knowledge (Encyclopedia Americana, 1988). Science is also defined as body of knowledge and opinions which is systematically supported by formal proofs or by observational evidence (Encyclopedia of Science, 1977). Science is a systematic search for truth that offers a systematic basis for the derivation of technologies but cannot by itself lead to increase in production. In other words, there is a symbiotic relationship between them. Science, without the by-play of technology, becomes sterile, while technology does not exist without science.

1.3 Operational Definition of Chemistry

A working definition of Chemistry is important to serve as a guide for the approach that will be used to teach and learn the subject effectively. Modern definition of chemistry has transcended a picture of mere accumulation of facts, deductive reasoning based upon unceasing experimental work. Broadly speaking, chemistry is the scientific structure of substances, how they react when combined or in contact with one and other, and how they behave under different conditions (Advanced Learners' Dictionary, 2000:186). The Oxford Dictionary of Science defines chemistry as the study of the elements and the compounds with effects that depends on the outer electrons in atoms (2005:157). Becher (1669, in Bamgboye, 2006:3) describes chemists as a strange class of mortals, impelled by almost insane impulse to seek their pleasure among smoke and vapour, soot and flame, poison and poverty, yet among all these evils, I seem to live sweetly, that I may die if I may change places with the Persian King. (Bamgboye, 2006)

2. Issues of Science in National Policy on Education

Science and Technology Education has been enshrined in the National policy on Education of the Federal Republic of Nigeria since some decades now. Therefore, the school curricula at all levels embodied science subjects in its contents, with prominent status and lofty objectives. In real sense, science subjects are made compulsory for students at primary and secondary levels. The National Policy on Education, (NPE) States that students at primary level are to offer science subjects as general science, as integrated science at junior secondary school and as specialized subjects at the senior secondary school. It is necessary to point out that students are to take at least one of the science subjects in writing West Africa Examination Council (W.A.E.C) and General Certificate of Education (G.C.E). Science subjects are also made compulsory for students at post secondary schools, student at university or polytechnic are also obliged to take science subjects under G.N.S. in their respective institutions in Nigeria. For examples at Olabisi Onabanjo University, students are exposed to science topics under G.N.S with course code G.N.S 104 and course title: History & Philosophy of Science (CESAP HAND BOOK, 2000:56). At the same time, students at University of Nigeria, (Nsuka) are to take science subjects as compulsory course under General Studies, (G.S. 105). Among the defined objective and scope runs thus: "The objective of the Natural Science is to stimulate students' interest in science, establish the inter-relationship between scientific disciplines and create an awareness of the services of science to man and the effects of science on human society. The course is offered to students who are majoring in the humanities and social sciences" (University of Nigeria Calendar, 2001 – 2004:193).

Apart from taking science subjects under G.N.S programmes in University, at least a science subject is compulsory for students in other disciplines. For example, Chemistry links with other subjects in scientific studies, students in physical science or those who are interested in Mathematics and Physics have to study Chemistry whether they like it or not. Likewise, Biological Science students, those who are interested in botany and Zoology have to take it, because of its importance to the study of biological science. Sequel to the above, the objectives set down for science subjects make necessary the need to provide an effective teaching-learning environment at all levels.

3. Relevance of Chemistry in Social Services

Poor Education is seen as among the factors that hinder the nation's scientific and technological advancement. Therefore, effective teaching and learning of science subjects needs certain prerequisites to present the subjects with different aptitudes and interests. At this juncture, it is necessary to delineate and limit our discussion only on one of the science subjects. However, because of the immediate and remote relevant of chemical sciences, it is pertinent to premise our discussion on chemistry. Rhetorically, the question that may quickly come to our minds to ask is why is chemistry? As the old cliché goes “after God, the power of creation is given to the chemists” (Bamgboye, 2006:3).

Chemistry has a good role to play in scientific achievement in alleviating human sufferings, improving living conditions and in the control of population. Besides these, Chemistry, plays a central role within the basic sciences and is also the only scientific discipline that has developed into specific industry. Chemistry has its human dimension, it is about people and for people, and can be a bridge between men (SultanBawa, 1982:22). As Chemistry plays an important role in the production of materials for the industries. The quality of such materials needs chemical quality control. For example, production of cement, steel, etc. are all chemical in operation. Water is very important in the life of human beings. Purity of such water depends on chemical treatment at least chlorinated. Such as soaps, detergents, toothpaste, etc. are essential requirements for modern urban civilization.

Chemical sciences are given special priority in all academic programmes of educational institutions. More so, it’s teaching and learning gives prominence to the activity aspect because chemistry is an experimental science and when it is studied at all levels from school to University, emphasis has to be placed on its experimental basis, if the subject is to be appreciated and understood. However, teaching it as an experimental subject requires the use of chemicals, glassware, etc., which have to be annually replaced and hence effectively teaching becomes expensive. Consequently, there is a considerable deterioration of the quality of teaching and students begin to fail to understand its value and importance in the whole area of science. The different curricula in the teaching of chemistry lay emphasis on experimental activities; as such views and opinions of chemistry teachers at all level are irrefutable (SultanBawa, 1982:2,). A good knowledge of chemistry is the basic requirement for the medical sciences. While an understanding of all aspects of the soil needs a good knowledge of chemistry, thus an improvement of the soil by addition of fertilizer is chemical operation, whose function on growth is connected with the biochemistry of the plant. As chemistry plays an important role in the production of materials for industries. The composition of most material things in the universe is chemical in nature. A chemist is always at the core of the activities of finding cures for diseases, better waste, disposal, alternate and improved power source, space ship, fuels, environmental pollution, the analysis of the earth and extra-terrestrial minerals, sustainable food supply, shelter and clothing (Bamgboye, 2006:4) chemists describe the composition of matter in terms of a limited range of atoms, which combine in precise numbers, and according to precise rules, to furnish a virtually limitless variety of the larger structural units which are called molecules .

4. Major Challenges in Nigerian Educational System

A lot of challenges are faced in Nigerian Educational system which makes it difficult to achieve its stated objectives in the Federal Republic of Nigeria, National Policy on Education, especially in Science Education (NPE, 2004:23).

These include:

- **Curriculum Content:** A gap skill exists in the implementation of course content. Most of the content of Chemistry course at all levels are designed to develop students are not delivered. Evidence shows and anecdotes reveal that majority of students rely on notes of teachers and lecturers, moreso they are not deeply taken through the practical aspects of the course and students are more responsive to instructional methods that foster collaboration and cooperation that are content related.
- **Intermittent Strike Actions:** There are many strike actions embarked upon by teachers and lecturers in Nigerian schools at all levels. Therefore, most of these strike actions affects teaching quality which consequently affects students’ performance or graduate output because there is no enough time for quality teaching and learning to take place.
- **Quality of Students Admitted:** Anecdotes report that majority of students admitted into university to read chemistry did not have adequate background in the course. Odiaka, (2011/2012:29) reports his experience in chemistry class, he was disturbed when a young lady from Lagos with A1 in Chemistry and four other science subjects and a score of 285 in JAMB could not tell what a burette is used for in the laboratory. She eventually confessed that her rich father paid someone to sit for the WASC and JAMB examinations for her.
- **Paucity of Funds:** Chemistry is an experimental science. The financial needs for consumable materials of a chemistry Department are much greater than in other Departments, but there are seldom enough funds available. Chemistry is an experimental science and when it is studied

at all levels from school to university, emphasis has to be placed on its experimental basis, if the subject is to be appreciated and understood .Therefore, teaching it as an experimental course requires the use of chemicals, glassware etc. which are to be annually replaced, hence effective teaching of chemistry, becomes expensive. Unfortunately, Nigerian governments have not been able to provide the financial resources necessary to maintain Teaching and learning quality of chemistry. By the end of the 1990s, university expenditure per student in Nigeria had fallen to $360. In response, the government announced its decision in July 2000 to increase funding to $970 per student and to encourage universities to generate an additional 100% of their recurrent budget from income producing activities (Adegbesan, 2012:275). Therefore, paucity of fund leads to a considerable deterioration of the quality of teaching and learning, and students begin to fail to understand its value and importance of chemistry.

- **Scarcity of Chemistry Teachers:** In many Nigerian schools and post secondary schools, most of chemistry departments are understaffed. Therefore, scarcity of chemistry teachers poses challenges to effective teaching and learning of chemistry subjects. Chemistry as a science subject divided into many units, these include: organic, inorganic, industrial, physical and Analytical chemistry, etc. It is necessary to note that each unit needs specialists to handle these aspects of chemistry. In his work, Odiaka (2011/2012:291) states that there are at least 30,000 academic vacancies in Nigerian Universities excluding the 9 new federal universities established by Jonathan's administration. There are not enough qualified lecturers to fill these vacancies. Therefore, chemistry courses are handled by unqualified teachers or left untaught at all. Those who are on ground could not handle the available courses, despite the fact that they already take more than necessary. The outcome performance of students; later deters them from choosing chemistry as a science subject. This leads to a serious deterioration and mass failure of students to have skill in chemistry course.
- **Lackadaisical Attitude of Students towards Chemistry:** Nigeria as a nation is becoming increasingly concerned about science. Every nation that intends to be scientific and technological advanced must strengthen the scientific and technological skills of its citizenry. This is obvious in the Federal Republic of Nigeria, National Policy on Education, Government shall popularize the study of the sciences and production of adequate number of scientists to inspire and support national development (NPE, 2004:23). However, despite the relevance of science to nation's development, science subjects are not interested to many students in our country; students feel a dislike for the subject which is of considerable importance. Hence, many candidates prefer Arts subjects to science subjects, this reduces number of admission into chemical programmes in particular and other science programmes in general
- **Lack of Suitable Textbooks and Learning Materials for Students:** There is no doubt that access to textbooks and learning materials contribute greatly to students' performance. Availability of textbooks and learning materials is consistently a positive prediction of school achievement. Evidences over time show that many students have no access to chemistry's learning materials, hence students always depend solely on teachers. In a situation where the class is very large, teachers cannot do all. Most especially at university level where chemistry class is always over-crowded. The situation contributes to the poor performance in examinations.
- **Field Trips:** Field trips outside the school environment are very important in teaching-learning process of science subjects like chemistry. The trips will provide more realistic experiences, chemical sciences are real and phenomena must be observed outside the laboratory field trips will expose students to real principles out-of-the-classroom, exposing them to the grassroots. This will definitely have a salutary impact on their orientation for traditional science (Erinosho, 2005:31). It is very said that many students at all levels have never embarked, even on a single trip to enhance them realistic experiences before graduation, they are deficient in the real skills that are required from chemistry graduates.

5. Solutions to some Challenges against Educational Development in Nigeria

A wealth of research has revealed that improving access to chemical sciences is crucial for national development. For example chemistry links the two other science subjects (Physics and Biology) in the area of scientific studies. Physical and biological sciences. Students in physical science have to study chemistry whether they like it or not. Likewise, Biological Science students; those who are interested in Botany and Zoology have to take it, because of its importance to the study of Biological science. Therefore, teaching chemistry presents special difficulties at all levels which have constituted a lot of challenges to our Educational system in Nigeria. However, the followings are solutions to some of these challenges:

- **Good Teachers to Present the Subject to Students:** Teachers play an important role in making chemistry attractive to students, at the elementary, secondary and university levels. Teachers/lecturers need to present chemistry to students with different aptitudes and interests. Therefore, teachers must adopt teaching strategies that provide cooperative, hands-on and context-related learning. They must also put in place intense classroom interactions among the students and be responsive to students sensitive teaching and balanced overall assessment strategies.
- **Teachers should initiate collaborative/cooperative learning technique** that will help students to work and teach one another. This will facilitate discussion and encourage students to imbibe the spirit of doing chemistry. Thus, collaborative learning is effective for promoting group work, it also facilitates effective discussion and encourages students to imbibe other essential elements that are beneficial to teaching and learning (Lacomber, 1992 and Arends, (1991 in Erinosho, 2005:175), and finally, teachers of chemistry should write relevant and content related textbooks on chemistry.
- **Awakeness of Student's Interest:** Right from home, parents must be flexible and constructive in the upbringing of their children. They must support the interest of their children/wards in chemistry during their formative years. Although chemistry as a science subject is very costly, parents should make available to their children the financial need to study chemistry. They should monitor the progress of their children in their Education at all levels and encourage them to read their works on the subject at all times.
- In other to retain the interests of students in chemistry, **there must be collaborative/cooperative efforts between the parents and teachers**. While students on the other hand, should see the beauty of chemistry among the science subjects and be proud to be a chemist, because after God, the power of creation is given to the chemists (Bamgboye, 2006:3). Therefore, students should be allowed to be more involved in thinking activities that stimulate their interest in chemistry.
- **Field Trips/Link with the Community:** Field Trips outside the school environment is very important in teaching – learning process of science subjects like chemistry. The trips will provide a link between the school environment and community and the link will provide more realistic experiences. Chemical sciences are real and phenomena must be observed outside the school laboratory. Field trips expose students to real applications of chemical concepts and principles outside the classroom, exposing them to the grassroots. This will definitely have a salutary impact on their orientation for traditional science. According to Erinosho, (2005:31) field work at gari or fufu production sites will give students direct practical experience of the different stages of fermentation and concept of pH and acidity changes. While a visit to the blacksmittery exposes chemistry students to flames, combustion and calorific values.
- **Government Policies:** Government at all levels must review their policies on science and technology, and put in place appropriate policies on Science and Technology, with appropriate policy implementation and monitoring frameworks. Chemistry like any other science subjects needs enough money to buy chemicals, glassware, test tubes, ion exchange apparatus, desiccators and glass vessels, and most of these are to be annually replaced for effective teaching and learning. Neither students nor teachers could have them all and embark on normal replacement. Government, therefore, has to increase on Science Education for quality assurance; and provide resources through loans and bursary for chemistry students. More so, there is a

need to establish science initiatives and Research unit in science and Technology ministries, at the State and Federal levels, that will coordinate among others, research and initiatives for implementation in schools. More also, Government, should give chemistry teachers motivation to make them to be responsive to changes in their classroom practices, consequently, chemistry teachers in particular and science teachers in general must receive special allowance that will enhance salary placement of chemistry teachers/lecturers. At the same time resources to develop their careers must be opened to them. On final note, all the understaffed chemistry Departments in Nigerian schools and institutions must be well staffed.

- **Review of Science Curricula:** Science education units in the ministries of Education need to be overhauled. Governments at all levels must put in place effective implementation and monitoring frame work. Current Science Curricular is overloaded with works which cannot be taught or learned by students within a limited time. Hence students rush to the examinations without deep understanding of the subjects, but only memorise some ideas that will assist them to pass the prescribed examination. Tertiary institutions should establish and support centre for Science subjects to monitor students in university curricula and to initiate mentoring programmes for chemistry students.
- **The laboratory and Laboratory Safety:** Chemistry as a science subject is an experimental subject that requires the use of laboratory for the effective teaching and learning. The use of laboratory promotes enabling environment for teaching and learning chemistry at all levels, laboratory, therefore should be equipped with the laboratory technicians, laboratory attendants, staff office, adequate consideration for large space that provides ventilation and illumination (light), good water, cupboards, machines for distilling water, shelves for storing tools demonstration benches, tables and chairs, fire extinguishers etc. chemistry laboratory also requires further an oven, cupboards for storing dangerous, poisonous and inflammable chemicals, fume, ion exchange apparatus, desiccators, flasks, test tubes and other glass vessels and individual students' cabinets for keeping and storing materials (Alebiosu, 2000:186).
- **Improvisation for Teaching Chemistry:** Improvisation of materials is inevitable in teaching and learning chemistry in Nigerian schools. Teacher of chemistry is therefore responsible for materials that are not available. Improvisation is an attempt to make a replica of the real things in the process of providing for unavailable material. Locally, made materials may be used if commercial materials are not available because of financial implication to perform all functions of the original materials. The senior secondary schools curriculum for chemistry emphasizes the importance of students' activity in the teaching-learning process and stresses that basic elements of chemistry should not be compromised. Improvisation for chemistry teaching can be done in the following premises as listed in Bajah, (1998, in Alebiosu, 2000:188).

(i) The use of dyes such as ink, for standard separation techniques.

(ii) Preparation of charts to explain the arrangement of electrons

(iii) Preparation of CO_2 from locally available materials, for example shells, potash etc.

(iv) Titration using water from different sources of solvents e.g. tap, rain and well water in acid base reactions.

(v) Demonstrating fermentation process from local industries to teach alkanols.

(vi) The use of local alcohol and samples of local industrial products like sorghum, rubber, lime, paint, cement for demonstration in applied chemistry.

(vii) Using tin from cans as electrodes to perform electrolytic experiments in electrolysis.

(viii) Library: The importance and use of library as teaching and learning resources has long been realised in Nigeria and other countries. Therefore, effective teaching and learning chemistry requires a functional library that is filled with adequate instructional materials. For example, digital libraries, e-books and electronic publications are also important in teaching-learning chemistry. The library must also have technological learning materials, such as print, audiovisual and electronic resources for effective teaching.

(ix) Learning and Teaching Environment

There is no doubt that chemistry learning requires a comfortable classroom/laboratory environment that encourages students' activity that provides hands on and minds on experiences that challenge students initiatives and also creates room for normal interaction among students. Chemistry teachers in some cases face the problem of large chemistry classroom environment. a situation where classes are large, over crowdedness and deficiencies of basic resources are noted. A large class is any classroom that has more than recommended ratio 1:30 for primary schools and 1:35 for secondary school. classroom should provide floor space of at least $1m^2$/child (Onwu, 1998). However, at university level, where chemistry is taken by students of Biochemistry, medical sciences, Biology and Physics, lecture rooms are always over crowded because of the relevance of chemistry to these various disciplines. Under that situation effective teaching and learning will be difficult to achieve.

6. Recommendations

Sequel to the foregoing discussion, it remains for some recommendations to be offered as strategies to solve the identified problems and solutions to overcome the challenges identified. The following measures are suggested:

- *Quality of Students Admitted:* The University managements should continue to conduct the post JAMB examinations for intending candidates. This will reduce the number of rot candidates admitted into University who are not fit to be in the system.
- *Staffing and Staff Development:* It has been said that most of Chemistry Departments in Nigerian schools and institutions are understaffed. In this contemporary age, there is expansion in students' enrollment; therefore, the enrollments and programmes should match by equal rise in staff recruitment. This will reduce over workload on lecturers and enhance their opportunity. Therefore adequately trained and qualified staff should be recruited to match expansion in student intake programmes.
- Government at Federal and State levels should reduce the number of universities. And use the available funds to finance the remaining or existing universities appropriately, so the libraries and laboratories will be equipped to world-class standard. Thus, chemistry and other science programmes are experimental courses, laboratories plays a vital role in education of science students.
- Government should increase her annual budgetary allocation to minimum recommendation of UNESCO in funding education. It is obvious that Nigerian Government has not even allocated 10% of its yearly budget to education. This is against the minimum recommendation of the United Nations Educational, Scientific and Cultural Organization (UNESCO) which is 26%.
- Government should reduce the huge wages spent on political office holders and direct the money to Nigerian Educational System, such money incurred can be used to equip libraries and science laboratories and put in place new structures and classrooms.
- Efforts should be intensified to raise and maintain the quality and standard of teaching, learning and grandaunts, to achieve this requires the readiness of government to eradicate all factors responsible for the identified challenges.
- The curricula of chemical sciences programmes should be reviewed from time to time. Lecturers must teach what is relevant as defined by the curricula.
- Conference attendance, at least, twice in a year should be made mandatory on all teaching staff and the institutions should sponsor the conferences. Moreso, opportunities for staff to undergo special refresher courses within or outside their institutions should be provided, so that lecturers could lecture at best.
- Sufficient commitment must be made towards regular and permanent stay of electricity. An epileptic power supply as we are experiencing in Nigeria cannot facilitate production of quality of staff and students, because intensive research and studies cannot take place.
- Nigerian Government should establish a chemical industry in Nigeria in collaboration with foreign investors. This will assist steady supply of chemicals and solvents need in the laboratory, some of the available ones are not enough to cater for the need, while the greater part of it are not original.
- A chemical research centre should be established by the government that will

make available to researcher grants to carry out the research work.

7. Conclusion

In this paper, an attempt has been made to examine the various challenges that are facing Educational System in Nigeria. The importance of science Education cannot be ignored in our educational system. Science has a potential to serve human resource developments, while chemical sciences plays a vital role within the basic science subjects.

The paper highlights some of the challenges that Nigeria educational system faces over the years, on the basis of the analysis made, solutions were made as measures through which existing problems will be solved and the future challenges will be tackled. Science has been used here as an example to refer to all types of programmes that exist in our educational system. However, discussion was focused mainly on chemical sciences, where various challenges were identified. It is hoped that the suggested solutions and recommendations when fully utilized, will assist to improve the state of our educational system to be in the best shape so as to meet the aspirations of the government and people of Nigeria in the 21st century.

It is necessary that Nigerian governments should accord science education in general and chemical sciences in particular maximum priority attention since chemical sciences is very relevant to industrial development in Nigeria, and other science courses are very important in inventions in communication, health, agriculture and other materials for well being of Nigerians in modern world.

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Leadership Functions and Motivation in Security Organizations: Challenges and Solutions in the Nigeria Police

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Abstract. The objective of this paper is to examine the role of leadership functions in personnel motivation in security organizations. To this end, the paper also identified some of the challenges and solutions to such challenges insecurity organizations with particular emphasis on the Nigeria Police. Hierarchy of needs theory and contingency management model were adopted in explaining the relevance of effective leadership function in increasing the motivation of personnel insecurity organizations. Using secondary data, the paper established that most of the challenges of the Nigeria Police, such as lack of professionalism and competency, corruption, ethnicity, and extrajudicial treatment of the civilians are attributable to ineffective leadership within the organization and the bad political leadership at the national level. The paper concluded that without effective leadership function, no security agency can function well in Nigeria. As the solutions to the challenges of ineffective leadership function in the Nigerian security organizations, the paper suggested that: rule of law should been forced on all Nigerians including the Police and other security personnel; management section of the security agencies should ensure proper checkmating between the different divisions; police corruption must be fought by frequently monitoring the activities of the organization; the reward package(salary) of the Nigerian Police and other security agencies should be reviewed, etc.

Keywords: Leadership, Functions, Motivation, Nigeria Police, Security Organizations.

1. Introduction

Leadership is the most important aspect of any security organization because it determines the way an organization will operate and it defines the function of each unit and the individual role actors within the organization. It is therefore right to argue that leadership is the nerve centre of any security organization, Nigeria Police in particular. It is through leadership that the police officers from constable to the highest Police cadre are employed and assigned their respective duties, as well as the appraisal of the performance of each police officer.

However, Nigeria Police is perceived to be performing below its expectation by many Nigerians. It seems pertinent to observe that the dismal image of the Nigeria Police accounts for the noncooperation by the public who are often reluctant to volunteer useful information to the police. Yet, the tasks of crime prevention and detection as well as prosecution of offenders cannot be successfully performed without the cooperation of the public. Other allegations leveled against the police include arbitrariness in the exercise of its powers of arrest and prosecution, corruption and perversion of justice, use of crude techniques of investigation, collusion with criminals and incessant cases of accidental discharge of lethal bullets (Olujinmi, 2005; Mukhtar, Dangiwa & Haruna, 2017). All other things being equal, the various challenges of the security organizations, especially the Nigeria Police Force are attributable to lack of motivation, which could only be addressed by the leadership class within the organization and the deliberate effort to identify and provide needs of the officers across cadres.

Earlier this month (December, 2018), the Nigerian Government announced the restructuring of the Nigeria Police Force's salary, where the minimum consolidated salary will be 84,000 Naira. This is very important pecuniary motivation. However, the

Government should also complement this development with non -monetary stimulus, such as recognition, reorientation, periodic promotion, and meaningful after service or retirement schemes to make the officers more dedicated to their work.

The basic assumption of this paper is that most of the problems with the Nigerian security agencies, especially the police are reducible to the effectiveness/ineffectiveness of leadership within the organization. The problems include those related to the image tainting of the organization (like bribery and corruption) and the poor performance, lack of professionalism, and incompetency of some of the senior cadre and the ranks and file. In other words, if the leaders of the police organization are effectively discharging their responsibilities and appearing to lead by example, the problems with the Nigeria Police will drastically be reduced.

In view of the above background, this paper will examine how effective leadership function can increase the productivity of personnel in security organizations, with particular emphasis on the Nigeria Police. The paper will also examine the challenges of effective leadership function in the security organizations and then provide a lasting solution to the problems of leadership to such organizations in Nigeria.

2. Conceptual Framework

2.1 Police

The origin of the word 'police' has been derived from the Greek word 'Polis', which means "that part of non ecclesiastical administration having to do with the safety, health and order of the state" (Ehindero, 1998: 1). Police force is the most powerful constitutional organ among law enforcement agencies in Nigeria. The overall operational control of the Nigeria Police Force is vested in the President in accordance with the 1999 Constitution and the Police Act (Rauch & Spuy, 2006). As stated in the Section 214 (1) of the1999 Constitution of the Federal Republic of Nigeria, "there shall be a police force for Nigeria, which shall be known as the Nigeria Police Force, and subject to the provisions of this section no other police force shall be established for the Federation or any part thereof".

The Nigeria Police Force is usually the most visible and accessible agency to the citizens, but there are other agencies in Nigeria that police the affairs of citizens and even foreigners within the country's territorial boundary. These agencies include National Security and Civil Defense Corps (NSCDC) Federal Road Safety Corps (FRSC), Nigeria Immigration Service (NIS), Nigeria Custom Service (NCS), States Security Services (SSS), National Intelligence Agency (NIA), Defense Intelligence Agency (DIA), and National Drug Law Enforcement Agency (NDLEA), etc (Ibrahim, Saleh & Mukhtar, 2016).

The Police Act (2009) also states that, the Nigeria Police Force is vested with such responsibilities as: the protection of life and property; detection and prevention of crime; apprehension of offenders; preservation of law and order; the due enforcement of law regulations with which they are directly charged; and performance of such other military duties within and without Nigeria as may be required of them by or under the authority of any other Act (Mukhtar *et al.* 2017).

2.2 Leadership

Defining the term leadership is as difficult as the act of leadership itself (Mukhtar *et al.* 2017). However scholars have advanced various argument as to who leaders are and what attributes represent a leader. The term leadership is viewed by others as socially learned phenomenon. As a political and/or managerial activity, leadership can be conceived as the process of being elected, nominated or appointed to direct and execute organizational affair. However, it is interesting to note that some of these variables are overlapping as one individual may possess either leading skill or personality or both (Mukhtar *et al.* 2017).

Leadership within the Nigeria Police is largely based on appointment or promotion (for those already in the system). Because the organization is regimented, the personnel are exercising their leadership roles by commanding their junior staff. There is clear and well defined responsibility for each police officer; hence accountability to the senior staff is also articulated in the Nigeria Police's scheme service.
Theoretical Framework

The paper adopts *Hierarchy of needs theory* and *Contingency management model* in order to explain how effective leadership function can increase the productivity of personnel in security organizations, Nigeria Police in particular. *Hierarchy of needs theory* was propounded by Abraham Maslow (1943). Maslow identified a multidimensional approach to motivation that he termed a *hierarchy of needs.* Physiological needs are people's most basic needs, and they include such things as food, water, and shelter. Once satisfied, physiological needs are no longer motivators, and the individual progresses to security needs, which include such things as job security and pension plans (e.g., many applicants are attracted to police work because of job security). The next level to which the individual progresses, is the need for belonging. Everyone has the need to be socially accepted or belong to a group. Social bonding is an important human attribute. Once an individual reaches the level of acceptance, there is a need for esteem. People have the need to be valued or feel important. Finally, when all of these needs have been satisfied, the person reaches self-actualization. This occurs when the individual becomes content with life in general.

The theory is relevant to the study. The implication of Maslow's hierarchy of needs is that the workplace provides an adequate financial reward to satisfy both physiological and safety needs, and the workgroup generally satisfies the worker's need for belonging; therefore, if the organization is to truly motivate employees, it must do so by satisfying the individual's esteem and self-actualization needs. This is accomplished by allowing employees to provide input into decision-making and planning and generally allowing them to become involved in every aspect of the organization. When this occurs, officers are more content.

As observed by Gaines & Kappeler (2011), *Contingency management* represents a management philosophy rather than a distinct management theory. *Contingency management* assumes that there is no one best way to manage and that managerial decisions should be based on the particulars of the problem under consideration. Thus, contingency management is leadership based. Managers must constantly monitor organizational and environmental activities, and contingency management adds that these managers should monitor activities with a mind to reacting to problems and potential problems. King (2009, as cited in Gaines & Kappeler, 2011) observed that police departments alter their operations and structure in response to environmental demands. Leaders should consider internal and external conditions as they pursue organizational goals and objectives, and they must use a variety of leadership styles, the style exhibited by the leader being dependent on the situation and temperament of subordinates. A crisis situation such as a barricaded person or drug raid would require a different style of leadership as compared to organizing officers to direct traffic after a large event such as a football game (Gaines & Kappeler, 2011).

Contingency management is a bottom-up philosophy in that organizational activities are dictated by changes and problems in the environment. Thus, management actions are dictated by activities at the lowest levels within the department. This also means that supervisors and middle managers assume more significant roles in managing departmental operations. As noted above, management decisions are situationally based. Factors that influence decisions include the problem, the environment of the problem, and the available resources to solve the problem. With regard to the problem, the police manager must ensure that all aspects of the problem are understood. When this occurs, different approaches for dealing with the problem become available. The environment of the problem is important in terms of providing a better understanding of the problem. It is also important to examine the environment to ensure that the problem is not part of a larger problem or a complex set of other problems. Finally, the resources, personnel, equipment, and money that a manager has when dealing with a specific problem will limit the numbers and types of responses. Regardless, when all of these factors are considered, a number of alternative methods by which to approach a given problem become available, and the best approach should be selected (Gaines & Kappeler, 2011).

3. Leadership Function in Security Organizations

Police administrators and supervisors must constantly make decisions, plan for activities, motivate subordinates, communicate information to various units and personnel within the department, and provide the department with leadership. Leaders within the police organization develop specialized units such as patrol, criminal investigation, traffic, or drug units. The establishment of these and other units dictates a department's structure. Determining the size and placement of these units within a police department is the act of organizing. The police administrator must organize the department in the way that most efficiently balances competing community needs and interests (Gaines & Kappeler, 2011: 139-140). All of these are leadership functions.

In this vein, an early student of administration, Luther Gulick (1937, as cited in Gaines & Kappeler, 2011) postulated that administration consisted of seven activities. These activities form the acronym *POSDCORB* and are described below:

(i) **Planning:** Development of a broad outlines of what needs to be done and how the organization will accomplish the recognized purposes or objectives;

(ii) **Organizing:** Establishment of a formal structure of units and people through which work is coordinated and accomplished;

(iii) **Staffing:** The personnel function, including the recruitment, selection, training, and placement of people within the organization;

(iv) **Directing:** The continuous process of making decisions; developing policies, procedures, and rules of conduct; and generally leading the organization toward the accomplishment of its designated mission;

(v) **Coordinating**: The organization function, which creates an increasing number of specialized units as the organization becomes larger and ensures that these ever-increasing numbers of units work together toward common objectives;

(vi) **Reporting:** The process of ensuring that everyone in the organizations aware of all other activities, generally accomplished through communications and recordkeeping;

(vii) **Budgeting:** The task of fiscal planning for the organization to ensure that resources are available to implement programs necessary for the fulfillment of the organization's mission.

These seven functions, broadly speaking, comprise police administration and outline how police administrators structure and manage their police departments. All seven functions must be constantly considered and effectively implemented; if any function is neglected, the organization will certainly suffer or become less efficient. Within this context, organizations consist of numerous parts and activities that must work together to achieve a predetermined mission, and this objective is accomplished through administration (Gaines & Kappeler, 2011).

4. Challenges for Effective Leadership in the Nigeria Police

The challenges for effective leadership in security organizations are many, ranging from those emanating from the security agencies to those emanating from the government. This is also true within the Nigeria Police Force. Inability to render the services assigned to the leaders in the Nigeria Police is conditioned by several factors or challenges. Therefore, the following are some of the challenges for effective leadership in security organizations in Nigeria, especially the Police:

- Lack of motivation due to poor incentive: Odekunle (2005) has lamented the discouraging salary, poor conditions of service, rank-mobility, promotion criteria and procedure for the “rank and file” in the Nigeria Police, despite the recent efforts to improve the situation.
- Lack of synergy between the various security agencies. For instance, Police is not in good terms with the Nigerian Army, the State Security Services does not share intelligence with the other agencies, etc.
- Political interference: Political interference and the feeling of accountability by the Force to the government of the day rather than to the rule of law and the people (i.e. a carryover from the colonial period and the succeeding military regimes). This is why there are high of politically motivated killings in the country (Olujinmi, 2005).
- Ethnicity: Nigeria is characterized by diversity in religion, ethnicity and language as well as in the level of social and economic development. This has crept into the various security agencies and led to division between the officers. One of the major crises confronting the contemporary Nigerian nation state is how to manage and mobilize its diversity, in the light of crisis of legitimacy of the state and deteriorating socio-economic conditions in the country (Brownson, 2012).
- Lack of professionalism and competency: Dambazau (2012) observed that there is the issue of lack of professionalism in the Nigeria Police Force, generally attributed to recruitment policy, which has effect on the quality of manpower.
- Corruption, including favoritism, nepotism and god-fatherism: As observed by Odinkalu (2005), the relationship between vast swathes of Nigerian civil society and the Police is characterized by mutual antipathy, mutual avoidance, and, where necessary, mutual corruption. Dambazau (2012) also stated that corruption in the Nigeria Police is said to be endemic, and has eaten deep into the very fabric of the system. Similarly, Brownson (2012) lamented that inefficiency, corruption, police brutality and incivility of the Nigerian Police are among the many problems associated with the organization; hence the need for the police

to be more sensitive, effective, accountable and less corrupt.

- Lack of periodic training and orientation: As noted by Dambazau (2012), there is problem of poor training and general atmosphere of indiscipline within the Nigeria Police Force.
- Lack of funding by the government with regards to logistics and structures. Brownson (2012: 67) reported that: *majority of Nigerians believe that one of the biggest problems confronting the Nigerian Police Force (NPF) is that of lack of equipment occasioned by inadequate funding. Although over the years budgetary allocations to the police have increased. This has failed to match the clear needs of the police. A visit to any police station will reveal the magnitude of the problem. From such basic things as buildings, office space within the building, furniture down to even uniforms and kits, the Nigeria Police Force appear ill equipped for its tasks. It is a different matter altogether when the consideration shifts to patrol vehicles, communication facilities and computers. Many police stations cannot even boast of a telephone!*

Apart from inadequacy, Brownson (2012) noted, the police lack the modern weapons needed to combat violent crimes, such that very often, criminals boast of superior weapons. It is commonplace that the police frequently decline to respond to a distress call on the ground that there are not funds or that there are no vehicles to convey them to the scene of crime. When they do respond, they arrive late after the robbery or other crime has been completed and the suspects long disappeared.

5. Solutions to the Problems of Leadership to the Nigeria Police

However, solutions to the problems of leadership in the Nigeria Police lie in the nature of the problem and the complexity of the problem. Notwithstanding, the solutions are recommended:

- Modernizing the whole Police organization to meet up with the modern style of leadership, such as transformational leadership;
- Enforcement of the rule of law on the Nigeria Police and other security personnel, not on the civilian population;
- Decentralizing of the management section to ensure proper checkmating between the different divisions within the Nigeria Police;
- Fighting police corruption by frequently monitoring the activities of the organization;
- Reviewing the reward package (salary) of the Nigerian Police and other security agencies to avoid corruption;
- Proper and periodic training for the leaders and the rank and files within the Nigeria Police;
- Provision of adequate logistics and motivation of the Nigeria Police to ensure effective policing and war on crimes.

6. Conclusion

The paper investigated how effective leadership function increases the productivity of personnel in security organizations, with particular emphasis on the Nigeria Police. The paper also examined the challenges of effective leadership function in the security organizations and then provided some solutions to the problems of leadership in security organizations in Nigeria. In conclusion, without effective leadership no any security organization can effectively and efficiently carry out its constitutional tasks. This is because leadership is the process of managing and administering the affairs of organization, especially the security agencies. It should also be noted that leadership takes place in stages, depending on the role allocation attached to each office within the Nigeria Police Force. Effective leadership depends on the ability of the leaders to efficiently and proficiently discharge their responsibilities.

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Awareness and Adoption of Drug Mobile Authentication Service: A Conscious Approach in Eradication of Fake and Counterfeit Drugs in Nigeria

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Abstract. A major challenge facing the global pharmaceutical industry is counterfeiting, of which studies have shown to be more prevalent in developing countries. The National Agency for Food and Drug Administration and Control (NAFDAC) has in recent years introduced the Mobile Authentication Service (MAS) as a conscious approach in combating the manufacture, distribution and consumption of fake and counterfeit drugs in Nigeria. This study was carried out to determine the extent of awareness and adoption of drug mobile authentication service among Nigerians in the south-west region. A total of 1,544 questionnaires were administered in three purposively selected states. Mean and standard deviation were used in the analysis of data gathered. Results showed that whereas there was 65% awareness, adoption of the technology was low at 20.3%. Television viewing, radio jingles and word or mouth were found to be major sources of information about the technology, as against internet, newspaper and poster advertisements, which ranked low in awareness creation. Despite this evidence of relatively high level of awareness with a grand mean of $\bar{x}$=3.07, SD=.505, the result depicts a poor adoption rate of MAS in southwest Nigerian. The study concludes that NAFDAC and government must go beyond just awareness creation to focus more on discovering practicable approaches that can spur the audience to adoption and continuous usage of MAS technology so as to facilitate the reduction, if not eradication of fake and counterfeit drugs in Nigeria.

Keywords: Awareness, Adoption, Fake drugs, Counterfeit drugs and Mobile authentication service

1. Introduction

Drugs and medicines of different kinds are utilized for varied purposes by many across the globe. The World Health Organisation classified curative, ameliorative and preventive medicines as essential drugs, which are drugs or medicines that satisfy the priority health-care needs of the population (Health and Care Professional Council, 2013). Over the years, the production and distribution of essential drugs have been faced with many challenges, some of which, depending on the region may include lack of funding for researches leading to the discovery of new drugs, the problem of producing drugs in the right quantity that can carter for the ever increasing health demands of the world's population and the infiltration of fake and counterfeit drugs into the market. Among these and several other challenges, the infiltration of fake and counterfeit drugs has proven to be the most daunting due to its severe adverse economic and public health impact. Wilson and Fenoff (2011) contended that fake and counterfeit drugs reduce economic incentives to develop new products and decrease brand value, brand reputation, and competitive advantage. Also, the World Health Organisation (WHO, 2017) noted that in addition to their public health impact, fake and counterfeit medical products can have a diversified economic and socioeconomic impact that involves the quantification of a combination of several variables. These were enumerated as ranging from increased out-of-pocket and health system spending on health care; economic loss for patients, their families, health systems and manufacturers of quality medical products; waste of human effort and financial outlay across the health system, further straining resources, staff and infrastructure; lost income due to prolonged illness or death; and lost productivity costs to patients and households when seeking additional medical care, the effects of which are felt by businesses and the wider economy (p.21). Beside these socioeconomic impacts, there exists the hazard which falsified medicines and medical products pose to public health among which may include: adverse effects, e.g. toxicity or lack of efficacy from incorrect active ingredients; failure to cure or prevent future disease, increasing mortality, morbidity and the prevalence of disease, etc. (Wilson and Fenoff, 2011)

Before now, the common assumption was that high-income countries whose regulatory systems are strong and efficient can effectively flush out fake and substandard medicines from their markets. However, the analysis of WHO showed that this may not be the case as there are indication that even countries in Western Europe and North America together with other countries in similar category are also fighting the battle against fake medicines, though at a lower scale. It has been reported that up to around 1 million innocent people can lose their lives around the globe every year, as a result of fake and counterfeit drugs related cases (Peasgood & Capital, 2015; Scutti, 2015) making it one of the major global public health risks (Mackey, Liang, York & Kubic, 2015).

Among the developing regions with a notably high prevalence of incidences involving fake and counterfeit drugs is Africa. The region has suffered more from some of the previously highlighted effects majorly as a result of underdevelopment, which has caused the problem of fake and counterfeit drugs to thrive within the continent at an alarming rate. Africa is seen on many fronts as a continent lacking the capacity to convert its abundant natural resources to products that can carter for the good of its people. As a result, all manner of items, including drugs manufactured in other parts of the world find their way into the continents, and in many cases not in the best condition they can be. Therefore with a weak production capacity, inefficient regulatory systems and porous border controls, the continent boasts of more substandard products of different categories than quality ones (Bamitale, 2016). Africa has subsequently become a safe haven for fake drugs manufacturers and marketers as the drug supply chains of countries within the continent are easy to infiltrate and regulators lack capacity to facilitate detection, these have resulted in high rate of failed prognosis of rampaging diseases, thereby leading to loss of human lives.

Peasgood and Capital (2015) posited that fake and counterfeit medicines or counterfeit pharmaceuticals are causing untold suffering to the populace especially in some African countries where it takes an alarming proportion from the total drugs in circulation. Renschler (2015) asserted that more than 120,000 children under the age of five who had malaria in 39 sub-Saharan countries may die due to the ingestion of poor-quality anti-malaria drugs. In the same vein, WHO’s estimates showed that between 72,000 and 169,000 children die annually from pneumonia in Africa after receiving substandard drugs, and that counterfeit anti-malarial drugs may likely be responsible for an additional 116,000 deaths (WHO, 2017c). The harmful effect of these drugs stretches from the people to businesses in the region. The multi-billion dollars global industry of fake and counterfeit drugs is steadily flourishing in Africa. In 2008, the United States government estimated the global market value of the counterfeit industry to reach USD 500 billion with an increment rate of 1,700% during the past decade (Chaudhry & Zimmerman, 2013). The World Health Organization (WHO), estimated global sales of counterfeit medications to top USD 75 billion in 2010 alone, which is a 90% rise from 5 years before and could be more than 10% of all medicines sold worldwide (WHO, 2010). In the third world countries, i.e., many African countries and parts of Asia, the percentage in circulation is much higher and could be up to 50% (WHO, 2017).

The situation is rarely different in Nigeria; the country is among those in African where the illicit trade in drug counterfeiting thrives. The passing decades have nonetheless seen a quantum increase in the influx, manufacture and circulation of fake and counterfeit drugs in the country. Nigeria is seen by fake and counterfeit drug producers and marketers as a thriving environment for their illicit trade (Nevin, 2017). This notion has resulted in the manufacture and importations of all manner of drugs, ranging from those that are less potent, to drugs that are out rightly fake and therefore unfit for human consumption (Vanguard, 2019). The report of a World Health Organisation’s evaluation of six countries in sub-Saharan Africa found Nigerian samples to have the highest failure rate at 63.9 percent, compared to 28.5 percent of total samples that failed to comply with quality specifications (WHO, 2011). Also, a research by Health Communication Capacity Collaborative (HC3, 2016) reported that a meta-analysis of quality medicine surveys from 21 countries in sub-Saharan Africa including Nigeria showed that 35 percent of samples failed chemical analysis. According to reports published by Biztechafrica.com (2013), 200,000 out of the one million deaths that occur worldwide annually results directly from the use of counterfeit anti-malaria drugs and a larger proportion out of the total in Africa was recorded in Nigeria. In addition, the World health Organization (WHO) indicated that 700,000 Africans die annually from the consumption of fake anti-malaria or tuberculosis drugs also with the highest number of incidents recorded in Nigeria (Biztechafrica.com, 2013).

Counterfeit drugs include those with the incorrect or wrong ingredients, without active ingredients, with incorrect amounts of active ingredients, or with fake packaging (WHO, 2017). It is worrisome to know that all the indices for measuring and identifying fake drugs are commonly found in many drugs circulating within Nigeria's supply chains. The country's Agency for Food, Drug Administration and Control (NAFDAC) had identified various forms of fake/counterfeit drugs in Nigeria, including: drugs with no active ingredient(s) e.g. having only lactose or even chalk in capsules and tablets, olive oil in Supradyn capsules; drugs with insufficient active ingredients e.g. 41mg Chloroquine instead of 200mg, 50mg Ampicillin as against 250mg; drugs with active ingredient(s) different from what is stated on the packages e.g. Paracetamol tablets packaged and labeled as Fansidar (Sulphadoxine + Pyrimethamine); clones of fast moving drugs - these are drugs with the same quantity of active ingredients as the genuine original brand, but may not have the same efficacy; drugs without full names and addresses of the manufacturers; herbal preparations that are toxic, harmful, ineffective or deceitfully mixed with orthodox medicine; expired drugs or drugs without expiry date, or expired and re-labeled with the intention of extending their shelf-life and drugs not certified and registered by the agency (Akunyili, 2005). This situation has made Nigeria's drug market one of the most porous and difficult to monitor in sub-Saharan Africa.

The situation has also led to failed treatment of different diseases resulting in deformity and in many cases death. Worthy of note is the fact that drugs in their original nature are chemical substances with diverse pharmacological actions. They bring about different changes when they interact with biological systems. They may cause contraction of muscles, alterations of hormonal levels, secretions from glands, modulation of nervous activity and a host of other physiological changes in the body (Bamitale, 2016). This implies that original drugs sometimes can cause negative reactions in the body even when consumed in the right quantity. That being the case, it can only be imagined, the result of consuming fake or counterfeit drugs when attacked by a life-threatening disease, however, this has been a persistent problem in Nigeria for many years.
Apart from fake drugs originating from within the country, there are also those imported from countries such as China, India and Indonesia that are produced below required standards and those that are genuinely imported from the UK, USA, and Canada, but have lost their potency over time. Bamitale (2016) posited that drugs react to climatic conditions that alter its original formula, changing its condition from one state to another. This is common with drugs imported from well industrialized countries that ends up losing their stability in tropical environments as found in many parts of Africa including Nigeria. The dilemma of fake drugs is therefore compounded by the fact that undetected or repackaged expired drugs are mixed with different classes of counterfeit and a number of original drugs and made available for the public in Nigeria to access.

Dipika, Swathi, Kapil and Pramil (2012) noted that many classes of drugs have been counterfeited and that factors such as poor regulation, high number of intermediaries and lack of awareness by the general public among others could be responsible for this trend. This has brought about the need for strict regulation, adoption of anti-counterfeit measures and the creation of public awareness in order to counter this unwholesome practice. Anti-counterfeit measures have been utilized in many developed countries for a long time. Countries such as the UK, USA, Japan, and Canada, have successfully utilized various anti-counterfeit measures to reduce the circulation of fake drug to as low as 1%, whereas many developing countries in Africa, South America and Asia still have a high level (up to 50%) of fake drugs within their chains of supply (WHO, 2013). Countries in Europe and America recorded lower amount of fake drugs circulation due to advanced technologies like Truscan, Black Eye, Radio Frequency Identification (RFID), 2D barcodes and others, while the problem is more rampant in developing countries like Nigeria, India, and many other African and Asian countries despite the deployment of different anti-counterfeit technologies targeted at detaining illegitimate drugs in their supply chains (Dipika, et al., 2012).
In Nigeria, the National Agency for Food, Drug Administration and Control (NAFDAC) has been at the fore of the fight against fake and counterfeit drug manufacture and distribution since the agency was established in 1993. Over the years, the agency has applied various approaches in its attempt to curb the manufacture and sales of counterfeit drugs and other unwholesome food items. In recent years, the regulatory agency launched the drug Mobile Authentication Service (MAS), to enable potential users verify the originality drugs before purchase through the use of their mobile phones, considering the ubiquity of the device in the country currently. Using this technology, consumers can send a direct short message (SMS) - the assigned 12-digit NAFDAC PIN on the medicine they intend to purchase to 38353, and receive an instant reply from NAFDAC, informing them whether such drug in question is fake or original.

Fig. 1: Mobile Authentication System (MAS). *Source:* NAFDAC News, (2013)

The Mobile Authentication Service (MAS) by NAFDAC is an attempt to turn the mobile phone, which is presumably in the hands of majority of Nigerians into a tool for fighting the war against fake and substandard pharmaceutical products in the country. According to NAFDAC News (2013), the agency has deployed the use of SMS text messaging technology to authenticate medicines at the point of purchase, thereby putting the power to detect counterfeit drugs in the hands of Nigerian consumers and by so doing enlisting the entire Nigerian public in the war against drug counterfeiting. This service was made available for public use throughout the country in 2012, after a two-year pilot phase. Many years down the line since 2010, there are indications that the public may not be aware of this service and therefore have failed to adopt it, making them vulnerable to the antics of fake drug dealers. The outcome from studies by Justin and Ilomuanya (2016), and Chinwe and Chinonye (2017) suggests that the audience in various parts of Nigeria may not be aware of Mobile Authentication Service (MAS) and as a result do not utilize the service. Only a few attests to the knowledge of the service and its usefulness and functionality, and yet fewer others who said they tried it without receiving any response (Chinwe et al., 2017).

The problems of awareness and adoption can constitute a hitch to the success of mobile authentication service offered by NAFDAC to drug users in Nigeria. Unless the general public becomes aware and knowledgeable about the service, they will not use it. If the service is not adopted and utilized, of what use will it serve? Chinwe et al., (2017) cited the problems of low mobilization, poor network service, partial implementation and poor infrastructures as primarily responsible for the lack of effectiveness of MAS in many parts of the country. They also noted that lack of awareness and knowledge of its usage has the potential to prevent the people from utilizing the service. Justin et al., (2016) found in their study across the six geopolitical zones of Nigeria that 78% of respondents have heard about the service, 51.4% of those who knew about MAS have tried using it, 48.8% of those who tried it received a positive feedback, while 4.7% did not receive any response. This study therefore seeks to investigate the awareness and adoption situation of drug mobile authentication service in southwest Nigeria, to uncover areas of deficit and thereafter proffer recommendations based on the ascertained patterns of MAS awareness and usage by the general public. Southwest Nigeria is home to millions of residents from all parts of the country and it is believed that if the service is well received and adopted there, the ripple effect will be felt in all other parts as well.

Theoretical underpinnings were drawn from Everett Rogers' (1961) Diffusion of innovation theory which deals with the spreading out of innovation processes by which, through certain channels, novelty is communicated among members of a social system over time (Rogers, 1995). Consequently, it is a process that spreads a new idea or technology out from its discovery or creation to the user or its adopter (Rogers, 2003). The basic assumption of diffusion of innovation theory is that there are four elements involved in the process of idea, practice, or object dissemination; it must be classified as innovation, it must be communicated through certain channels, it must be adopted among members within a social system and it must take into account duration or the time factor. In Rogers's view, the relative advantage is the extent to which a particular group of users perceive such innovation as better than the idea, or practice it replaces (Rogers, 1995). The bigger the perceived relative advantage of innovation by the social system, the faster the level of its adoption (Rogers, 1995, 2003). The key to adoption therefore, is that the adopter must perceive the innovation or idea, as a new one which offers a comparative advantage. The study tested the following hypothesis at 0.05 level of significance.

$H_0 1$: Awareness of drug mobile authentication service has no significant influence on its adoption in South-west Nigeria.

2. Research Materials and Methodology

The study setting was the south-west geopolitical zone of Nigeria made up of six states including Lagos state - one of the states where the pilot phase and the initial launch of MAS was carried out. The region also serves as home to millions of Nigerians from all corners of the country and hence was chosen as the study site. Three states; Lagos, Ogun and Oyo were selected, following which one Local Government Area was selected purposively from each of nine senatorial districts (3 in each state) based on LGAs with the highest population density. The survey instrument was a pretested structured questionnaire. The researchers with six trained research assistants administered a total of 1,544 copies of the research instrument between January and March, 2020. Completed instruments were retrieved, sorted and analyzed using descriptive and inferential statistical tools of mean, standard deviation and frequencies, while hypothesis was tested using linear regression. Ethical approval for the study was obtained from Babcock University Health Research Ethics Committee (BUHREC).

3. Results

From the administered and retrieved instrument, 1,518 were validated for analysis, resulting in 98.3% response rate. The Cronbach's alpha value from the reliability analysis of variables included in the study was 0.851.

Socio-demographic information

Table 1: Demographic characteristics of respondents

Characteristics	Classification	Frequency (n=1,518)	Percentage %
Gender	Male	729	48.0
	Female	776	51.1
	No response	13	0.9
	Total	1,518	100
Age	18-27 years	342	22.5
	28-37 years	475	31.3
	38-47 years	446	29.4
	48-57 years	142	9.3
	58 years and above	89	5.0
	No response	24	1.6
	Total	1,518	100

(*Field Survey, 2020)*

Data in Table 1 reveals that there were more females (51.1%) than males (48.0%) participants in the study. The result further revealed that majority of respondents was in the age bracket of 28-37 years (31.1%) while (29.4%) were aged 38-47 years. Others are 18-27 (22.5%), 48-57 years (9.3%) and above 58 years (5%) respectively. This implies that majority of respondents are young, energetic men and women who are still in their prime and should be able to utilize drug mobile authentication service.

RQ1: To what extent are the audience aware about drug mobile authentication service?

Table 2: Audience awareness about drug mobile authentication service

ITEMS	Very high Extent (%)	High Extent (%)	Low Extent (%)	Very low Extent (%)	Mean $\bar{x}$	SD
I have heard about drug mobile authentication service	155(10.3)	719(47.3)	357(23.5)	287(18.9)	3.69	.481
I am aware of it but never used it	104(6.8)	442(29.2)	703(46.3)	269(17.7)	2.38	.468
I am aware of it and I use it any time I am buying drugs	77(5.1)	313(20.7)	771(50.7)	357(23.5)	2.29	.494
Someone told me about drug mobile authentication service	157(10.5)	812(53.4)	327(21.5)	222(14.6)	3.57	.510
I heard about MAS over the radio	230(15.2)	940(62.0)	179(11.7)	169(11.1)	3.89	.501
I became aware of it through the television	133(8.7)	1,126(74.1)	178(11.7)	81(5.3)	3.98	.580
I read the advert about MAS in the newspapers	157(10.5)	334(22.2)	722(45.5)	305(20.0)	1.46	.575

I saw a poster containing information about it	24(1.8)	144(9.4)	936(61.6)	414(27.2)	1.35	.520
I have never heard of anything like that until now	122(8.2)	151(9.9)	918(60.4)	327(21.5)	1.38	.609
I knew about MAS from the internet	135(8.9)	315(20.7)	724(47.6)	344(22.8)	2.38	.677
Grand Mean					**3.07**	**.505**

Decision rule: if mean is ≤ 1.49 = very low extent, 1.5 – 2.49 = low extent, 2.5 – 3.49 = high extent, 3.5 – 4.0 = very high extent. (*Field Survey, 2020)*

The grand mean of ($\bar{x}$=3.07, SD=.505) indicate that the level of awareness about drug mobile authentication service in the country is high as shown in Table 2. To a very high extent ($\bar{x}$=3.69), the audience know of drug mobile authentication service, however, the result also showed that many who are aware of the service never used it ($\bar{x}$=2.38), and those who use it anytime they purchased drugs were also low ($\bar{x}$=2.29). Again, to a very high extent ($\bar{x}$=3.98), television viewing served as a major source of awareness, followed by radio jingles ($\bar{x}$=3.89) and by word of mouth ($\bar{x}$=3.57); as against online (internet) adverts ($\bar{x}$=2.38), newspaper advertisements ($\bar{x}$=1.46), and posters ($\bar{x}$=1.35), which all raked low.

RQ2: What is the level of adoption of drug mobile authentication service?

Table 3: Adoption of drug mobile authentication service in South-west Nigeria

ITEMS	Very high Extent (%)	High Extent (%)	Low Extent (%)	Very Low Extent (%)	Mean $\bar{x}$	SD
I have been using drug mobile authentication service regularly since I knew about it	95(6.3)	241(15.9)	754(49.6)	428(28.2)	1.48	.767
I have only used it a few times	128(8.4)	199(13.1)	778(51.2)	413(27.3)	1.45	.673
I don't know much about it so I have never used it	299(19.6)	796(52.4)	197(12.9)	226(14.8)	3.67	.721
Although I know about the service, I have not used it.	361(23.7)	894(58.8)	263(17.5)	-	3.97	.723
I always use MAS to check every drug I buy	89(5.8)	195(12.8)	969(63.9)	265(17.4)	1.47	.806
Each time I use MAS I always get a positive result	57(3.7)	94(6.2)	987(65.1)	380(25.0)	1.41	.767
I use MAS only when buying drugs from a sources I don't trust	-	541(35.7)	837(55.1)	140(9.2)	1.43	.741
I used it once but got no reply and stopped since then	-	85(5.5)	998(65.7)	435(28.8)	1.40	.748
I do not use it because the process is not easy	573(37.7)	945(62.3)	-	-	3.99	.819
I like the service and I use it every time	54(3.5)	149(9.8)	551(36.3)	764(50.4)	1.49	.857
Grand Mean					**2.23**	**.721**

Decision rule: if mean is ≤ 1.49 = very low extent, 1.5 – 2.49 = low extent, 2.5 – 3.49 = high extent, 3.5 – 4.0 = very high extent. (*Field Survey, 2020)*

With a grand mean of ($\bar{x}$=2.23, SD=.721) the result in Table 3 depict a low-level adoption of drug mobile authentication service. This is also corroborated by values of individual items in the research instrument which reveals that participants who use MAS since they became aware of the service were very low ($\bar{x}$=1.48), so also were those who have used the service a few times ($\bar{x}$=1.45). However, those who attribute non-usage to lack of full knowledge about how the service runs were very high ($\bar{x}$=3.67), just as those who knew about MAS but never used it were also very high ($\bar{x}$=3.97). Conversely, respondents who always used MAS to check drugs before purchase were very low ($\bar{x}$=1.47), even when purchasing from untrusted sources ($\bar{x}$=1.43). To a very low extent ($\bar{x}$=1.40) respondents used MAS once but got no reply and therefore stopped – implying non usage in the first place, with the result also showing that to a very high extent ($\bar{x}$=3.99), nearly all respondents do not use drug mobile authentication service because of the belief that the process is cumbersome. Just as majority of respondents like the service and use it all the time to a very low extent ($\bar{x}$=1.49). Overall, it is evident that the result depicts very poor adoption rate of MAS among study participants ($\bar{x}$=2.23, SD=.721), despite evidence of a significantly high level of awareness ($\bar{x}$=3.07, SD=.505) and knowledge of the service.

Test of hypothesis

$H_0$1: Awareness of drug mobile authentication service has no significant influence on its adoption in south-west Nigeria.

Table 4: ANOVA & Model Summary Testing Significant Influence of Awareness on adoption of drug mobile authentication service

ANOVA						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	4132.673	2	1073.337	21.411	0.000[b]
	Residual	10189.755	116	19.216		
	Total	14322.428	118			
R=.215		R Square= .127		Adj. R Square= .121		

Coefficients					
Construct	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	R		
(Constant)	10.060	2.133		14.220	0.000
Awareness of MAS	0.095	.126	0.045	1.024	0.083
Dependent Variable: Adoption of mobile authentication service					

(Field Survey, 2020)

Table 4 indicate that awareness of drug mobile authentication service had no significant influence on its adoption in Nigeria ($F_{(2, 116)}$= 21.411, Adj. R^2= 0. 121, p> 0.05). This implies that awareness of drug mobile authentication service (MAS) did not significantly influence the technology's adoption in verifying the originality of drugs before purchase among study participants (β= 0.095, r = 0.045, T= 1.024, p>0.05). In other words, being aware of MAS did not lead to its adoption and usage among. While the common understanding from literature is that awareness of a technology can be the first step towards its adoption and utilization, results from this study points to the contrary as the table indicates that awareness explained only 12.1 percent (Adj. R^2 = 0.121) variation of adoption of drug mobile authentication service among study participants. Consequently, the null hypothesis that drug mobile authentication service awareness has no significant influence on its adoption in Nigeria was accepted.

4. Discussion

This study, which investigated the awareness and adoption of drug mobile authentication service in Nigeria, revealed that 65% of participants are aware of the technology's existence in the country. Whereas the grand mean of ($\bar{x}$=3.07, SD=.505) derived from answers to RQ1 indicated a relatively high level of awareness, RQ2 with a grand mean of ($\bar{x}$=2.23, SD=.721) indicated a low level of adoption, with results from hypothesis test showing no significant influence of awareness on adoption of the technology. This result, despite being similar to that of Ukaoha, Dim, Daodu, and Odikayor-Ogbomo (2015), which also showed a relatively high level of awareness, but identified a number of usability issues that were barriers to the technology's adoption, it is dissimilar to those of Justin and Ilomuanya (2016) and Chinwe and Chinonye (2017) whose studies revealed that members of the audience were unaware of drug mobile authentication service (MAS) in various parts of Nigeria as a result of which they do not utilize the technology. Daberkow and McBride, (2003) argued that awareness can take place when an individual gains or acquires information about the existence of a phenomenon, but possesses little or no understanding about it. This could likely be the case here because, though aware of drug mobile authentication service, Nigerians are yet to gain enough understanding of the service to the point of massively deploying it in everyday usage to avert or minimize negative consequences of non-adoption.

Straub (2009) stressed that adoption of a product or technology can be influenced by individual characteristics such as belief, curiosity and need, socio-economic aspects and access to awareness channels such as communication media. Since participants in this study showed to a certain degree that they are aware of drug mobile authentication service, the last factor can be downplayed since there are evidences from the result showing that they had access to different media used for awareness creation. This therefore accentuates individual characteristic and socio-economic factors as possible reasons for its low adoption. In terms of individual characteristics, the lack of belief in the effectiveness of government projects due to previous experiences over the years is a factor many Nigerians can identify with. Quite a number of ideas championed by the government in Nigeria have not been effectively implemented in the past. Premised on these previous experiences, potential users of MAS doubt its credibility and effectiveness. This doubt has heightened disbelief in the minds of many, to the point that only few among the populace can be curios enough or may see the need to give such laudable project as mobile authentication service a trial or trust it to the level of adoption. Also, telecommunication, which is meant to be the chief driver of MAS is still underdeveloped in the country. Interconnectivity issues, dropped calls, poor network coverage, unstable network service, delayed feedback, erratic power supply, unfriendly customer services and many others are among major issues stifling the progress in drug mobile authentication service adoption. Many are of the belief that it is difficult, if not impossible for a sector still struggling to find its feet in terms of quality service delivery to champion such important service as drug mobile authentication.

Socio-economic factors can as well be a barrier to the adoption of this technology. Many Nigerians are poor, barely surviving on less than one dollar a day. This means that many Nigerians are more concerned with how to earn a daily living than thinking of what technology to use in authenticating drugs before purchase. Although NAFDAC announced that the service is free of charge, many may still think that it could attract some hidden charges as it is the case with most online services offered by telecom companies, banks and other online based service providers. This implies therefore that government and its agencies have a task in hand to prove to the public that the service is genuine and can be dependable, and the fight against fake and counterfeit drugs is one which the government is determined to win through the collaboration of the public as they adopt and utilize drug mobile authentication service whenever they want to purchase drugs.

5. Conclusion

This study investigated the awareness and adoption levels of drug mobile authentication service in Nigeria. It discovered that adoption of MAS is low comparatively to the level of awareness shown in the study. This situation can rarely be acceptable since the ultimate aim for launching MAS technology is to enable the detection of fake and substandard drugs by individuals before purchasing and consumption takes place and considering the fact that the problem of fake drugs remains daunting in the country. This implies that NAFDAC and government must go beyond just awareness creation to focus more on discovering practicable approaches that can spur the audience to adoption and continuous usage of MAS technology so as to facilitate the reduction, if not eradication of fake and counterfeit drugs in Nigeria.

6. Recommendations

Findings from this study has shown that the launch of drug mobile authentication service and the creation of awareness for it was not enough to motivate the populace to adopt the technology in order to rid the country of fake and counterfeit drugs. It is therefore recommended that having implemented and launched the service, NAFDAC and the government of Nigeria should step further to imbibe concrete and realistic approaches that can enable them gain the trust of the people by addressing especially the socio-economic factors capable of bedeviling its adoption. Also, government must ensure that telecommunication service in the country is improved upon especially in the area of network coverage since it is the bedrock upon which the service is driven. This improvement can lead to increased access to MAS by both rural and urban dwellers. Not oblivious of the fact that merely 65% of respondents are aware of MAS, there is need for more awareness creation using additional channels that will reach all and sundry within Nigeria, irrespective of geographical locations. Finally regulations on customer services, with particular reference to delayed feedback should be consciously minimized in order to gain people's trust in MAS to drive motivation towards adoption which in the long run can foster strong collaborations between the citizens, government and its agencies in fighting fake and counterfeit drugs out of Nigeria.

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Policy Imperative of Metamorphosing Nigerian Universities into Twenty First Century Academia: Tonic for Nasarawa State University, Keffi

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Abstract. Attaining the enviable status of a 21st Century University is desirable and ultimate for every forward-looking university, whether in emerging or advanced world. This paper examines the status of Nigerian universities, against the backdrop of the prevailing situation, inhibitions and requirements for the needed metamorphosis, into 21st century height. The paper concludes that huge funding and, governance are a *sine qua non* for leapfrogging Nigerian universities, Nasarawa State University inclusive, over the problems; and recommends that owners and managers of universities should priorities funding and good governance.

Keywords: Twenty First Century, University, Funding, Governance, Metamorphosis

1. Introduction

The pivotal role of education in individual, corporate or national development is so fundamental that its imperative cannot be tritely examined. For example, the duality in development between the set of advanced and industrialised countries and the set of emerging countries is firmly rooted in the disparity in educational levels. The gains of education can only be roundly estimated when the cost of ignorance, disease, poverty and other major insidious social vices attributable to lack of or poor education are known and appreciated. That countries of the “northern hemisphere” have progressed remarkably, as is aptly reflected in their superior human development indices, vis-à-vis the undesirable doldrums into which countries of the “south” have been relegated, is thus only a reflection of the differentials in the level of education.

The challenge of education, particularly in emerging countries as Nigeria, dated back to pre-colonial era when Africa as a dark continent was impermeable to civilization. However, through the concerted efforts of the colonialists, the erstwhile impenetrable continent experienced semblance of civilization ostensibly introduced through missionary evangelism. In this regard, a few pioneering secondary educational institutions including Church Missionary Grammar School, Lagos, Hopewadell Institute, Calabar; Methodist College, Uzoakoli; Dennis Memorial Grammar School, Onitsha; Kings College, Lagos, and a host of teacher colleges, were established in Nigeria between the mid 1880s and early 1900s. (Mkpa, 2013).

Many privileged Nigerians with learning desire for advanced studies, particularly up to higher technical colleges and universities were compelled by the inauspicious situation to seek private tuition in overseas institutions on correspondence basis, or travel to the few existing African universities such as Furra-Bay College in Sierra Leone and Achimota College in Ghana. Others who were better opportuned travelled to the United Kingdom. Although a higher technical college was established in Nigeria at Yaba near Lagos in the late 1940s known as Yaba Higher College, it was not until in 1948 that a degree training tertiary institution was established in Nigeria, at Ibadan: the University College, Ibadan (UCI). Essentially, UCI was a campus of the University of London, and provided academic instructions to students who earned degrees of the latter university. This phenomenon marked a new epoch in university education in Nigeria.

The objective of this paper is to conduct an expository analysis of the prevailing situation of

Nigerian universities, with a view to proposing the antitode for leapfrogging the academic into the 21st century status.

2. Evolutionary Trajectory of University Development in Nigeria

The trajectory of development of university education in Nigeria, for precision and ease of examination, can be categorized into different eras: first, second, third, specialized and new generation (Tomori, 2016), as examined.

2.1 First Generation Universities in Nigeria (1948-1962)

Encouraged by the huge public response to the new dawn in tertiary education, and propelled by the need to prepare Nigerians for the post-independence manpower needs, Nigerian Government and the Regional Governments established new universities between 1960 and 1962: Universities of Nigeria (1960), by the Eastern Region; University of Ife (1962), by Western Region; Ahmadu Bello University, Zaria (1962), by Northern Region; and the University of Lagos (1962), by the Federal Government. UCI became fully fledged and autonomous in October 1962, with the new name as University of Ibadan. To provide effective coordination, and for quality assurance, Ashby Commission was appointed by the British Colonial Administration in 1959. The report of the Commission led to the establishment of National Universities Commission (NUC) by the Federal Government of Nigeria in 1962 as a department in the Cabinet Office.

2.2 Second Generation Universities (1970-1989)

As Nigeria's population increased from 45.2million in 1960 to over 56million in 1970, and as the number of eligible candidates soared, the need for additional universities to meet the demand for higher education arose. To be sure, the growing population created huge deficits in well trained manpower needed in administrative, scientific and technological development of Nigeria. Such high level manpower was also essential in supporting the new-independent status of Nigeria. Thus, between 1970 and 1989, 24 additional universities were established across Nigeria. Of the number, 17 were federally owned; while 7 were state owned. This set of universities have been classified as second generation.

2.3 Third Generation Universities (1990-2015)

Because the population of Nigeria continued on a trajectory of rapid growth, the pressure to expand the existing universities to accommodate new applicants mounted further. To be sure, from 56.1 million in 1970, Nigeria's population grew to 95.6 million in 1990, nearly 100per cent increase, as reported by population census. The census figures put the growth proportion of the population, particularly within the school age bracket of 15-24 years, at about 20 per cent. In the circumstance of population pressure, and the scramble for admission placement in the limited spaces, additional universities were established between 1990 and 2015. In this regard, 112 additional universities, made up of 18 federal, 33 state and 19 private were established, bringing the total to 141 during the period. The112 new institutions belong to the set of third generation.

An interesting perspective on university categorization was the historical and political underpinning. While the first two universities established in Nigeria, that is, Universities of Ibadan and Lagos, were federally owned, to usher in the epoch of university education in Nigeria, the seven subsequent federal universities, established at Benin (1970), Kano, Calabar, Ilorin, Jos, Maiduguri, Sokoto and Port Harcourt (1975-1977), were fondly christened second generation universities. For the note, the Universities of Nigeria, Ife and Ahmadu Bello were, although first generation, regional institutions, established by Eastern, Western and Northern Regions respectively, to address the specific educational needs of the regions.

2.4 Specialised Universities (1980-1992)

Between 1980 and 1992, the Federal Government established a new set of universities based on areas of special needs and focus. These universities were intended to provide specialised teaching and research in agriculture and technology. While those with focus in agriculture were located at Makurdi, Abeokuta and Umudike, the technology-focused universities were located respectively at Yola, Owarri, Akure and Minna. In terms of their chronological order of emergence, however, the universities may be rightly classified as third generation.

2.5 Fourth or New Generation Universities

The establishment of additional universities continued with time and pressure. During the era, in the 2000s, no clearly defined criteria seemed to have guided establishment of universities. Thus, an assortment of universities, for the Military Police, Maritime and Petroleum Sectors, were haphazardly established. The era also experienced an "epidemic" of state-owned universities, particularly as thank you gifts' by Governors for election support. To be sure, in the decision to establish additional universities, no recourse may have been made to available and potential facility requirements or needs, be they infrastructural or human; instead, the desire to provide admission for the soaring number of eligible candidates was often advanced as the cardinal reason for the action.

3. The Notion of "New Generation University"

The notion of "new generation" presumes that the Nigerian academia is saddled with the aspiration to upscale to the lofty standards set and indeed attained by foremost universities of international repute, based on modernity. In this wise, the pertinent question is what constitutes a "new generation university"?

Answer to the question is obtainable from a cursory examination of the attributes or characteristics of a new generation university. With regard to periodicity, Wissema (2009) suggested that first generation universities existed during the medieval period, 1100 - 1700. They were off-springs of the Latin Schools, from Plato's Academia and Aristotle's Lyceum. Their locations were around important buildings housing churches and monasteries. The major medium of instruction was Latin; while their core mandates included education, defence of the truth and production of professionals (Tomori, 2016).

The period 1400-1860 witnessed the second generation universities, or Humboldt. The mandate of these universities, in addition to those of the first generation, extended to research, in order to explore nature through science and technology. In effect, the products of the new universities were doubly scientists and professionals. From the late 1990s, the third generation universities emerged, through periodic changes, to the fourth and current generation.

With respective to scope, the third generation universities were more global in orientation and perspectives, in contradistinction to the rather national outlook of the second generation institutions. Besides, the latter generation was keenly interested in collaboration with industry, to ensure that their products transformed to entrepreneurs. As a corollary, the third generation universities went beyond conventional teaching and research, to building centres for the creation of innovation, transfer and adoption of technology.

Latching on to technology therefore, a set of third generation universities was created, composed of assortment of students, some distance students receiving instructions and lecture from some 300 kilometers or more, through various electronic or e-media and platforms. New teaching methods and open exchange of ideas characterized learning; while alternative educational products were developed. Providing vocational training support alongside academics became part of the response to the demand of the emerging communities and their diversities. Put succinctly, the universities played a pivotal role, a potent force for the growth and prosperity of their communities. That way, they repositioned their relevance to their immediate environment.

3.1 Building a New Generation University: Approaches and Ingredients

In the light of the identified characteristics, which Nigerian university is truly "new generation"? Put otherwise, what should a Nigerian university do, to become first generation? In answering the question, the fundamental issue relates to efforts made at, or derelictions committed, in leap- frogging Nigerian universities over the critical obstacles at attaining the desired first generation status by stakeholders.

The aspiration to build a world-class university has found an admirable place in contemporary lexican description of the desired destination with regard to the type of university system envisioned by education stakeholders, be they government or individual. Such university of stakeholders' dream must be one that aspires to "transplant" the Harvards, Oxfords, Yales, Londons, MITs, Stanfords, etc, in Lagos, Kano, Nsukka, Zaria, Abuja, Keffi, Benin and Port-Harcourt. To achieve such feat is Herculean but not impossible.

One approach is to transform an older university to a new generation university. In this regard, South Korea, Taiwan, China, Germany and Russia achieved remarkable success. All the countries did was to leapfrog their older local "Ivy Leagues" over their challenges, by hugely funding their operations and repositioning them to challenge the global "Ivy Leagues" Nigeria's attempt at similar transformation. Though, a step forward, was largely unsuccessful, because the outcome painted a pen-picture of good money sunk into the pursuit of lost loans by a troubled bank.

Where "rebranding" is inefficacious in building a new generation university, the option of "producing a new body" may be explored. In this approach, the goal of establishing a new citadel from the foundation must be pursued with a clean objective of creating a world class “Ivy League”. This approach provides an apt opportunity to create a brand new institution with a distinct character and focus. Richard Miller, Head of Olin College, is unique and charitable for his position that, ideas and thoughts which eluded the “rebranded university” are conceived, articulated and incorporated when a new generation university is designed. To be sure, the process of building “a new generation university is a tortuous, arduous and lengthy task which requires careful planning and scrupulous attention to details”. (Bush, 2006)

For the emphasis, providing huge funding is *a sine qua non* for building a new generation university; just as crafting a sharp, unique and realistic vision, to be driven by a very clear mission is. Expectedly also, the mission should be clear and achievable.

The curriculum of the new generation university contemplated should derive from its vision and mission. But it is common place to find the academic profiles or briefs of many Nigerian universities merely presented as juxtaposed excerpts of the visions and missions of the old universities whose goals are at variance with the new ones being established. Even the physical planning, academic costumes, academic calendars and anthems of admired institutions are merely copied and adopted, more often unreflective of the essence of the new universities.

Society is dynamic and current, with regard to emerging global trends and needs. A new generation university should therefore design academic curricula that are capable of teaching and researching in topical issues that can address the contemporary challenges of its society. Such new generation university must, for example, be equipped to teach and conduct researches in contemporary epidemiological issues: Lassa fever, HIV/AIDs, Corona Virus, Ebola, fever, etc. The same is true for emerging global security threats: Boko Haram, Farmers-Herders, Maitatsine, Niger Delta, Ombatse, etc, in various parts of Nigeria. The existing curricula are static, with teaching methodologies dating back to pre-Newtoman era; or at best, with curricula running on pre-independence designs. Is it not common place experience to find old and new universities in Nigeria giving much priority to teaching single honours like, Botany, Philosophy, Zoology, Classics, English, Geography, French, Yoruba, Igbo and History, among others?

To also ask: how has the avalanche of graduates in Economics, Finance, Insurance and Business Administration impacted the observed sluggish growth nature of the economy of Nigeria? Are there no tens of thousands of graduates of Sociology and Political Science, given the current social malady and political nonsense across the wide spectrum of Nigeria?

The early European explorers and missionaries, including Mungo Park, Mary Slessor, the Lander Brothers, etc, were highly unreceptive to malaria, a tropical disease that is well dreaded in the temperate hemisphere. Many of them died of the scourge; and many refused to come, or return to Nigeria when they fled home. From that time immemorial till 2020, is the prevalence of malaria not well sustained in Nigeria as the commonest illness? To be sure, almost 99 per cent out of all laboratory tests ordered by a medical doctor in Nigeria must include malaria. And almost 90 or 95 per cent must test positive. Why has medical research not been able to find an antidote? All these point to the question of the continued relevance or otherwise of the various academic curricula of Nigeria’s universities.

On manning administration, would it not be more egalitarian and morale boosting, if recruitment into all line academic offices is democratized? That way, the electorate, composed of lecturers who arguably are well informed, collectively express preference for an aspirant. If therefore a senior is less preferred to a junior at the polls, the superior will take solace in his popular defeat at the boxing ring, where the field was level. The duality in the existing process in which some offices are elective, while others are appointive, leaves room for grudges, particularly by seniors who may feel that seniority is scarified at the alter of ‘politics’ or sentiments.

Without doubt, a new generation university is global in orientation, distinct from the national orientation of the older generation university. It should be a centre of excellence in teaching and research; and it should create entrepreneurs out of its products. Very importantly, it should be an agent of change, innovation and transformation, leveraging contemporary information and communication technology. Teaching, learning and ideas sharing are effected among teachers and students of diverse ethnicities and locations. Academic solutions are provided to complex problems through design of tailor-made products which offer alternative solutions.

But can effective learning and research take place when the physical environment is unconducive? First, what is the ratio of student population to the available physical infrastructure: lecture halls or rooms, ICT facilities, office and hostel accommodation, laboratories, furniture, transportation and logistics, etc, in an average Nigerian university? What is the student:teacher ratio? Are guidance and counseling facilities and services available to needy students? What is the fate of the student who requires a wise counsel on choice of courses; or whose academic progress is challenged? Beyond mounting sign boards to warn students against enlistment in social vices, what counseling services are provided, to re-orient a confused student who is at the crossroad of deciding in favour of an invitation or pressure to join an anti-social group on or off campus?

What is the state of available recreational facilities: indoor/outdoor games? To achieve the vision of a new generation university, the design, aesthetics and ambience must be carefully considered because environment plays a considerable influence on the psyche of the dwellers and visitors. The first thing a fresh student relishes upon assumption of residence in some of the overseas “Ivy Towers” is the fantastic scenery, represented in well arranged buildings, wonderful land scape and beautiful flora. In Nigeria, the scenario is one of litters of unkempt buildings, most new ones simply juxtaposed beside older ones; and many unmaintained others providing fertile structures for plant propagation. With such unconducive environment: physical and human, learning is difficult, because a university become the hostile place for teaching, learning and research. As a corollary, it is little wonder that official and interpersonal relationships among university stakeholders are far from cordial. Bonding, friendship and trust which derive from a conducive environment, and which are essential ingredients of learning, become elusive. (Ekundayo and Ajayi, 2009)

All said and done, is a new generation university one typified by misuse and misappropriation of public funds? Is it one that places premium on corruption in all ramification? Certainly, ‘No’ is the answer. What does it take to overcome the challenges of environmental nuisance or nuances; and to emplace the right environment? Jhingan (2006) writes that one of the major characteristics of underdevelopment of Third World countries is the lack of knowledge of and capacity for the effective and productive utilization of available natural resources.
To answer the question as to what must be done to overcome the challenges associated with the environment, it is suggested that good governance is the key to effective utilization of the resources available to universities, for productivity and results. As to what constitutes good governances, it is submitted that elements which include visionary leadership, team work, qualified academics transparency, accountability and sound administration are indispensable.

The university structure must cascade hierarchically, from an independent and impartial Council, a sagacious Senate, down to a sound Management, capable of providing cutting-edge leadership, based on ability, responsibility and discipline, to manage the complex human, environmental and institutional diversities, for ultimate cohesion, peace and harmony. In this regard, the right governance framework which provides a clear definition of the structural-functionalist relations should be provided from the on-set.

Adherence to the structural-functional framework and relationships in the implementation of the organogram should be sacrosanct, to avoid or curtail ugly situations in which blurred functional overlaps initiate and propagate wragglings between Council and Management; or inter-office squabbles among departments or units. Even the succession wars often fought when vacancies arise from the expiration of the term of a principal officer, particularly Vice-Chancellor, can be avoided, if the University Act clearly defines succession process and procedure. To be sure, if, to the contrariwise, such water-tight and essential succession procedure is enshrined, it will forestall “political selection”, which is often preferred and more often adopted by the political class. For this reason, a candidate must belong to a political parity, a cabal or society, because such ascription guarantees success, vis-à-vis relying on the dicey meritocracy. Tomori (2016) observed that in following this despicable alternative, many university political office appointees see their appointments as an opportunity for self-service; and for recouping whatever they “expended”, in the University Council. Temori (2016) therefore concluded that the beauty of a university without the appropriate academic and administrative leadership is an empty cell. To be sure, a new generation university is not built on unsound and despicable structural-functional arrangement. Ofcourse any structure, whether a university or otherwise, built on shaky and wrong foundation must give way shortly, irrespective of the craft or tact adopted in its management.

3.2 Is Establishing “New Generation Universities” Feasible in Nigeria?

As an institution for providing a public good, a university, particularly one which aspires to be new generation, must go beyond the ordinary, to deliver the perceived socially unattainable. Reeds and Hawkins (2003) noted that "the new generation university has become a particular kind of public corporation, autonomous but accountable, state-funded yet fee-charging, open to all yet selective, enjoying special privileges but expected to fulfil a range of functions for the public good" Implicitly therefore, the new generation university must transcend the domestic environment to the international market place. To achieve such lofty height, the new generation university in Nigeria must substantially increase its efficiency level; and it must be fantastically prudent in resource management, to meet the challenges of dwindling government funding. Indeed, it should be inward-looking for unexploited resources for self-funding, to support its autonomy. Furthermore, it should be very competitive in all its activities and programmes: curricula, teaching methodologies, research, recreation, accommodation products, etc, so as to attract and retain high quality students and teachers. The university must position very strategically so that its global public perception can confer some advantage on it in the comity of top-rate domestic and international universities.

Under the aforestated conditions, and many more, establishing universities in Nigeria that meet the global standards of a new generation university maybe a mirage in near term. To ask therefore, what are the factors that militate against establishing new generation universities in Nigerian that are "world-class"? W.W. Reotow in his "Stages of Growth" theory identified five stages through which growth progresses, to attain maturity. One of the critical stages is the preconditions for take-off, after the traditional stage. This stage is characterised by rethinking, reawakening, new ideas about the desire and drive for change and, indeed, a period of renaissance. When this stage of rethinking overtakes the erstwhile traditional, albeit static stage, it is true that moving a system to the next desired level has begun to attain agenda status. From this stand point of history, people reinvent themselves in a new process of creative thinking, the stage when a nation is willing and ready for a change. Even the Scripture posits that new things will replace old things, when the old ones pass away. And so, "replacing" old universities with new ones must come to pass. If the desire for new generation universities must be realised, old ways: poor attitude to doing things, corruption, nepotism and stealing, etc, must die, and new ideas characterised by excellence, honesty, opposition to evil, probity, accountability, pro-activeness in problem solving and indeed a penchant for culture of best practice must be borne.

3.3 What are the Challenges?

Riggs (1961)'s Ecological Thesis attempts to explain the influence of ecology or environment on the character and behaviour of a nation's public institutions. As in Riggs' thesis therefore, the first obstacle to building a new generation university in Nigeria is Nigeria. In this regard, juxtaposing the essential criteria adopted in ranking universities with the challenges of Nigerian universities provides insight into the expected role of stakeholders: the state, behaviour or attitude of Government, and indeed Nigerians at large, in promoting, thwarting or retarding building new generation universities. (Schultz, 2002).

Put succinctly, the ranking criteria of universities, as reported by Wissema (2009), traverse the following:

- Funding;
- Quantity and quality of academic staff (PhD holders);
- Quantity and quality of functional and adequately calibrated equipment;
- Availability and sufficiency of physical facilities certified as meeting quality and safety standards;
- Book volumes of the Library;
- Student-teacher ratio;
- Level of accreditation by regulatory and professional bodies;
- Amount received in research grants;
- Quantity and quality of research products and recognitions thereof accorded by national and international organisations;
- Paper referred and cited in top class international journals;
- Publication per staff;
- Products commercialised;
- Number of staff winning nobel prizes and medals;
- Number of highly cited researchers in top 21 broad subject categories;
- Number of papers published in Nature and Science journals;
- Number of papers indexed in Science Citation, Index-expanded and Social Science Citation Index; and
- Per capita academic performance of an institution.

Without doubt, the criteria are more, depending on whether a simple or complex ranking is conducted.

4. Strategies for Metamorphosing Nigerian Universities into New Generation Status: Lesson and Tonic for Nasarawa State University

In its ‘Editorial Comment’, NSUK Official Bulletin, December 2018 edition quoted the then Acting Vice-Chancellor upon assumption of duties in October 2018 as saying:
“my responsibility is essentially to make sure that Nasarawa State University, Keffi becomes a 21st Century University”. In the same vain, the then Ag. Vice Chancellor in his acceptance speech remarked, as reported by NSUK Official Bulletin (2018): “We want to have a University that will compete with other universities in Nigeria and globally; a university where teaching, learning and research will be driven by ICT…, we are working to see that the university is transformed”. By such giant initial strides, the then Acting Vice-Chancellor set the tone and left no one in doubt as to the challenges ahead and the redness to overcome them.

But if the array of criteria listed is truly applicable in deciding the attributes of a new generation university, obviously, a Nigerian university may not come a distant 5000th position in the comity of world universities. Nasarawa State University, with all its huge potentials, will surely not make the list; not only because of its limiting young age factor, but because of more critical challenges. No one requires a soothsayer to confirm the problem, given the gaps: infrastructure, manpower development, lecture and hostel accommodation, laboratory equipment and materials etc. An inspection of the physical development profile on-campus is suggestive of reliance on the generosity of external donor-partners, notably TETFUND, education-loving philanthropists and PPP business venture capitalists.

On recurrent expenditure, it may be surmised that appeals had gone out to the political authority to completely take over the responsibility of the basic but essential funding needs covering personnel emolument, in order to lighten the burden on the University Management so as to inch towards the prospects of predicting smoothly pay day for employees, for survival, morale boosting and stronger commitment.

Keeping to the prescribed student-teacher ratio, for effective teaching and learning, may also be Herculean, in the circumstance of the inadequate funding, because of the high correlation between student population and the level of internally generated revenue required to augment the derisory statutory receipts.

Every member of the academic staff is desirous of obtaining the required minimum teaching qualification of a PhD. Consequently, many have to stretch their financial resources beyond their ordinary limits, to achieve the target. A “world-class” university would provide the opportunities for the junior academics to advance, under alternative funding schemes. Where and when TETFUND is unavailable, the student-lecturer is on their own. The challenge limits the quantity of the PhD-teaching staff.

As a corollary, teaching and research grants are very scarcely available, except where they are exogenously sponsored and funded. Again, all eyes and hopes are on the inexhaustible TETFUND sources. The limitation has serious implications for productivity; besides retarding the production possibility of research-hungry young academics. During an annual research seminar for young academics in 2019, a participant asked to know how a young entrant, given the earnings, would publish in top-rate overseas academic journals that would normally ask for between USD150 and USD200 per article. At average USD1/N360 exchange rate, the publication fee is N54,000 to N72,000. In the circumstance, publications are unavoidably localized, to reflect the possibility. The article will not likely be globally top-rated, not because the quality is lower than the one published in Harvard Business Review, but because of the financial constraint. In totality, the number of publications in top-rate internationally cited journals must be meagre.

It is likely that many of the research-centric members of the academic staff are aspiring to join the league of Nobel Laureates like Oluwole Soyinka; but none has attained the feat so far. This should not however dampen the enthusiasm and focus of academics: Soyinka laboured for a very long time in a much older university, before the fruit came to him, the University, Nigeria and African continent. Neither should the prevailing situation forestall the bright prospects of achieving higher per capita performance.

To move forward however, academic productivity must be the cardinal objective of achieving excellence. Productivity of the academic staff and students, to be sure, is a derivative of several factors: modern teaching and research methodologies, based on state-of-the-art ICT framework. Where lectures are still delivered with chalk and black board methods, and where lecturers and students are largely oblivious of ICT techniques and plat forms, particularly because the equipment are unaffordable, effective teaching and research are unlikely. In a new generation university, it is very likely that providing modern computers for lecturers is a necessity, and not a luxury, as it is often suggested in a "lower-case" university.

The outcome of a survey of the teaching staff of NSUK was negative on the question of whether or not the University provided such ICT equipment. An analog university is far from new generation. When the physical infrastructure are provided, work moves on progressively. But that progression can only be short-lived, when the complementary human element is either inadequate or lacking. The situation arises when the quantity and quality of the human capital are compromised. Of more critical importance is quality. Raising the quality can be achieved in a two-prong approach: human capital development and motivation. It had been noted earlier that academic staff development has not taken a stage, talkless of a centre-stage, at NSUK; when the support from TETFUND is subtracted from the sum total of the effort.

On incentives, not much is known about benefits-in-kind for the academic staff; nor is much known about availability to the non-academic staff. How will any academic staff acquire a vehicle, to facilitate his movements for prompt attendance at lectures from the remote part of the sub-urban university location? How is the psyche of the lecturer who resides in Angwan Lambu or High Court area under the same tenancy arrangement as his student postured? Which mortgage arrangement is available to leap-frog the lecturer over such dilemma of low residential esteem? How will a lecturer who has no hope of a paid overseas holiday or a local recreation (due to absence of facilities) enjoy quality health? The "good thing" about the egalitarian nature of the university community is absence of differentiation in, and respect, for status: the facilities are for staff and students on equal basis. The lecturer may therefore not have moved to any level, talkless of the next level. But if any movement, it was to a lower pedigree

5. Conclusion and Way Forward

It is discernable from the analysis that NSUK, or indeed any Nigerian university, is not a "new generation" university, although the desire may be strong. The criteria for the metamorphosis are known, clear and achievable, if and only if the situation is well appreciated and the truth is accepted with equanimity. Only then will "development" be appropriately prioritised for agenda status. As aptly noted by Ake (1981), the problem in Third World countries is that development has not been on the agenda of the ruling elite class. Quite truly, and expectedly, the explanation, plausibly, for the gross deficit of the "development" criteria is the age of the university. But in the digital era, emphasis on age in explaining low speed or declaration is now diminished, if not untenable.

Accordingly, NSUK should retool, recalibrate, reposition and leverage its sole state-owned university advantage to overcome the obstacles, for a rapid drive towards achieving the enviable status of a new generation university, in medium or long term. Very importantly, the University stakeholders should move to address the identified problems; otherwise, the effort and situation will remain one of motion without movement.

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Open Grazing, Food Insecurity and Sustainable Human Development in Nigeria: A Horn of Dilemma

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Abstract. Nigeria is blessed with numerous agro-ecological resources that should make it a major exporter of food items in the world. Regrettably, it has become a major food importer as a result of food insecurity. The critical state of food production in the country is worsened by the phenomena of open grazing, climate change, global warming and the Covid-19 global pandemic. These developments have deleterious effects on agricultural activities in general, food production and sustainable human development in particular. While there are policies and agencies in the state to combat these developments, it appears they have proved ineffective in the face of increasing inconsistency in government policies, open grazing, climate change and global warming. The article within the framework of modernisation theory examines the issues of open grazing, food insecurity and sustainable human development in Nigeria. This is because any country that cannot feed its population cannot boost of human development. This study was carried out using the qualitative desktop method in deriving data for addressing the issues under analysis. 31 literature sources were consulted and analysed in order to explore the nexus between open grazing, food insecurity and sustainable human development in Nigeria. This article adopts a qualitative approach and is descriptive in nature, with the researcher setting out to illustrate the association that exists between the dependent and independent variables. Authoritative scholarly sources were reviewed, during a desktop study. The purpose was to identify the relevant publications and apply them in the research. The article argues that unless concrete efforts are made to mitigate the effects of open grazing and Covid-19, ensure increased and improved food production, the country may experience worst cases of Fulani herdsmen-farmer clashes, food crisis and human underdevelopment. The article concludes that government at all level should rise up to their responsibilities by providing enabling environment for herdsmen and farmer to engage in the production of sufficient food for sustainable human development in the country.

Keywords: Conflict, environment, peace, sustainability, survive

1. Introduction

Nigeria has the potentials to be a great country. It has the human capital and natural resources to put itself in the comity of developed nations. In spite of its huge and enormous potentials, the country remains a crippled giant (Osaghae 2011). One area that it has failed to leave up to expectations is in feeding its over 200 million population. While the increase in population has been growing in arithmetic progression, however, food production is growing in geometric progression thereby not able to provide sufficient food for such increase in population. The current Coronavirus (Covid-19) global pandemic has worsened the situation. This has led to food shortage and crisis of human development in the country, thus, leading to scarcity and high cost in the prices of staple food in the country. Currently, so many citizens and non-Nigerian alike cannot meet their food requirements because food prices have gone up beyond the reach of most citizens, thereby making the people susceptible to hunger, malnutrition, diseases and other health hazard. Besides, it reduces their potentials to engage in other productive human activities such as education, fishing, farming and other mental and physical activities.

However, it is important to note that the current food shortage and crisis is not limited to Nigeria alone. All over the globe, there is the issue of food insecurity and its attendant effect on agriculture cannot be overemphasised. Studies carried out in Archaeology and the environment has revealed that decisions made by people in prehistory about agriculture and land use within diverse environmental settings, affect people on both indigenous and county levels. In his study on long-term sustainability of agriculture and land use in Turkey and Israel, Marston (2017) examined archaeological plant remains of about 220 botanical samples recovered from his excavations and contends that diverse governmental and economic systems executed in his area of study resulted in forms of agricultural decision making that were well adapted to the social setting of farmers in each period. These archaeological investigations proved that such practices had differing environmental and ecological impacts, and had enduring effects on other agricultural practices, leading to significant environmental change.

In Nigeria in particular and African in general, the phenomenon (climate change) has assumed frightening dimension. In a continent devastated by terrorism, herdsmen-farmers clash, kidnapping, famine, drought and diseases, fighting among ethic nationalities. The present food insecurity and the ravaging Covid-19 pandemic appears to have added to the litany of hydra headed crisis confronting the African continent. This is particularly alarming because imperialist penetration and exploitation of Nigeria in particular and Africa in general have already done a lot of damages to the continent and its people. The attainment of independence in 1960 was expected to usher in improvement in the standard of living of the people. Indeed, this could only have happened if people-oriented policies and programmes were pursued and realised. Regrettably, this was not to be, almost all successive governments especially during the military era paid lip services to policies and programmes aimed at producing enough food for the feeding of its esteem population.

The discovery of oil in Nigeria dealt a serious blow to the structure of the economy as it relegated agriculture, hitherto, the main stay of the Nigeria economy to the background (Igbokwe-Ibeto 2019). Indeed, the current herdsmen-farmers clash all over the country has further arrested development of agricultural activities as farmers have abandoned farming for fears of being killed by Fulani herdsmen. Climate change emphasizes the urgency and seriousness for Nigeria to develop policies and programmes to combat this challenge as well as mitigate its effect on the environment and sustainable human development (Igbokwe-Ibeto, 2019). Therefore, this article seeks to examine the nexus between open grazing, food insecurity and sustainable human development in Nigeria. In the light of the foregoing, the article will address the following questions: how has government responded to these issues pose by insufficient food production and open grazing system? What problematic confront these remedial steps? What can be done to manage these challenges? These are some questions the article seeks to address.

To address the issues raised in this article, the article is structured into six compartments. Aside introduction, the first section examines conceptual and theoretical underpinnings central to the article. The second carries out historical analysis of policies on food production. The third traces the evolution of the Nigerian economy particularly in the area of food production and security. The fourth analysed the effects of open grazing, food insecurity on sustainable human development and efforts of government through its various agencies to tackle the problem. The fifth, discusses the challenges facing government in managing the agricultural sector and open grazing. The sixth suggests some remedial steps to attenuate the present food crisis and open grazing in order to ensure sustainable human development.

1.1 Methodology

This article adopts an eclectic methodological approach. Firstly, the paper is descriptive in nature in the sense that it provides a detailed account of policies on food production in Nigeria. It is exploratory because the paper attempts the nexus between open grazing food insecurity and human development in Nigeria. Also, it is explanatory because it attempts to look at the implications of open grazing and food insecurity on sustainable human development.

2. Conceptual and Theoretical Epistemology

Open grazing as a concept has attracted several definitions. But unlike other concepts, it has not generated much controversy as to its actual meaning. However, before going further, it is imperative to first understand the meaning of grazing. Grazing is a method of feeding in which an herbivore feeds on plants such as grasses, or other multicellular organisms such as algae. In agriculture, grazing is one method used whereby domestic livestock are used to convert grass and other forage into meat, milk and other products (Chukwemeka, Aduma & Eneh

2018), which is commonly practice in Nigeria by the Fulani herdsmen who move from one part (North, West, South and East) of the country to another pasturing and in search of food for their animals.

While this type of pasturing is now obsolete and outdated in many countries of the world, however, Fulani herdsmen have come to take this method of indiscriminate open grazing of animal with its attendant negative consequences as normal (Olugbenga 2017). Fulani herdsmen have been restricted to living a nomadic lifestyle as opposed to settling down in modern ranches. The system, which encourages them to continue the implementation of open grazing, as opposed to the modern ranching method, has confined them, their livestock and their families to a life of moving from one place to the other. Open grazing was appropriate at the time when human and animal populations were small with many virgin grazing lands (Chukwuemeka et al. 2018), but then over the decades, both human and animal populations of have quadrupled, with many fallow lands now being inhabited. Weather patterns have also changed due to climate change and global warming. As a result, experts are of the view that changing this primitive culture of open grazing system in

Nigeria has become inevitable imperative. Furthermore, modernization and increase in human population, has made this old-age method of pasturing a health hazard for the animals and the herdsmen/nomads themselves (Chukwuemeka et al. 2018). Yet, according to Okeke (2014), open grazing system as it is today, constitutes a serious threat to sustainable human development, food and national security in Nigeria.

The Middle Belt region of Nigeria is considered the “food basket” of the country. The fertile soil and temperate climate offer a favorable environment for farmers and herders to thrive. These two communities have been farming and rearing cattle in Nigeria for centuries, benefiting from mutually beneficial relationships –farmers benefit from cattle manure to fertilize their crops and herders benefit from crop refuse to nutritionally feed their herds. This symbiotic practice tied the wellbeing of the farmer to the wellbeing of the herder and allowed for most disputes between the two groups to be resolved non-violently, through traditional mediation mechanisms. However, since the year 2000, this interdependence has increasingly deteriorated due to changing demography, climate variability, shrinking natural resources, and socio-political manipulation. As a result, violent confrontations have become a major defining feature of their interactions (Muhammed, Ismaila & Bibi 2015). The country-wide challenges including poverty, unemployment, and reduced livelihood opportunities, competition between farmers and herders for limited resources has isolated and deeply polarized the two groups.

A cursory analysis of the above analysis, indicates the threat posed by open grazing and therefore, calls for seriousness and urgency for the country to come up with policies and programmes to confront the challenge and mitigate its effect on environment, food security and sustainable human development. The frequency and growing rate of droughts, floods, extreme weather conditions, as well as other impacts speak loudly the urgent need to deal seriously the threats posed by open grazing (Oli, Ibekwe & Nwankwo 2018; Nze 2015). According to Igbokwe-Ibeto (2019); Olajide, Akinlabi and Tijani (2015); Alhassan (2013), food insecurity has been identified as one of the effects of open grazing

In a society where there is good agricultural' development programmes and policies, the people, can feed themselves and ensure sustainable human development. Sustainable human development can be operationalised as the ability to enlarge capabilities of the people by expanding the choices people have to make in the process of creating life. One of the needs that have to be met to realise this goal is food and food security (Igbokwe-Ibeto 2019). Once this basic need is met, people are prepared to challenge and conquer other needs (Igbokwe-Ibeto 2019). As people develop their capabilities, they are able to challenge and possibly conquer short life span as well as accessibility to renewable resources needed for decent and happy living and sustainability.

As soon as these processes are carried out on a consistent basis, it brings about sustainable human development. Sustainable human development can be defined as the process of empowering the people to continually bring about a state of being where each stage is progressively better than the previous ones, using their cultural values as platform for these changes in an environment sustainable manner (Anazodo, Igbokwe-Ibeto Osawe & Nkah 2015). This all-encompassing and eclectic view of sustainable development, however, brings to the fore the centrality of the people as the basis of development goals and objectives. When viewed from this angle, sustainable development should pursue the following objectives: life sustenance in the area of providing food, shelter, health and protection, achievement of self-esteem through provision of those things that can generate respect for and from others; for example, wealth and technological development, and attainment of freedom through emancipation from material poverty, social servitude, ignorance dogmatic belief (Akhakpe 2014). Each of these elements reinforces the other. However, such interface should not affect the prospect for unborn or future generations to benefit and enjoy a quality of life as well as the present generation.

Among the theories that could adequately explain agricultural development is the modernisation theory because of its advantages in analysing the issue under investigation. The modernization theory can be a representation of production function showing agricultural output as a function of various inputs. According to Igbokwe-Ibeto (2019), such inputs for modernising agriculture are institutional in nature which include educational and research facilities. Such facilities can be regarded as essentials for sustainable human development. These facilities include: production incentives, an organised market for farm products, a constantly change in science and technology, reliable local availability of supplies and equipment, land reforms and transportation credit systems (Elegalam 2009). However, the pursuit of these laudable goals in Nigeria has not metamorphosed into quantitative changes in the nature of pasturing in particular and food production in general. This has made the search for other theories to explain the state of food production necessary. But the failure of the modernisation theory in the country can be attributed to be the problem of the country's leaders not entirely that of the modernisation school. The failure of the theory also points to the fact that food production and sustainable human development have not been given the desired attention by successive governments in the country.

3. Analysis of Policies on Food Production in Nigeria

It is not in doubt that food is a basic necessity of life. Abraham Maslow argued that food is one of man's basic necessities of life as well as housing, clothing and security. Therefore, the basic function of every government is to provide these basic necessities of life to the people in such a way and manner that they can live a happy and secured life. It is within this context that the social contract theorists admonished that; the main role of the state through its agency, government, is to provide the full moral and human development of the individuals that make up the state. It is when the government have fulfilled this obligation that it could demand complete loyalty of her citizens, even to the extent of requiring the sacrifice of an individual's life in times of war (Gamble 1981).

One crucial area where this goal and obligation can be realised is in food production. This is borne out of the fact that in as much as it is not only food that is required for human existence, indeed, any nation that cannot provide food for its citizens, is not respected in the comity of nations. Thus, making every country to strives toward self-sufficiency in food production. A careful analysis indicates that the Nigerian governments since independence have come out with a number of policies geared towards increasing the level of agricultural activities and food production in the country. This is often part of its macro-economic policies. Regrettably, almost over fifty-five (55) years of pursuing this goal, the country is still experiencing food crisis to the extent that country is now a major importer of food (Igbokwe-Ibeto 2019). What has happened to agriculture and food production? To address this question, it is imperative to first discuss some of the efforts made by the Nigerian state in this direction.

Between the years 1980 and 2000, the federal government put forward a number of comprehensive policies, programmes and policy instrument to develop and improve the performance of the country's agricultural sector, through a 15years period. One of the basic objectives of this policy and programme was to ensure rapid increase in food production with a view to adequately feed the growing population and drastically reduce food importation. The main objective in this respect was the attainment of 4perecet growth rate for the agricultural sector, so as to achieve food self-sufficiency by 1996 (Olaniran 2012). To achieve this goal, a number of strategies were put in place. These include: agricultural credits through banks, farm input supply and subsidies, implements, extension service workers, mechanisation of agriculture by providing tractors, water and irrigation resources etc. However, an examination of these efforts presents a mix-bag of success and failures. But it appears more of the latter have been the story as evident by the present food crisis and insecurity which has been made worst by the global Covid-19 pandemic. The reason for this is too numerous to be analysis here but some of them can be identified as: inconsistency of government policies and programmes on agriculture, political instability, the top-bottom approach to policy and programme initiation and formulation on agriculture, the tendency of the political elite to pursue primitive accumulation of wealth to the detriment of Nigerians, portfolio famers, and delay in the release of funds meant for food production (Igbokwe-Ibeto 2019).

However, all these challenges are not inevitable and may have been easily resolved, but for the structure of the country's political economy (Igbokwe-Ibeto, Nwobi & Nnaji, 2019). For example, the participatory theory contends that there is not enough citizen participation in the economic activities, while the liberal political economy theory argues that distortion in the flow of resource allocation by Nigerian leaders is the root cause of the present food and economic crisis, the Marxian political economy theory is of the view that the economic sub-structure of the Nigerian society determines what happens at the level of governments' policy formulation, social relation of production (Ake 1981). All these theories point to the fact that food production for sustainable human development has not been given the right place in the country.

4. Agriculture and Food Security

Agriculture is the main supplier of food and Nigeria is blessed with abundant agro-ecological resources and diversity. In Nigeria, agriculture accounts for over 70percent of the nation's food supply (Igbokwe-Ibeto 2019). Indeed, food production is just one aspect of this all-important sector. Food is seen as very vital to all human life and its provision is indeed one of the basic functions of the state through its agency (government) all over the globe. Every reasonable government ensure that its citizenry is well feed by creating an enabling environment for adequate and affordable food for its people (Bamisaga, 2005).

Flowing from the above, it is imperative for all levels of government to put forward policies and programmes on food production. The policies and programmes of the pre-colonial era focused on food production mainly for subsistence purposes. The various social formations in Nigeria produced different kinds of food crops and animals for domestic consumption. Also, the methodology of farming was mainly rudimentary in nature as open gazing, hoes and cutlasses were and still remain the; major instruments used for farming and animal pasturing. However, these methods of farming and pasturing were good enough to support the demand of the local population and in some cases left over were exchanged for other goods that were in short supply in communities. Thus, herdsmen-farmers clash, food crisis and food insecurity, and hunger were not popular and frequent topics in the discourse of this era. In other words, there was sufficient food to feed the population of the various peoples in the country. This was the situation in Nigeria in particular and Africa in general before the advent of the Europeans.

The sojourn of the Europeans into first, the coastal areas and later the inter-lands of Nigeria, brought about structural changes in the character of its economy. It brought about a semi-capitalist system (Igbokwe-Ibeto et al., 2019). The colonial economy "concentrated only on economic activities beneficial to the colonial state, and was thereby disarticulated theoretically. It promoted the interests of the centers of activities - the urban settlement and thereby neglected the rural mass settlements (Political Bureau Report 2007). This practice alienated the rural (peasant) farmers who were the gooses that laid the golden eggs. This began a process where men and women lost hope in the rural areas as domain of material reproduction and human development. They began to see the urban centers as their promised land where there is greener pasture. Expectedly, agriculture became affected as production of food for subsistence gave way for production for export and urban consumption. As the Political Bureau Report (2007) puts it, production for export and sale of imported European commodities increased.

Although agriculture and food production increased, it did so not to the benefit of the domestic market but, to the advantage of industries in the metropolitan countries, and those in charge of the production of cash crops that were bases of the colonial economy. Also, marketing boards were set up in the three regions of Nigeria namely the North, East and West mainly to facilitate food production for export. Later, the Mid-west region was carved out of the Western region and was assigned its role in the process. One feature of this era was that each of these regions was made to specialize in the production of a particular cash crop (Okigbo, 1987). The goal was to ensure that there was steady supply of these commodities to Western Europe. Though, some of the objectives of these commodity boards were to improve crop production through better funding and research into seedlings, to boost production and improve the condition of farmers, among others. It was also used to prop-up the colonial master's reserve and balance their trade relations. Because, these objectives were not genuine, its successors used its funds to line their pockets and finance political activities (Political Bureau Report, 2007).

The post-colonial era did not deviate from the pattern discussed above. The indigenous political leaders also realized the need to use the state as instrument of material accumulation. Every policy and programme embarked upon by the ruling class were designed to consolidate their material base and secure power., Thus, the post-colonial state retains the structures bequeathed by the colonial administrators at Independence, Production of goods and services by industries especially the import substitution ones, are meant to extend the goals of metropolitan capital. As the Political Bureau Report (2007) argues, the mere replacement nature of these industries rather than undermine the dependent capitalist political economy of the country at the expense of peasant and petty commodity production, they were also, understandably, in location and concentration, based towards the urban centers at the expense of rural areas.

5. Open Grazing, Food Insecurity and Sustainable Human Development: The Nexus

It is in the public domain that open grazing is one of the primary factors responsible for desertification. It converts arable lands into unproductive one thereby rendering the soil suited for growing food unproductive because the land has lost its essential nutrients. Open grazing of livestock has been argued to have two effects implications on food production in particular and agricultural activities in generally. First, grazing ungulates can facilitate seed germination by trampling seed into the soil and through their dung, can produce manure needed by plants to grow. Secondly, animals can disperse seeds by transporting them in their digestive tracts through open grazing system (Chukwemeka et al. 2018)

A number of stakeholders have advocated for the suspension of open grazing system because it is one of the factors undermining food security and sustainable human development in the country. Local farmers hardly can cultivate at their full capacity due to fear of being attacked and killed by the rampaging Fulani herdsmen. The activities and fear of gun wielding Fulani herdsmen is preventing farmers from going to the farm. Yet, the few that manage to farm their cultivated farmlands have their crop yields destroyed by cattle. The result is a sweeping food shortage, abject poverty and high rate of unemployment in the country (Thisday, 2017). In this vein, Ibrahim, Abdurraham and Umar (2015) argued that cattle and cattle farmers also suffer damages because sometimes crop farmers inflict physical injuries on their cattle and even poison the cattle. Corroborating the claim of Ibrahim et al (2015), Odoh and Chilaka (2012) revealed that about 34 cattle, 11 sheep/goats and other items valued at over N2.64 million naira were lost from a particular conflict involving farmers and pastoralists. The resultant effect of these incidents is the prevailing food crisis in the country.

The world is living in stirring times. It suggests to us that the pursuit of the goals of sustainable development should not be left in a state where it cannot renew and recreate itself for the present and future generations. This refers directly to socio-economic polices and activities which took place in the course of development but have deleterious effect and endangers global environmental security. These actions and activities should be well managed so that predetermined resources can be used for both present and future generations. Sustainable human development has two sides: the formation of human capabilities such as improved health, knowledge and skills – and the use people make of their acquired capabilities – for leisure, productive purposes or being active in cultural, social and political affairs. If the scales of human development do not finely balance the two sides, considerable human frustration may result (Cruz in Thakrar and Minkley, 2015).

The constant herdsmen-farmers clash in Nigeria and its attendant effects on food production is a threat to food security and sustainable human development. For instance, these developments have led to increase in the prices of food items that eventually find their way to the market. The situation is made worst by Covid-19 pandemic which has limited freedom of movement and human interaction globally. These ugly developments have led to high increase in the prices of food items across the country that eventually find their way to the market. Table I below is a graphical picture of the trend in price increases of seven staple food items in the country.

Table 1: Market Survey of Some Staple Food in Nigeria 2013-2020

Items	Year								Wt	Remark
	2013	2014	2015	2016	2017	2018	2019	2020		
Flour	5600	6800	6900	6400	8950	9100	9400	10380	50kg bag	Egan Market
Sugar	6500	7900	6550	8400	13650	14500	16500	19000	50kg bag	Relieve Market
Gari	4400	4400	5600	7500	8000	16000	1500	20000	50kg bag	Eke Awka Market
Beans	3500	3700	4000	7000	14000	14000	16000	30000	50kg bag	Ikotun Market
Rice	6500	8000	7000	13000	20000	23000	25000	29000	50kg bag	Igando Market
Corn	3000	3000	3500	6000	8000	16000	16500	18000	50kg bag	Jos Main Market
Yam	250	330	450	500	800	1200	1600	1800	A tuber	Ogbote Market

Source: *Igbokwe-Ibeto (2019)*

Table 1 above showcases a consistent increase in prices of seven staple food items in Nigeria. In all ramifications, it appears the trend is bound to continue going by impact of Covid-19 pandemic and the constant herdsmen – farmers clash in almost all farming communities across the country coupled by the banditry and Boko Haram insurgency being experienced in some Northern parts of the country is a pointer to this claim.

6. Significance of Effective Grazing Management in Nigeria

The significance of effective grazing management is that, drawing experiences from developed and developing countries in this globalized era, Nigeria can successfully address challenges of food insecurity and sustainable human development if the herdsmen departs from their current open grazing culture which hinders food security and sustainable human development.

Political elites will realise the urgent need to bring about political and administrative leadership anchored on rule of law, transparency and accountability, administrative probity and culture of good governance. The ecology of public sector management in any given country could prosper or hinder the goals of sustainable human development if not well managed (Agbodike, Igbokwe-Ibeto, & Nkah 2015). It is arguable that the ecological environment within which famers operates in Nigeria could shape and reshape their conception of farming. However, in contemporary times, government should know that their goal should be the pursuit of public interest and in doing this; they must put national interest over and above personal interest and primordial issues.

Majority of Nigerians depend on agriculture as their means of livelihood. With an enabling environment, the decline in farming and other agricultural activities due to banditry, kidnapping, Boko Haram insurgency, the Fulani killer herdsmen and the global Covid-19 pandemic, farmers will have sufficient resources in meeting the food needs of the country. Therefore, the immediate priority for policy makers and public sector managers in Nigeria is to re-examine the reliability and validity of traditional method of open grazing still in practice in the country with the aim of adopting the modern cattle ranching as obtain in western developed countries.

7. Open Grazing, Food Insecurity and Human Development: The State Intervention

This section of the article examines open grazing, food insecurity and human development and challenges facing state intervention in combating and managing them. Since the military era, government policy on issues of grazing/pasturing and food production has tended to place its implementation in the hands of public servants leaving those directly affected by its policy out of the scheme of things. Where government does otherwise, their implementations often fall short of expectations. Although successive governments have come up with well-articulated policies on food production, such as Operation Feed the Nation (OFN) Green Revolution, Presidential Initiative on Staple Food Production, Agricultural Transformation Agency etc. they have not been able to manage these polices to achieve their goals due to lack of government commitment.

In addition, the availability of organisation and structure required to confront challenges emanating from natural disaster and occurrence like the global Covid-19 pandemic, climate change and ozone layer depletion are non-existent (Igbokwe-Ibeto 2019:6, FAO 2017). Even where they exist, they are poorly managed by personnel who lack the skills and capacity, making it difficult for such personnel to be truly committed to schedule and details of their work (Igbokwe-Ibeto 2019). The lack of equipment to manage open grazing and climatic changes is a demonstration of the fact that the right priorities are not pursued. In view of the fore-going challenges, what can be done in the short and long term to reduce, manage, or eliminate these constraints? This is what the paper seeks to address in section that follows.

8. Recommendations

There can never be any meaningful progress in resolving the food insecurity and crisis in Nigeria without a critical and major assessment of the developmental approaches, strategies and ideology. Ideologically, the imperative of psychological power with which people evaluate and communicate ideals among themselves and their environment cannot be overemphasised (Political Bureau Report 2007). Sustainable human development emphasis qualitative and quantitative changes in the welfare and wellbeing of the people. According to Igbokwe-Ibeto (2019), the interface between development and ideology is dialectical in the sense that ideology is responsible for managing and organising both perceptively and actively, what is it that should be transformed or developed (Political Bureau Report 2007), In this context, agriculture and food security.

A clear analysis of agricultural policies and programmes suggest that the present development paradigm of Nigerian government is not tailored towards food self-sufficiency and self-reliance. It is skewed in favors of the metropolitan, which have consistently served as the development model in the country since the 1970's and 80's. Regrettably, this model of agricultural development has proved to be a failure. Therefore, there is urgent need for paradigm shift to socialist development framework that would priorities people's welfare and well-being as the primary responsibility of government thereby put the control of government effectively in the hands of the people rather than the few political elites as witness presently (Osaghea 2011). By doing this, some of the challenges confronting herdsmen-farmers clash, food insecurity and sustainable human development can effectively be addressed.

Obtaining bank loans and aids as part of government policy of funding agriculture, should be made easy and accessible for farmers while effective machinery for proper implementation and monitoring of such funds should be put in place. This is to ensure that monies get to the target populations as well as used judiciously. In Nigeria, government monies and aids meant for food production is often hijacked by portfolio farmers who divert such funds for personal uses. Government should devise a way of identifying the real farmers and make them active in food production and other forms of agricultural activities just like the e-wallet of former president Jonathan's administration.

No doubt, the present open grazing coupled with climate change is impacting negatively on agriculture, small and medium enterprises (SMEs) and sustainable human development in general. (Akuwudike, Mac-Ozigbo & Igbokwe-Ibeto 2020). It has to be well managed for sustainable human development to be achieved. For this to be realise, all hands must be put on desk as it cannot be left to government alone to manage. Everyone in the society is a stakeholder. The way and manner people burn bushes should be reduced to mitigate the impact of greenhouse gases on arable lands and animal life. Mosquitoes bite and other rodent attacks reduce the abilities of the people to engage in active enterprises especially in the area of agriculture and food production. Thus, managing this phenomenon is for the good of all in society.

Indeed, governments at all levels have not been up and doing in their regulatory functions most especially as it concerns the use of the environment. Unfortunately, the legal frameworks for managing herdsmen-farmers clash remains blunt or un-activated, bringing in the process a lot of sorrows and pains to communities where herders/pasturing activities are carried out (Igbokwe-Ibeto 2019). However, there are seeds of hope particularly with the expansion of the democratic space that people will take their destiny in their hands and directly participate in matters that affect their life, individually and collectively. But does the present Nigeria state permit unfitted democratisation of the society? What is the nature of present APC change mantra in the country? Perhaps, these constitute another area of research. Suffice to say here that the Nigerian state needs to be fully transformed for it to be relevant to the ordinary man on the street.

9. Conclusion

The issue of open grazing, food insecurity and sustainable human development as captured by scholars have been espoused with an attempt at clarifying the intellectual "cobweb" surrounding the issue of open grazing, food insecurity and sustainable human development. In addition, searchlight was also beamed on the theoretical framework for a better understanding of the concepts under interrogation. Thus, modernisation theories have been examined as postulated by scholars. An attempt was also made to establish the nexus between open grazing, food insecurity and sustainable human development in Nigeria.

This article argues that the state of killings by Fulani herdsmen and food insecurity in the country currently is alarming. Prices of food items have astronomically gone high and government appears not to have the technical know-how on how to tackle the crisis. Government should rise up to its primary responsibility by providing safety nets in the short-run as discussed in the body of the article. However, managing the present situation of things should not be left to government alone. It requires collective efforts by the civil society. Proper management of the state in the interest of all-irrespective of ethnic sentiments and religious bigotry cannot be overemphasized.

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Commercial Bank's Credit, Government Expenditure and Agricultural Output in Nigeria: An Error Correction Model

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Abstract. The production of the agriculture sector is central to achieving sustainable economic growth and adequate food throughout the world. In Nigeria, agriculture used to be the mainstay of the economy in the 1960s producing about 90 percent of the government income and providing up to 70 percent job opportunities to the unemployed youths. Owing to diminishing budgetary allocation, these opportunities and potentials are eventually going to extinction. The paper also states that the different financial incentives channelled to the agricultural sector did not translate into substantial and sustainable agricultural production growth in Nigeria. Against this context, the study re-investigates the effect of commercial banks' credit for agriculture and government agricultural spending on agricultural production in Nigeria between 1980 and 2018. The findings of the ARDL co-integration test revealed that there is a long-term co-movement between agricultural government spending, interest rates and agricultural production in Nigeria. Increased budgetary allocation to the agriculture sector is also recommended and a larger proportion of the allocation should be committed to infrastructural improvement of the agricultural sector by the mechanisation of the agricultural system in Nigeria.

Keywords: Agriculture sector, Banks' credit, Government expenditure, Interest rates

1. Introduction

In the literature, while the debate was very contentious, the importance of the agricultural sector for economic growth and sustainable development is well explored. However, the agricultural sector is probably the most important sector of the economy, considering its enviable role to other sectors in Nigeria in the last three decades. The claim that stagnation in agriculture is the key reason for low economic output has been corroborated by Ahungwa, Haruna and Abdusalam (2014), while growing agricultural productivity has been the most significant contributor to successful industrialization. Therefore, Nigeria's sustainable economic growth and prosperity rely to a large extent on the development of a vibrant agricultural sector that supports the food and raw materials required by the growing industrial sector, as well as the creation of job opportunities for the growing population.

As a matter of fact, before the discovery of oil in industrial quantities in the early 1970s, agriculture used to be the mainstay of the Nigerian economy. The oil discovery in Nigeria, however, added greatly to the agricultural sector's misfortune as it suffered immense boycotts during the 1970s oil boom period. In fact, the contribution of agricultural production to the Gross Domestic Product (GDP) decreased from 53.2% in 1965/69 to 37.0% in 2012 (Ahungwa, Haruna and Abdusalam, 2014) and further decreased to 21.2% in 2018 (www.statistica.com/nigeria-gdp-distribution). Accessible estimates from the National Bureau of Statistics (2018) also indicate that Nigeria's agricultural contribution to GDP was 20.8% between 2012 and 2017. Agriculture made an 18.78 percent contribution to nominal GDP in the second quarter of 2018. However, this statistic is smaller than the rates for the second quarter of 2017 and higher than for the first quarter of 2018.

Indeed, as Tella (2014) has noted, financing is one of the main challenges to the contribution of the agricultural sector. Policy concerns for agricultural production have been hindered by the lack of credit supply and decreasing government expenditure on agriculture, as agricultural credit is an integral part of the process of agricultural modernization and the commercialization of the rural economy. The quickest way to boost agricultural production is to introduce easy and cheap credit. Therefore, fulfilling the farming community's credit requirements has become the prime policy of all successive governments (Enilolobo and Ode-Omenka, 2018). Although numerous programs have been launched and implemented by successive governments to address the inability of agricultural output to keep pace with the country's demand for agricultural products due to credit shortages, farmers have limited access to the much-needed agricultural investment credit (Ahungwa, Haruna and Abdusalam, 2014).

Agricultural financing, however, is multi-faceted and multi-dimensional, which can be in the form of personal savings, borrowing from friends and relatives, cooperative societies, credit from commercial banks, and, to mention a few, government expenditure. Agunuwa, Inaya, and Proso (2015) reported that between 2001 and 2005, agriculture was allocated an average of less than 2 percent of total federal expenditure. Moreover, between 2007 and 2011, the share of agriculture in the total national budget averaged about 3.5 percent, while between 2012 and 2014, an abysmally low level of 1.7 percent and 1.3 percent of the total budgetary provision was allocated to agriculture (Agunuwa, Inaya, and Proso, 2015). This expenditure pattern is, however, in contrast with the sector's strategic importance in the Nigerian economy and at variance to the Maputo Declaration on Africa Agriculture Development Programme (CAADP) of 2003 in Mozambique as well as the government’s commitment to diversifying the economic base of the country away from the oil sector.

Essentially, the nose diving trend of public expenditure on agriculture is illustrative of the abysmal performance of the agricultural sector in terms of its contribution to GDP. Considering the strategic and dynamic role the agricultural sector play in most developing economies, it is imperative to re-examine the effectiveness of various finance options on agricultural productivity in Nigeria with a view to boosting agricultural production in the country. In the light of this, this paper examines the impact of commercial banks’ credit to agriculture and government expenditure on agriculture and agricultural output in Nigeria between 1980 and 2018. The rest of the paper is as follows: Section 2 presents the review of the related literature as well as the stylized facts on agriculture sector performance and government expenditure in Nigeria. Section 3 envelopes the methodology while section 4 discusses the results of findings. Section 5 concludes the paper.

2. Review of Related Literature

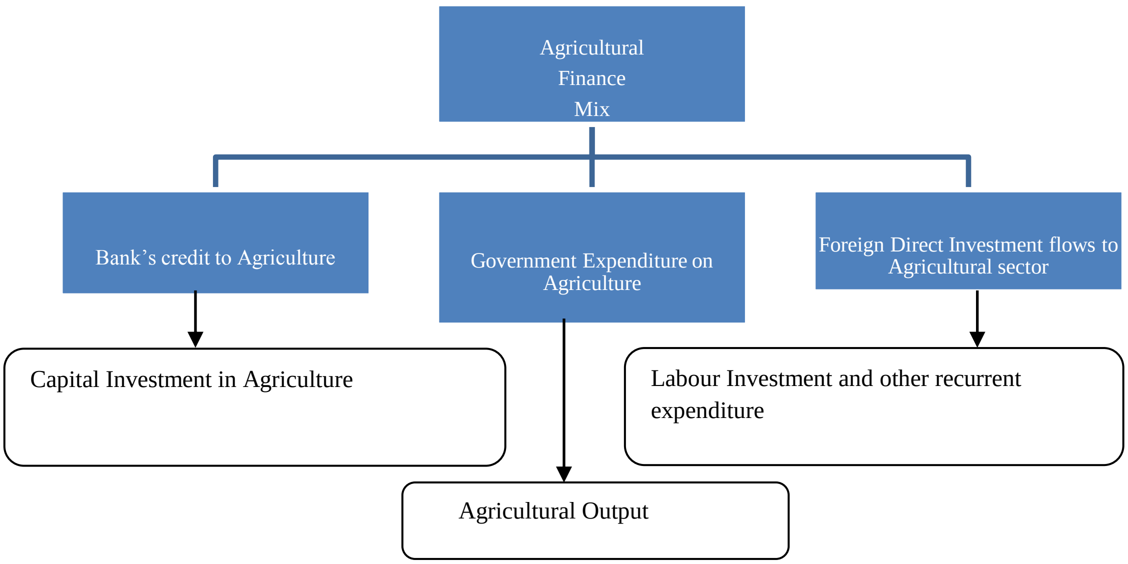
2.1 The Conceptual Framework of Agricultural Finance

In general, agricultural financing deals with the review and study of the financial factors relevant to agricultural sector and other agricultural activities. Monetary issues surrounding agricultural production and distribution are included in the financial aspects. William and Nelson (1960) described agricultural finance as "an economic analysis of farmers' credit borrowing, the organisation and operation of agricultural financing agencies, and the interest of society in agricultural credit" Shubba and Raghuram, (2005) described agricultural finance as "a division of agricultural economics that deals with individual farm units and financial capital."

Through both micro and macro viewpoints, agricultural finance can be presented. Macro financing works with multiple means of collecting funds within the market for agriculture as a whole; the loan mechanism, laws, legislation, supervision and control of the various agricultural credit institutions are also involved. Microfinance, on the other hand, relates to the financial management of the individual farm business units and deals with the issues relating to the overall credit needs of the agricultural sector, the terms and conditions in which the credit is available, and the manner in which the total credit is used for agricultural production.

The conceptual framework of agricultural finance and output is depicted in figure 1 below:

Figure 1: Conceptual Framework of Agricultural finance and Output



(Adapted from Enilolobo and Ode-Omenka (2018) and modified by the Authors)

From Figure 1 above, it is apparent that bank loans for agriculture and government spending on agriculture significantly enhance the flow of funds to the agricultural sector through agricultural capital investment and agricultural labour investment. Agricultural capital investment refers to the use of funds for the procurement of farm products and capital goods that add to farm production, whereas agricultural labour investment refers to the use of funds for the paying of wages and salaries to farm employees. Capital investment and labour investment affect the productivity of the agricultural sector as capital products purchased for workers in the agricultural industries together add to the sector's development effort (Enilolobo and Ode-Omenka, 2018).

Agricultural financing has witnessed tremendous set back in Nigeria in recent times particularly as it concerned credit supply from financial institutions. This is ostensibly due to the fact that agricultural lending is considered to be more risky, having low returns on investment and unprofitable relative to other sectors (Enyim, Ewno and Okoro, 2013). As a matter of fact, most financial institutions have lost utmost interest in agricultural finance (Obilor 2013) and thus, leaving the peasant farmers which form the bulk of the employment component of the sector to rely on the informal source of credit supply like cooperatives associations, family, friends and money lenders (Akinleye, Akanni and Oladoja, 2003).

One major flaw of this arrangement according to Nwankwo (2013) is that the informal sources cannot meet the credit needs of the farmers adequately.

Consequently, a number of institutions have been set up by the government to expand the credit flow to the industry, including the Agricultural Credit Guarantee Scheme Fund (ACGSF) and the Agricultural Credit Support Scheme (ACSS), the Nigerian Agricultural Cooperative and Rural Development Bank (NACRDB), the Nigerian Development Agency for Small and Medium Enterprises (SMEDAN), and the Special Presidential Cassava and Rice Initiatives. Others include, but are not limited to, the Rail, Roads and Rural Infrastructure Directorate (DFRRI), the National Economic Empowerment and Growth Plan (NEEDS), FADAMA, an Hausa term for irrigable property, selective credit management, agricultural subsidies and the 2014 Youth Employment in Agriculture Program (YEAP), which contributed to the implementation of the Agricultural Transition Agenda (ATA), which became the Youth Employment in Agriculture Program (YEAP) in 2014 (Ogboru, Abdulmalik and Park, 2018). Nevertheless, amid these laudable government intervention measures, the issue of insufficient credit supply to the agricultural sector has become insurmountable. This is partially due to the high expense of obtaining these funds with respect to the false interest rates and other restrictions added to the funds. Besides, budgetary allocation to these agencies was vastly inadequate for fulfilling the credit needs of farmers and other operators in the agricultural sector.

2.2 Agricultural Output and Government Expenditure in Nigeria

The agricultural sector of Nigeria, the largest in Sub Sahara Africa (SSA), accounts for two-thirds of the agricultural value added of West Africa and approximately one-third of that of the SSA as a whole. Nigeria performs the highest in West Africa in terms of agricultural value added per worker, and also outperforms other SSA countries. However, as a proportion of agricultural GDP, Nigeria's government spending on agriculture is among the least in the SSA, totaling just 1.5 percent between 2000 and 2017.

Agriculture plays a significant role in the national economy, considering the fact that Nigeria is abundant in oil. In Nigeria, the agricultural sector has expanded steadily over the past one and a half decades and increased nearly threefold between 2002 and 2012, increasing at an annual average growth rate of 5.9 percent. The industry accounted for 22.4% of the gross domestic product (GDP) in 2012 and contributed 44.5% of overall jobs in 2004. Its share of total GDP, however, has fluctuated over the past decade, showing a decrease on average, particularly after 2002, suggesting that other sectors are growing faster than agriculture. The contribution of agriculture to GDP between 2015 and 2018 averaged 20 percent, according to official statistics from the National Statistics Bureau (2018). In fact, between 2017 and 2018, agriculture accounted for 19.28 per cent and 17.42 per cent of nominal GDP, respectively.

Regardless of the yardstick to measure, the amount of public spending on agriculture remains low. Around 2008 and 2012, agricultural investment as a share of overall federal expenditures averaged 4.6 percent. The Maputo Declaration on the Africa Agriculture Development Program (CAADP) was reiterated in 2003 at the African Union (AU) Summit in Mozambique as an integral part of the New Alliance for African Development (NEPAD), which mandates African countries to devote at least 10% of their annual budgets to agriculture and achieve 6% of their annual GDP growth. Between 1980 and 2011, less than 4 percent of total federal expenditure in Nigeria was dedicated to agriculture, considerably lower than investment in other primary sectors such as education, health and water. The proportion of the federal budget allocated to the agriculture sector was 1.8% in 2011, 1.6% in 2012, 1.7% in 2013, 1.4% in 2014, 0.9% in 2015, 1.2% in 2016 and 1.4% in 2017. While there is a strong link in many countries between government agricultural expenditure and agricultural GDP, Nigeria is one of the few outliers in terms of budgetary allocation. The proposal for allocation by the Food and Agriculture Organisation (FAO) is 25 percent after accounting for the relationship between agricultural investment and national income (Okezie, Nwosu, and Njoku 2013). Compared to other primary sectors, the budgetary allocation for agriculture is abysmally poor, considering the considerable ability of the sector to alleviate the effects of insecurity, hunger and unemployment, with the ultimate goal of promoting sustainable economic growth and development.

2.3 Empirical Evidence

The literature provides well established empirical evidence of the effect of agricultural financing on agricultural production, especially in developed countries. For example, the effect of government spending on the agricultural sector on economic growth in Nigeria has been evaluated by Itodo, Apeh and Adeshina (2012). The results show that government expenditure on agriculture has been uneven and that the agricultural sector's contribution to GDP is consistent with the budgetary allocation to the sector.

Ogbanje, Yahaya and Kolawole (2012) analyzed, using secondary data from the Central Bank of Nigeria, the impact of commercial bank loans on the agricultural sector in Nigeria from 1981 to 2007. Development was driven by agricultural GDP in the agricultural sector. Adopting the Ordinary Least Square approach, the results of the findings showed that loans from commercial banks contributed substantially to agricultural production in Nigeria at a substantial level of 1 percent.

Kareem, Bakare, Raheem, Olagumela, Alawode and Ademoyewa (2013) analyze the variables affecting Nigerian agricultural development as well as the causality of agricultural yields and other macroeconomic variables. Regression analysis, descriptive statistics, and the granger causality measures are adopted in the research. The outcome indicates that in Nigeria, foreign direct investment, commercial bank loans, interest rates and the volume of food imports have a positive effect on agricultural development.

Obilor (2013) discusses the effect on agricultural production of the Agricultural Credit Scheme Fund, agricultural commodity rates, the distribution of government funds and the credit of commercial banks to the agricultural sector. The results of the findings show that the Fund for the Agricultural Credit Guarantee Program and the government allocation to agriculture have a major positive impact on agricultural production in Nigeria.

Nwankwo (2013) uses the Ordinary Least Square methodology and quantitative analysis design to investigate agricultural funding in Nigeria and its consequences for the development of the Nigerian economy. The study shows that the relationship between agricultural funding and economic growth and development in Nigeria is significant.

Enyim, Ewno and Okoro (2013) address the credit and efficiency of the Nigerian agricultural sector in the banking sector. The research applied econometric measures such as unit base, co-integration and granger causality test and its inferred error correction model. The outcome of the study indicates that the credit of commercial banks to the agricultural sector has a good long-term association with Nigeria's agricultural productivity.

Okulegu (2013) explores the effect of government spending on agriculture on the elimination of poverty in Nigeria (as an engine of economic growth) from 1980 to 2009. The thesis found that agricultural funding had a substantial impact on poverty reduction in Nigeria by following the Ordinary Least Square (OLS) methodology within the context of the multiple regression model. In fact, the study showed that an increase of one percent in the Agricultural Credit Guarantee Scheme Fund (AGCSF) would minimize the poverty rate by 0.06 percent.

Udih (2014) studies the credit and agricultural sector growth of banks. The research uses main and secondary data collected in the Delta State from five banks and ten agricultural firms. For the analysis, a basic random sampling methodology was implemented. To evaluate the conclusions, the data where evaluated using percentages, mean, and standard deviation and pearson product moment correlation. The research results show that the loans and advances made by banks to agricultural entrepreneurs stimulate agricultural production and productivity.

Uremadu, Ariwa and Duru Uremadu (2018) used time series data from 1981 to 2014 to analyze the impact of government agricultural spending on agricultural production in Nigeria. The results of their findings revealed that agricultural production easily responded to adjustments in overall government agricultural spending, actual exchange rates, and agricultural credit to the banking system, average annual rainfall and population growth rates.

The relationship between government spending on agriculture and economic development in Nigeria from 1985 to 2015 is investigated by Idoko and Jatto (2018). The multiple outcomes of the study showed that there is a strong and important link between agricultural government spending and economic development in Nigeria. The outcome of the Johansen co-integration test also concludes that a long-run relationship between the variables occurs at the 5 percent significance stage.

Enilolobo and Ode-Omenka (2018) investigate the effect of credits over the period from 1978 to 2016 on agricultural production in Nigeria. The Johansen co-integration test and the Regression Models of Multivariate Ordinary Least Squares were calculated. The results of the study showed that there is a strong and meaningful link between Nigeria's deposit money bank loans to the agricultural sector and the development of the agricultural sector.

To this end, evidence from the available literature provides a consistent picture of divergent views in terms of the size and magnitude of impact of the banks' credit and government expenditure on agricultural output. Besides, the sample size of most of the studies reviewed is quite small. Hence, this study seeks further clarifications on the combined effects of government expenditure on agriculture and banks' credit on agricultural output in Nigeria.

3. Research Methodology and Materials

3.1 Model Specification

The research follows the works of Agunuwa, Inaya and Proso (2015) and Uremadu, Ariwa and Duru Uremadu (2018) in analyzing the relationship between the credit of commercial banks, government spending on agriculture and agricultural production in Nigeria. Therefore, this study's empirical model is defined as:

$$AGO = b_0 + b_1CBCA + b_2GEA + b_3INTR + u_t \quad (1)$$

$$b_1 > 0,\ b_2 < 0,\ b_3 > 0 \quad (2)$$

Where: AGO means Agricultural Output (measured as the share of agricultural sector to GDP); CBCA means Commercial banks' credit to the agricultural sector; INTR means Interest rate on Commercial banks' credit to agricultural sector; GEA means Government expenditure on the agriculture; U_t means error term

The inclusion of loans to the agricultural sector by commercial banks underlines the importance and interest of the private sector in the agricultural sector. In addition, apart from strengthening the market valuation of agricultural funds, the accessibility of farmers to these funds is rooted in the prevailing interest rates.

3.2 Estimation Techniques

Most time-series data have unit roots, and it can be spurious and policy deceptive to draw scientific conclusions from these trended series (Johansen, 1991). A variety of preliminary experiments on the chosen variables, such as the unit root tests, are one way to correct this flaw in the literature (Gujarati, 2003). A time series of order zero 1(0) is stationary stage, while the combined time series of order one, 1(1), is stationary at the first gap. It should be remembered that the unit root test results would direct the choice of the techniques of estimation to be followed. If the order of integration of the series is I (0), ordinary least square method may be applied. Otherwise the autoregressive distributed lag (ADRL) to co-integration estimation is employed to test the relationship among the series (Gujarati, 2003).

4. Results of Findings

This section presents the results of findings of the empirical analysis conducted in the study. Specifically, the results of the descriptive analysis, Unit root tests, Co-integration test and Error correction model results are highlighted in this section.

4.1 Descriptive Analysis

Table 1: Results of Descriptive Analysis

	AGO	CBCA	GEA	INTR
Mean	114186.5	65951.28	113968.6	16.49222
Median	121980.0	29392.00	27368.11	16.40000
Maximum	260015.4	324567.4	552462.5	29.80000
Minimum	1809.000	462.2000	162.1500	7.500000
Std. Dev.	74462.92	90119.23	173400.0	5.277218
Skewness	-0.024285	1.636421	1.599675	0.343549
Kurtosis	2.265747	4.661936	4.112299	3.105802
Jarque-Bera	0.812229	20.21028	17.20958	0.724945
Probability	0.666234	0.000041	0.000183	0.695953
Observations	39	39	39	39

The descriptive analysis of agricultural output, commercial banks' credit to agricultural sector, government expenditure and interest rate is presented in Table 1. The results indicate that there is a considerable level of consistency in the series since the mean and the median values fall within the minimum and the maximum values. In addition, since most of the values of kurtosis exceed 3, this suggests that the series exhibit a leptokurtic distribution with the exception of agricultural output. The Jarque-bera statistics is indicative of the rejection of the null hypothesis of a normal distribution for commercial banks' loan for agricultural sector and government expenditure on agriculture.

4.2 Unit Root Test

Table 2: Result of Augmented-Dickey Fuller Unit Root Test

Variables	Level Data	First Difference	1% CV	5% CV	Order of Integration
AGO	-0.30	-4.29 *	-3.64	-2.95	I (1)
CBCA	2.37	-4.16 *	-3.64	-2.95	I (1)
INTR	-2.24	-5.37 *	-3.64	-2.95	I (1)
GEA	0.79	-3.25 **	-3.64	-2.95	I (1)

*1% level of significance; **5% level of significance, CV means critical values

Table 2 shows the results of unit root tests using the Augmented Dickey Fuller (ADF) test. It is evident from the results that all the variables were non stationary at levels. However, they became stationary at the first difference which indicate that the series are integrable of order one I (1). Interest rate, commercial banks' credits to the agricultural sector and agricultural productivity were stationary at 1% level, the government spending on agriculture was stationary at the 5% level.

4.3 Co-integration Test

Having established the level of stationarity of the series to be I (1), the autoregressive distributed lag (ARDL) bound testing approach to co-integration is employed to test the relationship among the variables. In this regard, two steps procedure are utilised in a stepwise manner. The order of lags on the first differenced variables is obtained from the unrestricted VAR models by using the Schwartz-Bayesian Criterion (SBC). Table 3 depicts the lag-length selection of the 1st differenced of the variables. It shows that according to SC the maximum lag-length for the estimation of equation is 1. After determining the lag-length, we proceed to the co-integration test and based on the fact that our model is unrestricted, the trend term in the models is omitted.

Table 3: Lag length selection of the first differenced of the variables

Lag	LogL	LR	FPE	AIC	SC	HQ
0	-1345.57	NA	3.53e+29	79.38	79.56	79.44
1	-1238.26	183.05	1.65e+27	74.01	74.91*	74.32
2	-1215.63	33.28*	1.17e+27*	73.62*	75.24	74.17*

*Indicates lag order selected by the criterion.

In order to ascertain the long run relationship among the variables, the results of the bound test co-integration is presents in Table 4. After deciding on lag-length, the issue on the selection of critical values becomes imperative. Narayan (2005) argues that critical values of Pesaran, *et al*. (2001) that is generated for larger sample size should not be used for smaller sample size. However, Narayan (2005) presents critical values of the F test for smaller sample sizes with 30-80 observations. The result of findings reveals that there exists a long-run significant relationship between government expenditure on agriculture and agricultural output as well as between interest rates and agricultural output in Nigeria. This result is however consistent with the findings of Ogbanje, Yahaya and Kolawole (2012), Uremadu, Ariwa and Duru Uremadu (2018) and Idoko and Jatto (2018).

Table 4: Results of ARDL Co-integration Test

Model for Estimation	F-Statistics	Decision rule
F_{AGO} ($AGO_t/GEA_{t/}$ $CBCA_t/INTR_t$)	2.542	No cointegration
F_{GEA}(GEA_t $^{/}AGO_t/CBCA_t/INTR_t$)	3.972	Cointegration
F_{CBCA}($CBCA_t/AGO_t/GEA_t/INTR_t$)	1.237	No cointegration
F_{INTR}($INTR_t/AGO_t/GEA_t/CBCA_t$)	6.534	Cointegration

critical values: @ 10% = 2.72; I(0), 3.27; I(1); @ 5% = 3.23; I(0), 4.35; I(1).

4.4 Long Run Impacts of INTR, GEA and CBCA

The coefficient of long-run impacts is presented in Table 5. From the analysis, the coefficient estimates indicates that interest rate and government expenditure on agriculture exerted positive impact on the agricultural output in Nigeria in the long run at 5 percent level. On the other hand, commercial banks credits to agriculture exerted insignificant impact on agricultural output in Nigeria.

Table 5: ARDL Results for Long Run Relationships

Variable	Coefficients	Std-Error	t- Statistics	P – values
INTR	0.119720	0.024712	4.844571**	0.0000
LOG(GEA)	0.453340	0.226370	2.002652**	0.0543
LOG(CBCA)	-0.149159	0.343606	-0.434098	0.6673
C	6.392937	1.299937	4.917880**	0.0000

(**) indicating 5% significant level

The implication of this result agriculture output in Nigeria has been significantly enhanced by government expenditure and interest rate in the country. This is a clear indication of inadequacy of commercial bank's credits to agricultural sector in Nigeria. Besides, accessibility to these funds requires stringent conditionalties in terms of collateral and the interest payable on such loans. This result is quite in agreement to the work of Uremadu, Ariwa and Duru Uremadu (2018).

4.5 Error Correction Model Results

Table 6 presents the error correction term (ECT) within the framework of autoregressive distributed lag (ARDL). These estimates are optimal as they were based on the selected optimal values of Schwarz Information Criterion (SIC).

Table 6: ARDL Results for Short Run Relationships

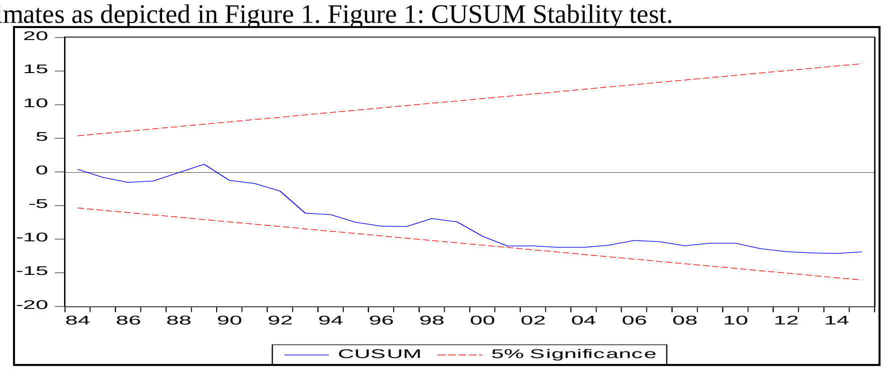
Variable	Coefficients	Std-Error	t- Statistics	P – values
D(INTR)	0.061123	0.018651	3.277248**	0.0027*
DLOG(GEA)	0.231453	0.097871	2.364875**	0.0247**
DLOG(CBCA)	-0.076153	0.164628	-0.462577	0.6470
ECT(-1)	-0.510551	0.132136	-3.863820**	0.0006*

(*) denotes 1% level of significance ; (**) denotes 5% level of significance

From the results, the error correction coefficient is properly signed with -0.510 and statistically significant at both 1% and 5% level of significance of probability values and t-statistics. These estimates confirm the long-run equilibrium conditions evident among the variables of interest and further indicate that 51% of the discrepancy from long run equilibrium in the previous year is adjusted for by the current year. Granger (1986) submitted that the existence of a significant error term is evidence of causality in at least one direction. In a similar vein, Bannerjee and Mestre (1998) noted that a highly significant error correction term is further proof of a stable long run relationship. Hence, it is evident that the causality between agricultural output, interest rates, commercial banks' credit to agriculture and government expenditure on agricultural sector was in at least one direction which is in consonance with the works of Granger (1998) and Bannerjee and Mestre (1998).

4.6 Stability test

In order to ascertain the reliability level of estimates obtained, a stability test of CUSUM is conducted on the error correction estimates as depicted in Figure 1. Figure 1: CUSUM Stability test.



The test is considered more apt than the Chow test as it depicts how the estimates depart or converge to their consistent level. As depicted in figure 1 above, the estimates lie within the confidence interval at the 5 percent level of significance; thus our estimated model is stable.

5. Concluding Remarks

There's no doubt, obviously, that finance is an important catalyst for agricultural production. The analytical study indicates that there is a significant long-term association between government spending on agriculture and agricultural production in Nigeria. In addition, agricultural credits from commercial banks had a strong negative but negligible effect on agricultural production in Nigeria. This illustrates the fact that bank loans to the agricultural sector in Nigeria are poorly insufficient and, in most situations, because of the tight conditions attached to them, these loans are not readily available to farmers.

In reality, Nigeria's agricultural growth and transition could be a mirage if the government's lack of attitude in terms of low budget allocation to the sector is not reversed. In a developing economy such as Nigeria, major agricultural investment powered by ample financial incentives is strongly required as this will have a long-term gestational impact on agricultural productivity. Besides this, in view of the deteriorating fortunes of the oil industry, there is a strong need to revolutionize the agricultural sector in Nigeria.

In view of this, the report proposes expanded budget allocation to the agriculture sector as well as consistent functional policies to ensure easy access to credit from commercial banks. In addition, a considerable proportion of government expenditure on agriculture should be allocated to agricultural investment, especially in the field of mechanization of the agricultural sector, as this will promote youth jobs and food sufficiency, thus reducing social poverty and, by implication, stimulating sustainable economic growth and development in Nigeria.

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Determinants of Group Dynamics among Rice Farmers in Ogun State, Nigeria

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Abstract. Low productivity of rice occasioned by limited access to agricultural inputs is a major setback in achieving food security. Adoption of farmers' group has been the model engaged by development agencies to facilitate access to agricultural inputs among Nigerian rice farmers. This study investigated the determinants of group dynamics as well as benefits derived among rice farmers in Ogun State. A structured interview schedule was used to collect information from 161 rice farmers through a three-stage sampling procedure. Data were analysed using descriptive statistics, ranking, Chi-square, Pearson Product Moment Correlations (PPMC), and Principal Component Analysis (PCA) at $p \leq 0.05$. Finding revealed that Group Dynamic Index (GDI) was 0.64. Group members (60.9%) had access to agricultural inputs. Sale of produce ranked 1st among benefits derived by members followed by access to information and capacity building. Age ($\chi^2 = 20.32$), education ($\chi^2 = 12.59$), farming experience (r= -0.04), household size (r= 0.03) and access to agricultural inputs (r=0.91) had significant relationship with group dynamics. Outcome of group dynamic was reduced by corruption among leaders (0.909), conflict among members (0.905), lack of cooperation (0.900) and poor management (0.890).Therefore, the study recommended proper monitoring by members and authorities for group activities. There is a need to build capacities of group members and officials through effective training in order to promote their understanding of group dynamics and benefits.

Keywords: Group dynamics, access to inputs, rice farmers, leadership, benefits

1. Introduction

Self-sufficiency in rice production is the goal of crop intensification and food security programmes in Nigeria. Achieving this goal to meet the ever growing rice demand remains a herculean task (Omotesho et al., 2015).Rice which is strategic to achieving economic transformation, awkwardly suffers supply-demand deficits (Falola, 2013).

Several policies and programmes have been introduced by Government of Nigeria in an effort to develop the six rice ecologies for the purpose of maximising their potentials. Unfortunately, almost all the ecologies are fraught with numerous challenges with its attendance effects on yield outcome. The upland ecology which has the greatest potential for optimal production is characterised by poor technology utilization, fertilizer and equipment, and low productivity. Upland rice farmers are finding difficulties in acquiring seeds, agrochemicals, and fertilizers to increase their yields and earn better income from production. In other words, access to agricultural inputs is inadequate which create a major setback to production increase among upland rice farmers. Bature et al (2013) and Davis (2009) have confirmed that farmers group is an efficient model to improve access to agricultural inputs to boost productivity and improve livelihood.

Farmers' group has been recognised as a form of collective action in which members constantly interact with one another on the basis of solving production challenges and collectively establishing their norms, rules, role, and sanctions as a means of enforcing compliance to facilitate their intended purpose (Abdulwahid, 2006). According to Nakazi et al, (2017), farmer's group is a forum for farmers to express their views, access technologies and information and make necessary recommendations to enhance their livelihood.Opportunities and benefits such as economy of scale, marketing participation, increasing bargaining powers, and value addition to products are created through this forum (Gyau et al, 2012). More so, it enables resources to be pooled together thereby reducing risk burden on individuals and fosters collective marketing of products which reduces high transaction costs.

Ladele (1994) earlier pointed out that organized farmer groups are targets for the dissemination of new technologies with extension agents working with them to improve extension coverage of farming communities, providing supportive services for extension activities, and increasing farmers' access to innovations and widespread adoption. There is a growing preference among farmers to source information through social relationship from their fellow farmers who are members of social organizations to increase production. Liverpool and Winter-Nelson (2010)affirmed that social network is important in increasing productivity through knowledge sharing among rural communities. The dynamic farmers' group is increasingly significant in influencing rigorous faming activities and removing various constraints impeding rice production in Nigeria. Omotesho et al.(2015) asserted that social relationships where they exist among rice farmers can help bridge the numerous challenges confronting self-sufficiency in rice production.

Group dynamics is a term used to provide insight into the interactions that exist among individuals' members of a group and the forces influencing such interactions. The root of dynamics is drawn from the formation of farmer group. Thus, group dynamics in agriculture involves formation of farmers' groups for both production and marketing.The concept is complex including the way and manner members of a group engage with and influence each other's behaviour towards achieving group tasks. Thus, internal and external forces are activated during group processes and these forces tend to influence the extent of dynamics that can be achieved in the group (Swaminathan and Balan, 2013). However, iinadequate knowledge of group dynamics may lead to low productivity and dissatisfaction among members (Toseland and Rivas, 2012).A better understanding of group dynamics can influence access to agricultural inputs and make farming activities more productive leading to higher returns to farmers. These among many other benefits derived from adopting a farmer group approach facilitate agricultural development (Naveenan and Kumar, 2018; Ramdwar et al, 2014).

Therefore, the specific objectives of the study are to:

- Describe the socio-economic characteristics of rice farmers the study area,
- Determine influence of group dynamics on access to rice production inputs;
- Examine benefits derived from group dynamics by the respondents,
- Analyse the determinants of effective farmer group dynamics in the area.

2. Literature review

A group is a social unit for the continued human existence. It is self-regulating through shared perception, interaction, sensing, feedback, and through interchange with its environment. Group dynamics is, therefore, a concept that explains the relationships of members in a group. Dynamics implies complex and interdependent internal and external forces that are operational during group processes. The diverse processes existing in a group influence whether the established group structure in terms of norm, role, rule, and decision making would lead to goal achievement which is the primary purpose of group formation. Understanding group dynamics gives credence to the purpose of group existence while inadequate understanding of group dynamics has led to unproductive group activities and members' dissatisfaction.(Naveenan and Kumar, 2018; Smokowski et al., 2001).

A conceptual framework of group dynamics is an important empirical device for understanding the group operations and how the group emerges during interaction. Several scholars have established five domains of group dynamics in their studies which include communication processes and interaction patterns, interpersonal attraction and cohesion, social integration and influence, power and control, and finally, culture (Bales et al, 2000; Forsyth and Elliott, 1999 and Hare et al, 1994).

Group members are communicating and sending messages to one another during group processes that have meanings. Effective leaders listen hard for the meaning of messages. In face-to-face groups, members are always communicating, because even if they are not communicating verbally, their nonverbal behaviour is observable which send some messages (Toseland and Rivas, 2001). Interpersonal attraction is just one of the building blocks of group cohesion. Other factors contributing to cohesion include (i) satisfaction of members' needs for affiliation, recognition, and security; (ii) resources and prestige that members believe will be garnered through group participation; (iii) expectations about the beneficial consequences of the work of the group; and (iv) positive comparison of the group with previous group experiences. Those with minority opinions are more likely to be heard if they offer compelling and consistent arguments, if they are assertive about the importance of listening to their opinion, appear confident rather than rigid or close-minded, flexible and able to grant small concessions to the majority, and confront majorities that are not certain about their positions (Forsyth and Elliott, 1999). Therefore, members with minority opinions can have an important voice when their arguments are well reasoned and persuasive, especially in groups that value open-mindedness as a norm.

Levi (2001) viewed norm and culture as styles and approaches that group members use when interacting with each other. For example, the way conflict or competition is resolved in a group is a clear expression of its culture. The deepest level of culture consists of core ideologies, values, and beliefs held in common by members of the group. The measurement of group dynamics is essential in understanding the behaviour of individuals and of the group as a whole. Adynamic group is branded by a number of factors including strong interactions between various actors of the group, a strong dependency on time, and an internal complex causal structure subjected to feedbacks(Swaminathan and Balan, 2013). Therefore, a better comprehension of the complexities and diversity of group dynamics and factors that influence its outcome are paramount in engendering effectiveness of all activities of farmer group and predicting overall achievement.

3. Methodology

3.1 Study Area and Data Collection

The study was conducted in Ogun State, Nigeria. The State is located within the latitude $6^0 2^1$ and 7^0 8^1 North Equator and Longitude 3^0 and 5^1 East of the Greenish Meridian. It has a population of 4.5 million people and dominated by the Yoruba ethnic group. Its favourable geographical location and weather condition makes the state suitable for the cultivation of diverse crops such as cassava, rice, maize, cocoa, kola nut, and oil palm. The population of the study comprises all members of Rice Farmers Association of Nigeria, RIFAN in Ogun State. A three-stage sampling procedure was used to sample respondents for the study. In the first stage of the sampling procedure, two major rice-producing Local Government Areas, Obafemi/Owode and Yewa North LGAs, were purposively selected for their high level of rice production in Ogun State. The second stage involved the random selection of a total of 10 rice-growing communities based on probability not proportional to size. The sampled frame comprised 211 rice farmers and included communities such as Sowunmi, Ajana, Onidundun, Idiiroko and Lajila from Obafemi/ Owode LGA and Eegua, Igbogila, Anigbado, Ilogun and Ikeredu from Yewa North LGA. The final stage of the procedure involved the random selection of 75 percent of the total number of rice farmers in each selected community to give a sample size of one hundred and sixty-one rice farmers. Data were gathered with the use of a structured interview schedule administered using personal interview method. The content validity of the instrument was ensured through expert consultation and literature search. Reliability which ensures the consistency of the instrument in measuring the variable was ascertained using correlation coefficient (r). The coefficient (r) of 0.80 was estimated reflecting the high consistency of the research instrument.

3.2 Method of data analysis

Data analysis was performed using descriptive and inferential statistics and multivariate technique. Access to agricultural inputs was measured on a 3-point scale of regularly (3), irregularly (2), Not at all (1). The mean value was calculated based on the cut-off point using a minimum score (1) and the maximum score (3). The variables with mean values of less than 1.5 were regarded as lowly accessed while those with mean values of 1.5 and above were regarded as highly accessed by the rice farmers. Group Dynamic Index (GDI) was based on intra-group activities which enhanced group interaction and operationalized on a 3-point scale such as very much influence (3), somewhat influence (2), No influence (1). GDI was calculated on the aggregate score divided by the total number of variables. GDI was estimated at 0.64 which indicated high group dynamics level. Constraints to group dynamic were determined on a 3-point scale including very serious (3) serious (2) and not serious (1).Benefit derived from group dynamics was measured by ranking in order of accrued benefits derived from group dynamics by rice farmers.

Descriptive statistics such as frequency, mean, percentages, ranking were used to describe the socioeconomic characteristics, access to agricultural inputs, and benefits of group dynamics. Chi-square and Pearson Product Moment Correlation (PPMC) were employed to determine the relationship between socioeconomic characteristics and group dynamics while Principal Component Analysis (PCA) estimated the determinants of group dynamics using the constraint variables at $p<0.05$ level of significance.

4. Results and Discussion

4.1 Socioeconomic Characteristics of Respondents

Table 1 presents results on the socio-economic characteristics of the rice farmers. The result reveals that 60.8% of the respondents fall within the age bracket of above 50 years. This implies that rice production in the area was dominated by young and middle aged people in the study area. The implication is that rice production appears to be attractive to the younger generation. The result corroborates the finding of Ogundele and Okoruwa (2006),which affirmed that the rice sub-sector needs the injection of young generations.

Majority (82.6%) of the rice farmers were males. This may be due to the nature of rice production which is usually strenuous, laborious, and time-consuming which could discourage female from getting more involved. Many of them (84.5%) were married. This suggests that farming may be a means of catering for their households. Quite a large number (75.7%) had one form of formal education or the other with the highest level of education being secondary school. Educational attainment of the rice farmers could assist them in understanding the process and dynamics of groups.

More so, 74.5% of the respondents cultivated 1-3 hectares of land with average farm size of 2.76 hectares. This described them as small farm-holders who operate at subsistence level. Majority (83.2%) of respondents had over 5 years of rice farming experience. Experience is expected to assist the respondents in risk management while actualizing the goal of increased rice production. Majority (83.9%) had, at least, 4 members in their family with a mean of 6 persons. This implies that they have a fairly large family size which has implications for family labour supply. Sule et al., (2002) earlier observed that family labour constituted majority of labour supply to the agriculture sector.

Table 1: Socio-economic characteristics of respondents (n = 161)

Socio-economic characteristics	Percentage (%)	Frequency	Mean ($\bar{x}$)
Age (years)			
< 30	23	14.3	
31-40	40	24.8	
41-50	50	36.0	43.9
51-60	33	20.5	
>60	7	4.3	
Sex			
Male	133	82.6	
Female	28	17.4	
Marital status			
Single	14	8.7	
Married	136	84.5	
Divorced	8	5.0	
Widowed	3	1.9	
Educational level			
No formal education	39	24.2	
Primary	44	27.3	
Secondary	53	32.9	
Tertiary	25	15.5	
Household size (persons)			

1-3	26	16.1	
4-6	78	48.4	
7-9	47	29.2	6.0
10-12	8	5.0	
>12	2	1.2	
Farming experience(yrs.)			
< 5	30	18.6	
5-10	58	36.0	
11-15	39	24.2	12.0
16-20	21	13.0	
>20	13	8.1	
Farm size (ha)			
1-3	120	74.5	2.76
4-6	41	25.5	

Source: *Results of Field Survey, 2015*

4.2 Access to Agricultural Inputs

The results in Table 2 indicate that majority of the rice farmers had regular access to agricultural inputs such as fertilizers (90.1%), credit facilities (81.4%), herbicides (75.2%), and improved seed varieties (62.7%). This may suggest that access to agricultural inputs was probably influenced existence of group dynamics among the farmers in the study area. This finding agrees with Liverpool and Winter-Nelson, (2010); Swaminathan and Balan, (2013) that mobilisations of resources like credit, extension services, fertiliser and seed are facilitated through group dynamics.

Table 2: Distribution of respondents based on access to agricultural inputs (n= 161)

Agricultural inputs	**Extent of Access**		
	Regularly	**Irregularly Freq. (%)**	**Not at all**
	Freq. (%)		**Freq. (%)**
Fertilizer	145 (90.1)	11 (6.8)	5 (3.1)
Herbicide	141 (75.2)	31 (19.3)	9 (5.6)
Improved rice varieties	101 (62.7)	48 (29.8)	12 (7.5)
Credit facilities	131(81.4)	13(8.1)	17(10.6)
Labour acquisition	70 (43.5)	4 (2.5)	87 (54.0)

Source: *Results of Field Survey, 2015*

4.3 Rice farmers' level of access to agricultural inputs

The results in Table 3 further revealed that majority of the rice farmers (60.9%) had high levels of access to agricultural inputs. This finding underscores the importance of group dynamics in improving access to agricultural inputs. This is in consonant with the report of Ramdwar et al. (2014) who asserted that group dynamics enable farmers to gain access to production and market resources and that access to agricultural inputs is the cardinal reason for joining groups. Nakazi et al (2017) agreed that achievement of farmers group is sustained by right dynamics.

Table 3: Distribution of respondents by access to agricultural inputs

Category	**Freq.**	**%**
High	98	60.9
Low	68	39.1

Source: *Results of Field Survey, 2015*

4.4 Benefits derived from group dynamics

Table 4 shows the ranking of benefits derived by members of group dynamics in the study area. The ranking revealed that access to farm inputs was the first among the three major benefits followed by adoption of technology and access to agricultural information. This implies that farmers benefited from their participation in the groups.

This finding confirmed the reports of Gyau et al (2012) which affirmed that farmer's benefits are promoted by farmers group in the value chain and it enables them gain market access and bargaining power. The benefit derived is a function of the type of dynamics, equity and collective relationship among group members (Omotesho et al, 2015).

Table 4: Distribution of respondents by derived benefits (n = 161)

Benefits derived	Rank
Access to credit facilities	7
Sales of produce	4
Access to agricultural information	3
Capacity building	8
Adoption of technology	5
Procurement of farm equipment	2
Facilitate procurement of agricultural insurance	6

Source: *Field Survey, 2015*

4.4 Test of Hypothesis

Table 7 shows the results of test of hypothesis. The estimate revealed that age (χ^2= 20.32, α=0.05) and level of education (χ^2= 12.59, α=0.05) have significant relationship with group dynamics. Meanwhile, the results of the Correlation Analysis in Table 8 shows that household size (r=0.03) and farming experience (-0.042) have a weak but positive correlation with group dynamics while access to agricultural credit has a strong and significant relationship with group dynamics.

Table 7: Chi-square estimates of socio-economic relationship with group dynamics

Socio-economic variable	*df*	χ^2 Value	Decision
Age	4	20.33	Significant
Sex	1	1.23	Not Significant
Marital status	3	6.61	Not significant
Level of Education	3	16.01	Significant
Farm size	1	11.94	Not significant

Source: Results of Field Survey, 2015

Table 8: Estimates of Correlation analysis with group dynamics

Variables	r-value	p-value	Decision
Household size	0.025	0.000	Significant
Farming Experience	-0.042	0.000	Significant
Access to inputs	0.905	0.000	Significant

Source: Results of Field Survey, 2015

4.5 Determinants of the group dynamic

The Principal Component Analysis (PCA) was used to measure the determinants of the group dynamic among the rice farmers. Kaise- Meye Olkin (KMO) test and Bartlett's test of sphericity were applied to confirm the sampling adequacy. Eigen value of 1 was considered for the number of components to be generated. The result revealed that KMO and Bartlett's test value was 0.856 at p< 0.01 level of significance. The estimates in Table 9 show that the Eigen values for the first three components were 6.820, 2.156, and 1.293 respectively. The first component explained 61.99% of the variance while the second and third component explains 19.60% and 11.75 % respectively. The other component was considered not significant because it was less than Eigen value of 1. The extracted factor loading by Varimax rotation and the items with loading greater than or equal to 0.4 were considered.

The results revealed that the range of the factor loadings was 0.909 - 0.745 in component 1, from 0.963 - 0.820 in component 2 and from 0.955- 0.953 in component 3.The interaction of items with others in the same subscale tends to validate the result implying that the highest factor loading is central to the domains assessed by these components

(Francis et al.,2000). These three factors were named based on the variables included in respective components. The three estimated factors influencing the group dynamics were important to draw attention to how group extension programme is being implemented. Therefore, extension programme needs to develop leadership through training in order to achieve effective group dynamics. This finding confirmed the reports of Agarwal (2001) that members' cooperation, shared norms, social capital and effective leadership influenced group dynamic. However, membership would lose confidence in any leader that is corrupt, partial and foster conflict among members.

Table 9: Extracted factors along their factor loading

Rotated Component Matrix			
Constraint indicators to Effective Group Dynamics			
Loading item	Component 1	Component 2	Component 3
Corruption among group leaders	0.909	0.254	0.235
Conflict among group members	0.905	0.239	0.269
Lack of cooperation	0.900	0.230	0.278
Leadership problem	0.890	0.285	0.247
Unequal treatment by leaders	-0.745	-0.303	0.036
Non-availability of farm inputs	0.228	0.963	0.073
Lack of infrastructure	0.231	0.960	0.073
Inadequate credit facility	0.243	0.956	0.074
Instability of government policy	0.445	0.820	0.090
Poor educational background	0.224	0.078	0.955
Gender bias	0.232	0.079	0.953

Source: Results of Field Survey, 2015.

5. Conclusion

The study revealed that farmer dynamic group promotes the benefits derived by members which include high access to agricultural inputs particularly fertilizer, credit facilities, herbicides, and improved seed through group interaction. Poor leadership, poor access to farm inputs, government policy, and characters of members were the factors limiting group dynamics outcome. The study concluded that a strong and effective leadership should be established to nurture the dynamics that would lead to good management of group resources towards improved productivity and better income of members. Therefore, it is recommended that group activities should be properly monitored by members and relevant authorities to curb perceived leadership problems and corruption tendencies of the group leaders. There is a need to build capacities of members and officials of the groups through effective training so that they can understand the benefits of group dynamics.

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A Sustainable Funding for the Maintenance of Critical Urban Infrastructure in Nigeria

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Abstract. Urban infrastructures foster rapid economic growth and development of cities, sub-national and national economies. However, most developing nations including Nigeria are experiencing huge infrastructural deficit which requires scarce financial resources to fix. Traditionally, governments used tax revenues and bonds/loans to fund public infrastructural development and maintenance; however, tax revenues have declined in Nigeria while bank loans are very expensive. Similarly, corporate financiers have now incorporated "sustainability" clause into infrastructural finances to mitigate and ameliorate negative impact of construction works on the natural environment, communities and livelihoods, which often increases project (infrastructural development) costs in the short-run but boosts financial and non-financial returns in the long-run. To overcome the infrastructural funding challenges, resources are now being pooled from the public, people and private (PPP) stakeholders and managed with sustainability doctrines.

Keywords: sustainable funding, physical infrastructure, social infrastructure, economic development, Nigeria

1. Introduction

Nigerian government has statutory responsibility of providing basic infrastructure to her citizens across the length and breath of Nigeria. Specifically, the Constitution of the Federal Republic of Nigeria (CFRN) (1999 as amended) states that Nigerian government has the obligation to "provide adequate facilities for & encourage free mobility of people, goods & services throughout the federation" (S.15:3a); "ensure that suitable & adequate shelter…are provided for all" (S.16:2d); "ensure that there are adequate medical & health facilities for all persons" (S.17:3d); and "protect and improve the environment & safeguard the water, air and land, forest & wild life of Nigeria" (S.20).
Urban infrastructure such as electricity, water, roads, railway systems, bridges, airports, telecommunication, housing, hospitals, modern markets, parks, stadia and seaports are critical to the functioning, growth and development of every economy, including Nigeria. They are critical because their shortage, depletion, failure or collapse usually affect the socio-economic well-being of a state or nation adversely. Specifically, infrastructural deficit can cause untoward hardship to individual citizens and households on the one hand, and increase cost of doing business to the private sector on the other hand. Its abrupt total collapse due to poor design, construction, and maintenance or terrorist/enemy attack can lead to colossal loss of lives, sharp decline in government revenue and foreign direct investment, mass revolution and regime change.

Today, Nigeria is faced with huge infrastructural deficit across different industries, notably transportation (roads, seaports, airports, rail), energy, communication, water, waste management, and housing. Picking road infrastructure sub-sector of the transportation as an example, over 60 percent of 35 thousand kilometer federal roads in Nigeria are in bad condition, over 60 percent of the 17 thousand kilometer state roads in Nigeria are either unpaved or unmotorable, while over 90 percent and over 50 percent of the 150 thousand local government roads in Nigeria are unpaved and unmotorable respectively (Anaeto, 2018). Overall, the infrastructural deficit in Nigeria translates to three trillion dollars worth of future infrastructural investment (Ahmed in Adesoji, 2019) or conservatively 310 billion dollars worth of infrastructural investment (McKinsey in Okusaga, 2019). This signifies decades of gargantuan investment opportunities for the national and international infrastructural financiers and project developers provided the right political leadership is produced and right decisions taken.

As the Nigerian governments plan and take actions to remedy the infrastructure deficit across the country in the years ahead, they need to equally pay attention to the issue of maintaining the existing physical and socio-economic urban infrastructure. Obviously, many of the existing urban infrastructure in Nigeria are aged and/or not properly maintained over the years, and therefore, nearly unusable and in some cases life threatening. To mention a few, the Tafawa Balewa Square and National Arts Theater in Lagos; National Stadium, Abuja; petroleum refineries in Kaduna, Warri and Port Harcourt; petroleum pipes and depots; and rail transportation assets of the Nigerian Railway Corporation. The current poor state of a majority of national infrastructure is believed to have been caused by lack of legislation on maintenance of public infrastructure, lack of maintenance policies, poor leadership, attitudinal problems, corruption, untrained maintenance technicians, users' indiscipline and ignorance, lack of proper incentives for the maintenance staff, shortage of maintenance equipment and spare parts, lack of timely information regarding failing or non-functional infrastructure, non-availability of funds to finance maintenance (Iruobe, 2011; Alani, 2012; Tijani, Adeyemi and Omotehinshe, 2016), vandalization for political and economic reasons, sabotage, and poor enforcement of laws guiding use of public infrastructure.

Efforts by the three tiers of Nigerian government to fill the infrastructural gap by renovating the existing facilities and constructing new ones to meet the increasing demand of the citizens, industries and economy at large have not been largely successful due principally to funding challenges: government revenue shortfalls, expensive bank loans, underutilization of state and local government bonds, and corporate lenders' preference for infrastructural projects that incorporate sustainability dimensions. Consequently, economic growth has not been adequately stimulated leading to slow economic recovery following the 2016/2017 economic recession. Against this backdrop, this paper seeks to review modes of financing critical urban infrastructure with a view to identifying the most sustainable funding mechanism for their maintenance.

The rest of the papers is structured into four sections: the 'conceptual clarification' section where key and recurring concepts are defined, the 'financing and funding maintenance of critical infrastructure' section where traditional and modern methods of financing infrastructure are reviewed, the 'sustainable method of funding critical urban infrastructure' where the most efficient funding strategy is recommended, and the 'concluding remarks' section.

2. Conceptual Clarification

2.1 Critical Urban Infrastructure

In defining 'critical urban infrastructure', it is instructive to first review definitions of "infrastructure". Infrastructure refers to the basic services without which primary, secondary and tertiary types of production and activities cannot function (Hirschman, 1958). This definition supports the idea that infrastructure is the foundation for industrialization in any society. However, the definition failed to point out the provider(s) of the basic services (the infrastructure) and the nature of the infrastructure. Thus, Goel (2002) defines infrastructure as the physical framework of facilities through which goods and services are provided to the public. That is, infrastructure connotes a stock of tangible capital assets such as roads, ports, rails, gas pipelines, telecommunication networks, and electricity transmission networks that the private and public sector leverage on to provide goods and services for public (individuals, groups, households, organizations) consumption. However, Goel's definition neglected the intangible component of infrastructure otherwise called infrastructure support services; it is also silent about the provider(s) and/or ownership of the physical facilities. Bichi's (2017:3) definition: "infrastructure is a wide array of physical assets required to support both private economic and social services" only buttresses Goel's illuminatingly but suffers the same deficiencies. To bridge this gap, infrastructure is recognized in this paper as a combination of state and privately owned tangible and intangible assets or facilities that are usually very lumpy, long lasting, space-specific, and consumed by the individuals, households, and private enterprises as inputs for production, commerce and welfare.

Urban infrastructure are the physical facilities and social amenities that are located in cities such as Lagos, Kano, Port-Harcourt, Abuja, and most of the state capitals in Nigeria. The criticality of 'unban infrastructure' is associate with their strategic importance to the optimal functioning of an ideal city where facilities for transportation of people and goods; lightening of home, offices and industries; private and business communication; television and radio broadcasting; disposal of solid and liquid waste; production and marketing of goods and services;

teaching, learning and research; treatment of sick people, and protection of lives and property are available in the required quantity and quality and satisfy the needs and desires of users. Supporting our view, Rome and Vob (2015:11) define 'urban critical infrastructure' as "an asset, system or part thereof located in an urban area which is essential for the maintenance of vital societal functions, health, safety, security, economic or social well-being of people, and the disruption or destruction of which would have a significant impact in an urban area as a result of the failure to maintain those functions".

2.2 Sustainable Infrastructural Funding

Sustainability is a relatively new philosophy that strives to orient governments and the general public on the need to protect the environment and ecosystem for the benefit of current and future regenerations. Bossel (1999) and Robert, Parris and Leiserowitz (2005) stress that sustainability involves factors such as people and their general well-being and health conditions; the correlation between the economy and industrialization; the growing demand for more raw materials and its impact on natural environment; and the impact of pollution, energy consumption and depleting resources on the planet, wildlife and habitat.

When attributed to finance or funding, it connotes factoring environmental consideration (climate change mitigation and adaptation), social consideration (inequality, inclusiveness, human capital development, and labour relations) and governance cosideration (provision of public goods/infrastructure and services to citizens) during investment decisions in order to benefit all stakeholders (clients, investors, developers, community, and public) in the long-run. In sustainable funding, lenders are conscious of the risk-and-return profile of every infrastructural investment. Lending risks include default payment, re-negotiation and extention of loan tenure, currency fluctuation, diversion of funds for unapproved projects, collapse of industry, product failure or decline, natural calamities, regime-change, political instability, and environmental degradation among others. Thus, the bottomline of sustainable funding and/or finance is to mitigate risk.

Literally, sustainable finance means a predictable, reliable, efficient, affordable, inclusive, dependable and enduring source of finance or funds that can be allocated to civil works and social services. Tamarisk Coalition (2011) defines "sustainable funding" as a perpetual revenue stream that is sufficient in magnitude to accomplish a program's goals and reliable enough to confidently develop long-term maintenance and monitoring programs.

The renaming of Milleniun Development Goals (MDGs) as Sustainable Development Goals (SDGs) by the United Nations primarily to bridge the gap between 'development' and 'environment' has popularized and universalized the concept of 'sustainability' or 'sustainable development'. That is, the correlation between funding, infrastructural development and environment degradation is elastic. Increased funding can increase stock of infrastructure and stimulate economic activities on the one hand, it can equally degrade the quality of the environment and destroy the source of livelihood of many on the other hand. Thus, the World Commission on Environment Development (1983) in Thomsen (2013) suggests that any sustainble Development project or initiative should be able to meet the needs of the the present generation (or a group of people) without compromising the ability of the future generation (or another group) to meet their own needs. Similarly, Rogers, Jalal, Lohani, Owens, Yu, Dufournaud and Bi (1997:44) defines sustainable develoment from economic and financial perspectives as "maximizing income while maintaining a constant stock or increasing stock of capital". To make this possible, the SDG-9 provides that national and sub-national economies should "build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation", while the SDG-11 tasks leaders to "make cities and human settlements inclusive, safe, resilient and sustainable".

2.3 Infrastructural Maintenance

Critical urban infrastructures are susceptible to depreciation and depletion due to constant use, abuse, attack, or weather effects. Maintenance is the facility management technique that seeks to preserve the conditions of critical urban infrastructures. Bivona and Montemaggiore (2005) define maintenance as the technical, administrative and managerial actions taken during the life cycle of an asset(s) to ensure that they continue to perform their intended functions or repairing such asset(s) that have failed, or to keep them running, and/or by restoring them to their required or favorable operating conditions. Similarly, Wireman (1990) see maintenance management as a combination of all technical, administrative and managerial actions during the life cycle of an item, intended to retain it or restore it to a state in which it can perform the required function. Some examples of existing and active specialized maintenance agencies created by Nigerian government are Federal Road Maintenance Agency (FERMA), Niger State Road Maintenance Agency (NIGROMA), Kaduna State Roads Agency (KADRA), Lagos State Public Works Corporation, River State Road Maintenance and Rehabilitation Agency, and Ogun State Road Maintenance Agency (OGROMA) among others.

In this paper, infrastructural maintenance is regarded as effort by the owners, operators or managers of any urban infrastructure to initiate and ensure implementation and completion of repair, renovation, upgrade or modernization of existing physical and socio-economic urban infrastructures so that they continue to function effectively and meet the objective for which they are designed or procured.

3. Financing and Funding Maintenance of Critical Urban Infrastructure

It is important to point out that infrastructural funding is not the same as infrastructural finance, though the two concepts are used interchangeably by practitioners and commentators. There are two perspectives to the term ‘infrastructural funding’. First, infrastructural funding is concerned with decisions on how to generate or recover and payback monies expended in building a capital asset usually through tolls, rents, and tariffs. In other words, infrastructural funding focuses on whether a built facility can generate adequate streams of income in the long run to pay for its total cost of construction (the principal and interest). Fay, Martimort and Straub (2018) substantiate that funding is essentially cash flow based and addresses the issue of where the money injected in the construction and operation of the service-providing piece of infrastructure come from or be recovered. Second, infrastructural funding is regarded as funding of projects through government’s internally generated revenue (Congressional Budget Office, 2018).

In contrast, infrastructural finance is concerned with decision on how to raise capital or financial resources required for the construction, provision or maintenance of small or large scale physical or social facilities. In project financing, emphasis is on borrowing or raising infrastructural capital (bonds, loans, equity) upfront from individual, corporate or government investor(s). To Emenike (2015), infrastructure finance is the consideration of all methods available for mobilizing resources required to finance physical assets or services which are fundamental to the growth and development of an economy. Another perspective on ‘financing’ is that it is mainly concerned with government’s non-revenue sources of raising capital for the construction of critical urban infrastructure (Congressional Budget Office, 2018). Fight (2006) affirms that project finance is a non-recourse or limited recourse financing structure in which debt, equity and credit enhancement are combined for the construction and operation, or the refinancing, of a particular facility in a capital-intensive industry. To avoid confusion in the use of the two concepts (financing and funding), phrases like ‘public funding’ and ‘private financing’ are devised by financial experts. In fact, the title of a publication “From Funding to Financing: Transforming the SDG Finance for Country Success” by the World Economic Forum in 2019 is very instructive and illustrative.

In this paper, the explained conceptual distinctions between financing and funding are not recognized. Thus, funding and financing are used interchangeably to mean both upfront sourcing of financial resources as well as recouping of expended financial resources for/from urban infrastructure development and maintenance.

4. Methods of Financing Critical Urban Infrastructural Maintenance

Financial management scholars have suggested several modes of financing capital projects including urban infrastructures. For example, critical urban infrastructure can be financed through equity, development loan, subordinate loan, unsecured loan, secured loan, syndicated loan, world bank group financing sources, bonds, investment funds, institutional lenders, leasing companies, sponsor loans, supplier financing, and host government financing (Fight, 2006); infrastructural bonds, municipal bonds, corporate bonds, stock issues, private equity, bank loans, government grants, and current revenue and taxes (Grigg, 2010); domestic public financing, domestic private financing, international public financing, international private financing, and blended financing (UN, 2014); and budget, loans from multilateral financial institutions, capital market, special tax interventions, municipal funds, Public Private Partnership (PPP), and local financial institutions (Bichi, 2017). The aforementioned specific modes of financing infrastructural development, especially by a sovereign state, can be grouped into three: revenue, debt, and partnership.

Government Revenues: This refers to incomes received by a government from taxes and non-tax sources for the purpose of providing and maintaining physical and social infrastructure, and for the general running of the government. With the exception of Lagos and Ogun States, virtually all state governments in Nigeria depends more on Federation Account Allocation (FAA) for sustenance because their IGRs are less than the monthly statutory allocation from the federation account (see Appendix II). By implication, most statea are not economically viable because their IGRs can neither offset their recurrent expenditure nor significantly bridge the infrastructural deficit gap in the states, and therefore, cannot stimulate economic growth and development of the states rapidly.

Tax Revenues: Tax is a compulsory levy or financial charges imposed on eligible individuals and business establishments by the government for the purpose of generating income to fund public expenditure. Worlu and Emeka's (2012) study showed that tax revenue stimulates economic growth through infrastructural development. Appendix I shows a list of taxes and levies collectable by the three tiers of government in Nigeria.

All tiers of the governments in Nigeria have performed poorly in the area of tax administration in the past decades. This is not only evidenced by the Nigeria's national budget deficit in the last couple of years, but supported by the research findings of Akinleye and Ogunmakin (2016) where it was reported that 61 percent of expected annual revenues from Value Added Tax (VAT), Pay As You Earn (PAYE), Capital Gain Tax (CGT) and Withheld Tax (WIT) in Southwest Nigeria were lost to tax avoidance through non compliance with collection and remittance. Similarly, OECD (2019) revealed that Nigeria's tax revenue effort (tax-to-GDP), defined as ratio that indicated the tax collection effort of a country, was 5.3 percent and 5.7 percent in 2016 and 2017 respectively, far behind that of Ghana (13.7 percent in 2016 and 14.1 percent in 2017), Kenya (18.3 percent in 2016 and 18.2 percent in 2017), and African average of 17.2 percent. Factors responsible for abysmal revenue are corruption, free rider problem, tax avoidance, tax evasion, poor collection mechanism, inadequate tax personnel, terrorism and militancy, rich tax dodgers, tax run, welfare cost of taxation (administrative and compliance costs), and falsification of records (Enahoro and Olabisi, 2012 and Ndubuisi, 2018). The low tax revenues have made it practically impossible for the governments to fund maintenance of the existing infrastructure and as well provide new ones to meet the increasing demand of the public. This development necessitated tax reforms at federal and state levels primarily to increase the tax base, expand the tax net, update the tax records, and encourage payment of outstanding tax liabilities by tax evaders. Worth mentioning is the Voluntary Asset and Income Declaration (VAID) of Federal Government of Nigeria, and Lagos, Kano and Kaduna States' tax reform efforts that have yielded greater tax collections. Ogbonna and Appah (2012) and Nwaru (2015) are of the view that tax reforms can improve revenue generating machinery of government to undertake socially desirable expenditure that will translate to economic growth in real output and per capita basis.

One of the new tax initiatives that has foster highly capital intensive infrastructural development in Nigeria of recent is the Tax Credit Scheme under Road Trust Fund (RTF). Conceptually, a 'tax credit' is that portion of owed tax that a tax payer is allowed to subtract from the total tax due for payment to the government. Specifically, the Nigeria's Tax Credit Scheme is designed by the Federal Government of Nigeria to enable private companies use their funds to construct roads that they consider critical to the survival and growth of their businesses, while the expended funds are subtracted from the company's annual tax for a period of ten years or less. For example, the Apapa Road in Lagos State is being reconstructed by Dangote Group under the Tax Credit Policy at the cost of 72.9 billion naira. Some of the expected benefits for the participating companies are 100 percent recovery of costs incurred on road infrastructure as tax credit against total tax payable over a three-year period, accelerated depreciation to enable cost recovery in three years rather than four years for standard assets, and ability to intervene in roads critical to a company's business. The Federal Government and the country at large can benefit from the scheme through increased funds for road development and accelerated road provision across the nation, alternative funding to the government for road infrastructure development which will reduce pressure on the Federal Budget, and efficient delivery of road projects and reduction of project costs.

Another worth mentioning tax savings initiatives for infrastructural development in Nigeria is the Nigerian Infrastructural Funds (NIF), which is one of the three Funds under National Sovereign Investment Authority (NSIA). NSIA is an Agency of the Federation set up to manage funds in excess of the budgeted hydrocarbon revenue. NIF is aimed at enhancing the development of Nigerian infrastructure in sectors such as power, healthcare, real estate, agriculture, transport, and water resources. The 2^{nd} Niger Bridge, Kaduna-Abuja Express Road, and Lagos-Ibadan Express Road are funded from NIF.

Non-Tax Revenues: These are sources of revenue to the government other than taxes enumerated in Appendix I and include rents, concessions, royalties; revenues from state owned enterprises; revenue from sales of state assets; fines collected and assets forfeiture; donations to the state; foreign aids; and grants. Table 4 shows that non-tax revenue (excluding oil revenue) is 28 percent in 2019 (with Government Owned Equity [GOE] and independent revenues taking the lead) and 43.9 percent in 2020 (projected) (with GOE, signature bonus, and independent revenues taking the lead). Thus, further discussion as regards funding of critical infrastructure will be limited to equity finance, independent-revenue-sources finance, and grants. A study by Morrison (2009) found that increase in non-tax revenue is associated with regime stability in both democratic and dictatorial governments. Also, Mohanty and Patra (2016) revealed that per capita non-tax revenue has significant and favorable effect on per capita revenue expenditure in the economic service sector.

Equity Finance: Equity means owners stake or interest in a company. Equity finance is a method of raising fresh capital for reinvestment through issuance or sale of shares to the public. Unlike debt financing which requires repayment of both principal and interests at the agreed time intervals, equity financing is a permanent source of investment capital to a company and only requires payment of dividends to the shareholders annually when profits are made. Shareholders in need of funds can trade their shares in the stock market through the help of stockbrokers.

Equity finance is germane in public finance because governments in the developed and developing countries actively and directly participate in production and commercial activities just like privately owned enterprises do, primarily to further social outcomes, provide physical infrastructure, and to create market stability within and across the supply chains. Such enterprises are commonly called ‘Government or State Owned Enterprises (GOEs or SOEs)’ and defined as enterprises where state has significant control through full, majority, or significant minority ownership (OECD, 2005). For example, SOEs represents 23 percent of the Global 500 listed companies in 2014 by the Fortune Magazine (PwC, 2015), which suggest that SOEs do raise equity capital for investment purpose. However, fully SOEs in Nigeria such as Nigerian National Petroleum Cooperation (NNPC), Nigerian Security Printing and Minting Company Limited (NSPMC), Nigeria Coal Corporation, Transmission Company of Nigeria (TCN), and Nigerian Railway Corporation (NRC) are not quoted in the Nigerian stock market, none the less equity finance remains a viable infrastructural financing option for these companies especially in areas that can strengthen their operations for improved business performance. In particuler, the establishment of Presidential Infrastructural Development Funds (PIDF) that is financed from Nigerian Liquified Natural Gas’s (NLNG) dividend account ammounting to 650 Million Dollars is commendable. Similarly, the setting-up of Infrastructural Company (Infra-Co) with a seed and equity capital of One Trillion Naira will expand funding opportunities for infrastructural development and maintenance in Nigeria especially from a business or revenue generating perspective rather than social services. Wang, Xu and Zhu (2003) found that public listing impacted positively on the SOEs’ ownership structure and finance. They also note that corporatization in general and public listing in particular may be a viable alternative to privatization in the long-run in China and beyond.

Independent-revenue-sources finance: Revenue from independent sources consists of recovered looted monies through court orders or plea bargain as the case may be. Such recovered monies are originally appropriated for infrastructural development but diverted into private pockets, thereby worsening the infrastructural deficit situation. The recoveries are commendable provided they will be re-channeled for the construction of the critical infrastructures they are meant for. United Nations (2014) affirms that combating corruption and ensuring transparency are crucial for effective fiscal management. Thus, state and local governments need to cooperate with anti-corruption agencies in information gathering and sharing with a bid to recovering diverted infrastructural funds for re-budgeting.

Grants: Otherwise called “intergovernmental revenue”, is an important source of revenue from foreign countries, regional institutions, private bodies, or multilateral institutions to Federal and State Governments that can be utilized in the construction of critical urban infrastructure.

Table 4: Distribution of FGN Revenue (2019-2020)

Revenue	**Percentage**	
	2019	2020
Share of oil revenue	52.9	32.3
Share of dividends (NLNG))	-	1.5
Share of non-oil:		
Share of CIT	11.5	10.3
Share of VAT	3.3	3.6
Share of Customs	4.3	7.6
Share of Federation Account Levies	-	0.67
Revenue from GOEs (excluding NNPC)	-	12.1
Top 10 GOEs operating surplus	-	-5.4
Independent revenues	9.0	10.4
JV equity restructuring	10.2	-
FGN's balance on special levies account	-	3.7
FGN"s share of actual balance in special accounts	-	4.2
Signature bonus/renewals/early renewals	1.2	11.5
Domestic recoveries + Asset + Fines	2.9	2.9
Stamp duty	-	2.5
Exchange rate differential (Non-FAAC)	-	1.5
Grants and donor funding	3.0	0.5
Others	1.7	-
Total	100	100

Source: Budget Office (2019), 2019 Budget: Appropriation Act, Federal Republic of Nigeria.

Debt: This means borrowed funds used to finance infrastructural development and maintenance. Debt instruments such as loans, bonds and debentures are characterized with fixed interest rates; repayment of the principal at par, discount or premium; and unsecured or secured against a borrower's assets. Debts constitute 70-90% of the total capitalization of infrastructural projects (Griggs, 2010). Issuance of corporate bonds in Nigeria is approved by Security and Exchange Commission (SEC) while that of the sovereign or government bonds is coordinated by the Debt Management Office (DMO) in collaboration with Central Bank of Nigeria (CBN) as the Issuing House and Registrar. Debt instruments commonly used in financing urban infrastructural development are explained below:

Infrastructural Bonds*:* This refers to bonds specifically packaged to finance infrastructural development and maintenance. According to Grigg (2010), bonds are predominantly used by government authorities to finance the investment needs of infrastructure. Infrastructural bonds are in different forms:

Sovereign bonds: These are bonds issued by the Federal Government of Nigeria usually for the development of physical and socio-economic infrastructure within the country. Several Sovereign Bonds have been issued from 2017 by the Federal Government of Nigeria.

State Government Bonds: These are bonds issued by any state government in Nigeria for infrastructural development within the state. State government bonds are considered attractive by investors because repayment plans are tied to states' accounts funded by Statutory Allocation of Federal Government or IGR (Ofeimun, 2017).

Municipal or local government bonds: These are loans issued by any local government in Nigeria for the development of physical and social infrastructure under their responsibility. Lagos Island and Nasarawa Local Governments are the only two Local Governments that issued municipal bonds in the history of Nigeria, and at a time when local governments had financial autonomy during the military era. Such feat is very difficult in the current regime of 'joint account' where local governments' statutory allocations are hijacked by state governments in the guise of pooled funds for rapid development which never materialized for over a decade. However, this financing option can leapfrog infrastructural provision in local governments in Nigeria if activated and explored.

Corporate bonds: These are bonds issued by corporate entities or public enterprises like NNPC for acquiring capital assets or investing in exploration and refining. However, private and public corporations can issue debenture stocks (bonds that are secured by company assets), debenture (unsecured corporate bonds) and mortgaged bonds (bonds secured by company's physical property) for the provision of certain infrastructure.

Green Bonds: The type of bonds issued to raise funds to mitigate climatic change and preserve the ecosystem. Green bonds cover areas such as renewable energy, pollution prevention and control, clean transportation, terrestrial and aquatic biodiversity conservation, and sustainable water management. Examples of such bonds in Nigeria are the First and Second Sovereign Green Bonds of N10.69bn and N15bn issued in 2017 and 2019 respectively, which were both over-subscribed. The bonds were aimed at realizing Nigeria's commitment to Paris Agreement on climate change, which include Off-grid solar and wind farm, irrigation, afforestation, reforestation and ecologic restoration projects (Udo, 2019).

Catastrophe Bonds: Shortened as 'cat bonds', catastrophe bonds are issued to rebuild core public infrastructure destroyed by the occurrence of natural disaster such as thunderstorm, windstorm, flood, hurricane, tsunami, or even Covid-19. For instance, African Development Bank (AfDB) issued a three year maturity $3 billion "Fight Covid-19" Social Bond with 0.75 percent coupon for the purpose of raising and channeling the funds to health care services and infrastructure as well as economic palliatives to African population (AfDB, 2020).

Sukuk Bonds: These are interest-free and *Shari'a* compliant bonds used in financing public infrastructure. Federal Government of Nigeria issued N100bn Sukuk for road construction in 2017, and Osun State issued N60bn Sukuk for new roads, schools, and urban renewal in 2012.

Government bonds can be further classified as general obligation bonds, revenue bonds (industrial, agricultural, economic development, toll road, toll bridge, and hospital and healthcare revenue bonds), special tax bonds, public housing bonds, and re-funding bonds.

Multilateral agencies and development banks involved in financing infrastructural development across the world are International Bank for Reconstruction and Development (IBRD) known as World Bank, International Finance Corporation (IFC), and Multilateral Investment Guarantee Agency (MIGA). Others are regional development banks such as African Development Bank (AfDB), Arab Fund for Economic and Social Development, Asian Development Bank, European Bank for Reconstruction and Development (EBRD), European Union, European Investment Bank (EIB), Inter-American Development Bank (IDB), Islamic Development Bank (IsDB), Nordic Investment Bank (NIB), Nordic Development Fund (NDF), and OPEC Fund for Investment Development.

Partnership: Infrastructure development can be financed solely by a government body (public finance), private body (private finance), or through partnership between government and private entities (hybrid or blended finance popularly coined 'Public-Private Partnership' [PPP]). Perhaps, the strongest point against private finance is that it creates market failure – an imperfect market situation where certain financial products are overproduced and overpriced because of speculations and greed for higher financial returns (for instance, the cloned mortgaged loans that partly caused 2007 financial crisis in USA was based on speculation), or under-produced and over-priced as result of scarcity created by lenders who collude as a monopoly. However, government interventions in the form of financial regulations are required to correct market failure or even forestall its occurrence in the first place. None the less, over-regulation and under-regulation can equally caused government failure – a situation where by government interventions or regulatory measures lead to the financial market outcomes that are less efficient than if government had done nothing, or where lack of government intervention lead to financial market outcomes that are less efficient than if government had acted. Hence, the need for PPP to synergize the benefits of private and public finances and overcome their inherent challenges.

Despite its popularity, PPP's success depends largely on the institutional, legal and regulatory framework. For example, the enactment of The Infrastructural Concession Regulatory Commission Act 2005 to regulate PPP contracts over federal government assets, the development of National Policy on Public Private Partnership in 2009 to provide conducive environment for private sector engagement in the delivery of infrastructural services, and the creation of PPP Department in the Federal Ministry of Works to advice and oversee the administration of PPP contracts are right steps in the right direction.

The following are modes of financing infrastructural development through PPP:

Service provision contract: Otherwise called outsourcing, is the type of PPP in which a private operator is contracted by a government body to operate a public owned infrastructure or asset for a specified short period of time while the asset ownership and general maintenance of the asset remained that of the government. The government body pays the private operator for services rendered. Service Provision Contract is suitable when there is strong opposition to wider involvement of the private sector or upward review of prices.

Operations and Management contract: This is slightly different from Service Provision Contract in the sense that infrastructural operations and maintenance, as well as management control and authority are transferred or outsourced to the private operator by the government body for a medium term of three to five years. As regard urban road maintenance, the private operator may be entrusted with the tasks of axle-load weighing, toll collection, traffic management, and traffic counting. However, the government body retains asset ownership and major risks associated with commercial and capital investments. Compensation may be fixed or tie to performance.

Lease and operate contract: In this type of PPP contact, a government body lease out public infrastructure like building or park to a private company to operate for a period of ten to fifteen years while ownership is retained by the government throughout the contractual period. The lessee (private company) pays the lessor (government body) out of the user fees realized, while the balance serves as returns for investment. Types of lease arrangement are Lease-Develop-Operate (LDO) and Lease-Renovate Operate-Transfer (LROT). LDO is an arrangement whereby government leases out a piece of land to a private firm with the agreement that the firm will develop the piece of land and operate the structure on it for a determinable time period. LROT, as the name indicates, involves leasing an existing under-functioning capital asset by a private firm, renovating it to function effectively, then operating it for fees, and finally transferring the facility back to the government after expiration of the lease period.

Concession: This type of PPP requires the engagement of a private company by a government body to invest funds in the construction of a new public infrastructure or rehabilitation of existing ones, and equally taking charge of operations, service delivery, maintenance, and management of the facility. Depending on the agreement, the concession contract may last for two to three decades after which the property is transferred back to the government client or the concessionaire allowed to take ownership of the public asset. Concessionaire usually recovers his investment through user fees such as tolls, tariff, and prices; hence, the name 'user pay' project.

Design-Build (Turnkey) contract: Here, a government body determines a public infrastructural specification and contracted a private operator to design and build the infrastructure in accordance with specification for a fixed price. Similar PPP arrangements are Design-Build-Operate (DBO) (engaging a private entity to not only design and build a public infrastructure in accordance with specification, but to also operate it afterwards for an agreed period of time), and Design-Build-Finance-Operate (DBFO) (engaging a private company to design and build the required public infrastructure and get paid by government, and the private company continues to finance the operations of the facility and paying fees to the government for a specified period of time after which government takes ownership).

Build-Operate-Transfer (BOT): A government body contracts the building and operation of a public infrastructure to a private organization for a long period of time, after which the property possession is transferred back to the government for continuous use. In other words, the private firm finances the construction and operations of the public infrastructure and recovers his total investment plus reasonable returns through user fees, and finally transferring the facility to government. Similar to BOT are Build-Own-Operate (BOO), Build-Own-Operate-Transfer (BOOT), Build-Own-Operate-Remove (BOOR), Build-Operate-Train-Transfer (BOTT), Build-Lease-Transfer (BLT), Build-Lease-Operate-Transfer (BLOT) and Build-Lease-Operate-Transfer-Maintain (BLOTM). In BOO, government permits a private investor to finance the building of a critical urban infrastructure and thereafter also assume full ownership and operating responsibility of the facility perpetually. Government only regulates payment of tariffs and protects the interest of the private company through legal monopoly. While in BOOT, ownership of the urban infrastructure changes from the private financier to the government after attainment of the agreed time. BOOR differs slightly because the private investor is obliged by the contractual agreement to remove or dismantle the infrastructural asset after a specified period. BOTT contract imposes additional responsibility of personnel training on how to operate the newly constructed facility by the private company. BLT is the type of partnership in which a private company raises funds to build urban infrastructure for a government, then lease the facility from the government for an agreed period of time, and thereafter transfer the facility back to the government. BLOT differs slightly from BLT because the private company has additional obligation of operating the facility during the lease period. BLOTM is a PPP contract where by a government body engages a private firm to finance the building of an urban infrastructure in accordance with specification, then the firm leases the facility from the government and equally operate it for an agreed period, and further undertake to continue to maintain the facility after its ultimate transfer to the government body.

Buy-Build-Operate: Government body sells an existing public asset to a private firm for upgrade as well as technical and commercial operations.

Joint Venture: Here, a public infrastructure is co-financed, owned and operated by both private and public entities. Returns on investment are jointly shared between parties involved.
From the forgoing, it can be deduced that PPP contracts are flexible and the contractual parties can originate new forms of agreement (PPP contract) different from the ones explained above as long as they are attuned to the principles of contract formation and existing PPP laws and policy.

5. A Sustainable Funding Method for Maintaining Critical Urban Infrastructure in Nigeria

In view of the reviewed literature on the modes of funding critical urban infrastructure, it suffices to recommend a funding approach that meet sustainability criteria (environmental, social and good governance dimensions), blend the sectoral strengths and best practices, and balance the capital structure. That is, such method should utilize both revenue and debt finances, integrates public and private financing capabilities, and improve quality of natural and human environment.

The scientific consensus is that a sustainable funding method for maintaining critical urban infrastructure should be PPP inclined (a combination of social service and business venture models of building and maintaining infrastructure). Such PPP arrangements should be based on tax and fee, regulatory, lending, market, and philanthropic revenue generating mechanisms. The tax and fee based sustainable funding are revenues and fines for environmental degradation/damage (e.g. green tax, severance tax, road toll, bridge toll). The regulatory based sustainable funding (also called compensatory mitigation fee) are aimed at enforcing infrastructural usage regulations; for example, owners of overloaded vehicles can be sanctioned. Lending based sustainable funding is usually tied to specific projects; the total costs (principal and interest) of building infrastructure are recovered through tolls and fee (e.g. revenue bonds, revolving loan funds). Market based sustainable infrastructural funding entails private financing initiatives in which 'environmental mitigation credits' are packaged and sold to the developers. The voluntary and philanthropic based sustainable funding has to do with free labour and donations from individuals and groups that reduces projects' costs to affordable rate.

6. Conclusion

The bedrock of modern cities across the globe is adequate functioning urban infrastructure. Consequently, there have been concerted efforts by federal and state governments in Nigeria to mobilize funds to maintain and re-construct critical urban infrastructure to stimulate economic development, increase job creation and curb internal security threats across the country. However, the recorded results so far can best be described as "a drop of water in the ocean" as the country is still far-off the targeted infrastructural requirements, largely due to governments' revenue shortfalls, overdependence on the traditional infrastructural funding methods especially at the state and local government levels, starving local governments of funds, and wide spread corruption. To fast track the course of rapid infrastructural development in Nigeria, all tiers of government need to explore, identify and exploit sustainable funding mechanisms for the maintenance and construction of critical urban infrastructure in Nigeria. Sustainable funding of critical infrastructure hinges on partnership and collaboration between the public and private sectors in the areas of revenue generation, project design, project construction, project operation, facility maintenance, and facility ownership.

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Intervening Influence of Monetary and Material Inducements on the Relationship between Opinion Leaders and Voting Decisions of Urban and Rural Electorates in 2019 Gubernatorial Election in South-West, Nigeria

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Abstract. Opinions leaders are important political players who bridge the gap between the political elite and general public. They are generally regarded as people whose discussions make innovations attractive to the people with whom they speak and are, therefore, strategic in determining or dictating the voting decisions of the electorate. Past studies revealed that opinion leaders are influential at swaying voting decisions as a result of their personality strength or characteristics. However, significant efforts have not been made by existing studies to identify the most influential opinion leadership characteristic that determine voting decisions of urban and rural electorates in South-west, Nigeria. Such studies have also not established the interviewing influence of monetary and material inducements on the relationship between opinion leaders and the voting decisions of urban and rural electorates. The study adopted triangulation research design. The population of the study comprised all 11,897,401 registered voters in the three sampled states in South-west, Nigeria. A sample size of 1,067 was obtained. The multistage sampling technique was used for the study. The study showed that reputation (urban x=3.89, rural x=3.66), social status (urban x=3.64, rural x=3.58) and educational attainment (urban x=3.68, rural x =3.72) were the most influential characteristics of opinion leaders, while their credibility rating was low (urban x =3.48, rural x = 3.44). The study discovered that monetary inducement (t=0.158, p>0.05) did not significantly moderate the relationship between opinion leaders and the voting decision of urban and rural electorates, while material inducement (x =3.61) significantly moderated the relationship between opinion leaders and voting decisions of urban electorates. The study concluded that the interviewing influence of monetary inducement was not as significant as generally perceived, while material inducement surprisingly moderated the voting decisions of urban electorates. The study recommended that urban electorates should be wary of opinion leaders who act as intermediary between electorates and politicians to provide material items during electioneering.

Keywords: Opinion leadership, Opinion leadership characteristics, Monetary and material inducements, Urban and rural electorates.

1. Introduction

Opinion leaders are important political players who bridge the gap between politicians and the electorate. Burt (1999) expounded that opinion leaders are people whose discussion make innovations attractive to the people with whom they speak and are, therefore, strategic in determining or dictating the voting decision of the electorates. Raughupathi. Arazy and Shapra (2006) defined opinion leaders as those who exert unequal amount of influence on the decisions of others. Highlighting the strategic position of opinion leaders in the electoral process, Dubois (2015) noted that opinion leaders are important political players who bridge the gap between the political elite and the general public. It is noteworthy that opinion leaders are strategic in determining or dictating the voting decision of the electorate.

Tustin Vuuren, and Joubert (2007) argued that opinion leaders are characteristically communicative, have a strong personality and many social contacts that make it easy for them to relay information from one segment of the society to another. Some distinguishing characteristics of opinion leaders have been acknowledged globally as being instrumental to their ability to influence voting decisions. Marko (2011) noted that they exert influence on their followers based on their standing within ethnic-political divides. This means that their position as ethnic figures could determine their influence. Chen, Glass and McCartney (2016) also attributed a leader's influence to such characteristics as reputation, stubbornness, appeal and extremeness. They explained that leaders with higher reputation will be able to persuade their neighbours thereby, attracting more followers. Hameed and Sawicka (2017) also emphasized the importance of knowledge and expertise to the influence of opinion leaders arguing that by virtue of their knowledge of the way of life of the people, leaders could convince their followers easily. Trepte and Scherer (2010) also emphasized the importance of knowledge to the influence of opinion leaders as they claimed that those who display high knowledge are respected when they offer advice.

However, in Africa, Bratton and Vande (2003) noted that patronage or 'clientelism' can also be an important determining factor of voting decisions as politicians through their intermediaries (which in most cases are opinion leaders) tend to, in a clientelistic relationship, use their power to provide economic privileges or other material favours to voters in return for their political support at the polls. Stokes (2007) opined that a form of clientelism often referred to as 'vote – buying' has been found prevalent in Africa and it emphasizes the handing out of money and gifts to win voters during electoral campaigns.

Harding (2010) opined that monetary inducement largely determines voting decisions across Africa. The author further explained that incumbent parties across Africa engage in widespread voter bribery in rural areas. Incumbency gives governing parties a significant comparative advantage in the distribution of minor consumption goods during election campaigns. The electoral impact of such distribution is assumed to be greater in rural areas where voters can be bought more cheaply and more reliably.

Patel, Sadie, Graham, Delany, and Baldry (2014) noted that in South African public conversations, the distribution of social grants by government has been likened to vote-buying and the distribution of food parcels prior to elections may, in some instances, take the form of 'undue influence'. Gottlieb (2014) noted that "Clientelism, the contingent exchange of goods for votes, often condemned as undemocratic, has been an instrument employed by local political intermediaries in Senegal to extract resources from political parties and redistributing them among needy supporters. Nossiter (2012) noted that former President of Senegal, Abdoulaye Wade tried to curry favour with village chiefs and religious leaders by offering them vehicles and monetary incentives. Baldwin (2013) also noted that there is an exploitative patron – client relationship between voters in Zambia and the customary chiefs.

Adamu, Ocheni and Ibrahim (2016) attributed vote buying to the inability of politicians to fulfil electoral promises as contained in their manifestoes. Ovwasa (2013) declared that vote buying is a clear indication that the political class have failed as they always make unfulfilled promises and can no longer be trusted by the electorate. Consequently, electorates too see elections as an opportunity to sell their votes to represent their own dividend of democracy. Schaffer and Schedler (2005) submitted that candidates 'buy' and citizens/the electorate 'sell' votes as apples and other consumables are sold and bought in the market. The act of vote-buying by this orientation is seen as a contract in which voters sell to the highest bidder.

One thing that has become very clear from the submissions of the various scholars cited is - the idea that opinion leaders as agents of political mobilization may not have been doing enough in the area of sensitization and mobilization of the electorate to achieve the desired level of political participation and acceptable voting behaviour. Instead, it appears that opinion leaders' instrument of influence has changed or perhaps, they have added a new instrument as the political class now engages opinion leaders in the distribution of monetary and material items to sway votes in the urban and rural areas.

In Nigeria, the story is not different as it is widely believed that monetary inducement plays a key role as an instrument of persuasion used by political intermediaries and opinion leaders. Rufai (2014) observed that monetary inducement, through party agents and community leaders, played a decisive role in the 2012 local government election in Sabon – Gari area of Kaduna State. The researcher attributed the influence of monetary inducement on voting decisions to high level of poverty occasioned by unemployment and the inability of government to cater for the needs of the people. Bashir (2015) corroborated Rufai's claim of the use of financial inducement by opinion leaders when he submitted that primordial factors like financial inducement or outright vote buying characterized the 2015 presidential election in Kaduna State. Olayode (2015) said that elections in Nigeria are discredited with rigging, religious and ethnic sentiments, tribal affiliations, etc. Voters vote during elections based on their relationship with leaders of the same religious persuasion, ethnic divisions and other sentiments. All these factors combined have been affecting voter turnout in Nigeria.

1.1 Statement of the Problem

Political institutions engage opinion leaders to disseminate political campaign messages to potential voters. Opinion leaders, according to Steiner (2013), are considered influential, because of their expertise, visibility and credibility. In their effort to influence the voting decisions of their followers, it is believed that some opinion leaders also employ various tactics such as distribution of food items, souvenirs and other gift items. They have become part of the strategies employed by opinion leaders to influence the voting decisions of urban and rural voters. Politicians, especially those in power, through opinion leaders, take advantage of the level of poverty and unemployment to use personal and state resources to influence the electorate during an election. It is believed by some people that the “trader moni” distributed through market leaders during the 2019 elections was one of such efforts. The addition of monetary and material inducements, of course, has far reaching implications for Nigeria’s nascent democracy as leadership bought or purchased may not yield good dividends of democracy.

It was in line with the observations that the researcher sought to investigate the extent to which the characteristics and personality strength of opinion leaders remain dominant forces used in influencing voters in both urban and rural communities. The extent of influence of monetary and material items such as distribution of food, grading of roads, drilling of boreholes and a host of other strategies on the voting decisions of urban and rural electorates was also found worthy of investigation. Another major concern of this study was to know if opinion leaders might not be able to influence urban electorates with material items because of their level of education and exposure.

1.2 Research Questions

What is the most influential opinion leadership characteristic that determined voting decisions of urban and rural electorates during the 2019 gubernatorial election in South-west, Nigeria?

What is the intervening influence of monetary inducement on the relationship between opinion leaders and voting decisions of urban and rural electorates during the 2019 gubernatorial election in South-west, Nigeria?

What is the intervening influence of material inducement on the relationship between opinion leaders and voting decisions of urban and rural electorates during the 2019 gubernatorial election in South-west, Nigeria?

1.3 Scope of the Study

This study focused on the 2019 gubernatorial election in South-west, Nigeria. All the three South-west States that conducted gubernatorial election in 2019 were enumerated. The states are: Lagos, Ogun and Oyo. This study evaluated the use of opinion leaders as a strategy employed by political parties and their influence on the voting decisions of urban and rural electorates in South-west states of Nigeria. The study was conducted between November, 2020 and January, 2021.

2. Conceptual Review

2.1 Voting Behavior / Voters Turnout in Nigeria

The term voting behaviour tries to seek explanation into the factors responsible for the actions and inactions of individuals during elections. Voting behaviour is derived from political behaviour. It is about the factors that affect an individual disposition to election. Voting behaviour talks about the reasons behind the voting behaviour of the electorate.

There are three key factors affecting voting behaviour in Nigeria. The factors are ethnicity, religion and poverty/economic factor. Ethnicity is viewed as a form of communality in which “a community of people have a conviction that they have a common identity and common fate based on issues of origin, kinship, ties, traditions, cultural uniqueness, a shared history and possibly a shared language” (Thompson, 2000:58).

In 1983, ethnicity was still a key factor. Uba, quoted in Onu and Momoh (2005:126), the East voted for NPN while the West was for UPN. The trend still continued in the Fourth Republic with ACN getting the West, PDP winning in the North and ANPP in the East. It is noteworthy to say that the issue of ethnicity is now gradually giving way to nationalism with the establishment of nationalist parties. We now have two dominant parties (PDP and APC) with national outlook thereby reducing the influence of ethnicity on our voting behaviour. Religion has also been a strong factor as we often hear of Christian/Muslim or Muslim/Christian ticket. This practice is evident in the leadership of the nation as narrated by Ayantayo (2009):

Nnamdi Azikwe/TafawaBalewa (Christian/Muslim)	1960-1966
Shehu Shagari/Alex Ekwueme (Muslim/Christian)	1979-1983
Buhari/Idiagbon (Muslim/Muslim)	1983-1985
Babangida/EbituUkwe, Aikhomu (Muslim/Christian)	1985-1993
Shonekan/Abacha (Christian/Muslim)	1993-1994
Abacha/Diya (Muslim/Christian)	1994-1998
Abubakar/Akhigbe (Muslim/Christian)	1998-1999
Obasanjo/Atiku (Christian/Muslim)	1999-2007
Yar'Adua/Jonathan (Muslim/Christian)	2007-2010
Jonathan/Sambo (Christian/Muslim)	2010-2015

Source*: Ayantayo, (2009:25).*

Today, we have Buhari/Osinbajo (Muslim/Christian) since 2015. There has always been the fear of Islamization with a Muslim/Muslim ticket. It has also been said that popular religious leaders in Nigeria openly campaigned for candidates of their faith. The third factor is poverty/economic. In a research by Ekpu (2010), he found that more than 70% of the population is estimated to live below poverty line. The United Nations report of Nigeria's Human Poverty Index (HPI) places us among 25 poorest nations in the world. The poor state of most Nigerians, especially at the grassroots places them at the mercy of politicians as they accept anything from anybody who asks for their votes. In a study conducted by Iwundu (2011) some respondents said "we have no option, at least, we will be able to take care of that day's meal with the token given to us, conscience notwithstanding".

Poverty has now led to a new voting behaviour of vote buying in Nigeria. Adamu, Ocheni and Ibrahim (2016) stated that, today, the role of money in politics and vote-buying in Nigerian political system today has paved way for the political bourgeois in the country to dominate and occupy key elective and appointive political positions in the country. Vote buying has become a big strategy by many politicians in the world and Nigerian politicians have keyed into it. Adamu, et al (2016) explained that the simple logic behind the adoption of the method is because of the inability of the political class to convince the electorate through their manifesto as to what they stand for, their mission and vision and most importantly, what the electorate stand to benefit if voted into power. Schaffer and Schedler (2005) submitted that candidates 'buy' and citizen/electorate 'sell' votes as apples and other consumables are sold and bought in the market. The act of vote-buying by this orientation is seen as a contract in which voters sell to the highest bidder.

The idea of vote buying has been inhibiting credible elections in contemporary Nigeria. This has become so pronounced especially now that the electoral laws have been reviewed. Votes are now beginning to count and Nigerian politicians are taking full advantage of it. You find accusations and counter accusations of vote-buying by opposing parties. The most unfortunate aspect of vote buying is that people with genuine interest to change the lots of the people are always denied the opportunity to participate and contest in elections because the act of vote buying starts even at the party primaries. This view was corroborated by Nwosu (1996) when he wrote that a candidate who lost out claimed that money was paid to party functionaries, who were demanding and negotiating.

Vote-buying has become entrenched in our electoral process as politicians now see vote buying as the easiest means of winning elections. This thinking is corroborated by Adamu et al (2016:93) when they wrote that money politics and vote-buying got to their peak in the elections that brought in the civilian administration in 1999 and civilian-civilian transition elections of 2003, 2007, 2011 and 2015. The trend has continued as the present government in the build-up to the 2019 general elections was also officially involved in vote buying through the 'Trader Moni' scheme through which the federal government was giving ₦10,000 to petty traders. Transparency International also condemned the act as a method of vote-buying.

Vote buying is a clear indication that the political class has failed as they always make unfulfilled promises and can no longer be trusted by the electorate. The voters see politics as an avenue to trade their votes for financial gains (Ovwasa 2013). Vote buying has found its way into our political lexicon under different names. Stomach infrastructure entered into Nigeria's political lexicon after the June 2014 Ekiti gubernatorial election. Adamu, Ocheni and Ibrahim (2006) used the term to describe the electorates' interest in material inducements as opposed to long term gains.

There are factors determining voting decisions and they differ from country to country and even from locality to locality. Hazarika (2015) gave the following as factors determining voting decisions. The factors are: Charisma, caste, religion, language, money, sub-nationalism, performance of the party in power, mass literacy, factionalism, public esteem of the candidate, election campaigns. etc. Iwundu (2011) opined that of all the identified factors, ethnicity, religion and poverty/economic are the basic determinants of voting decisions in Nigeria. Harder and Krosnick (2008) gave a formula for the factors determining the turnout of the American electorate: Likelihood of voting = (motivation to vote x Ability to vote). They went ahead to identify demographic factors such as education, income, occupation, age, gender and other social and psychological factors, mobility, residency, race, neighbourhood characteristics, marriage, closeness of the race, negative advertising, canvassing, pre-election polls and predictions of election outcomes on election day as key factors determining turnout in a typical American election.

The centre for social development in Africa in a study conducted on the 2014 voting behaviour of the South African electorate concluded that race, party identification, beliefs about the protection of rights, ratings of government's performance, perception of corruption, age, trust in institutions, clientelism related reasons, vote-buying (though not very significant), party loyalty were found to be predictors of voting decisions of the South African voters. Snyder (2011) opined that scholarly works on voting and political behaviour are many and their findings varied but came up with similar trends. As far as literature is concerned, the usefulness of age, education, and political knowledge are always shown as key determinants.

3. Characteristics of Urban/Rural Electorates

In an attempt to establish the urban-rural cleavage, Cutler and Jenkins (2000) contended that the strongest differences between them lie within the questions of moral traditionalism: urban voters tend to be more socially progressive, whereas rural areas maintain a more traditional character. Shedding more light on why rural areas maintain a more traditional character.

Iwuoha (2018), submitted that most rural voters were disenfranchised because of the long distance between their homes and the polling booths. This limitation was also confirmed by The Canvass (2014), an American Election Journal, which asserted that the distance between some rural jurisdictions and their voting peers coupled with the inability to get required identification for the purpose of voting prevented them from voting.

Harding, (2010) explained that rural voters are largely elderly, not so educated people with more female than male. These factors coupled with the group interest pattern of voting of the rural dwellers render them less independent when it comes to voting decisions than the urban dwellers. Loyalty to identity groups by rural voters was also echoed by Ahmed (2008) who claimed that voters in rural areas of Pakistan vote for survival as a group rather than loyalty to a particular candidate or party.

Karnes (2006) argued that religious inclinations are reputed to be important factors in explaining rural-urban voting cleavages. Sharing their thought on the influence of religion on the voting decisions of American rural voters, Dillion and Savage (2006) opined that the concentration of evangelical churches in rural areas has been linked to respect for conservative beliefs.

Litcher and Brown (2011) also argued on the factors that determine the voting decisions of rural voters. Unlike their urban counterparts, rural people are more likely to work in mining, agriculture and other extractive sectors of the economy. Kelly and Lobao (2018) argued that the income and educational qualification of rural voters are lower and poverty rates higher in rural areas than urban. Because of this level of poverty, Harding (2010) opined that ruling parties across the African continent engage in monumental vote buying in rural areas. Incumbency gives ruling parties a significant advantage in the distribution of consumption goods during electioneering. The electoral gains recorded from such distribution, which Conroy-Krutz terms "petty patronage" is believed to be greater in rural areas, where voters can be easily and reliably brought.

Since poverty has been identified as one of the characteristics of rural voters, it may not be out of place to say that rural voters vote more than the urban voters. Characteristic of the relationship between political participation and economic well-being, Joshi, Pradhan and Sidhwani (2016) observed that the poor in India are more enthusiastic about voting than the rich. They went ahead to state that the rich in poor settlements vote more than the rich in rich settlements and relatedly, the poor in rich settlements. By implication, it means the poorer a people are, the more the turnout in such an area.
Weiner and Field (1976) stated that even though there is no formal classification of constituencies as urban or rural in India, the turnout in urban areas is less than in rural areas. Falcao (2016) argued that it is a known fact that the urban electorate in India vote less than the rural electorate.

4. Theoretical framework

The concept of a two-step flow of communication started with Lazarsfeld, Berelson and Gaudet (1994)in their study on the American election campaigns in the 1940s reported in the People's Choice . They conducted the study hoping to discover that media campaigns dictated the voting choice of Americans. Surprisingly, the group discovered that the media exerted very little influence on voter's choice. They also found that most people already made up their minds even before the voting took place. Majority of those who changed their voting decisions during the campaigns attributed such changes to other people, not the media. The revelations, therefore, ensured the emergence of a new idea of media influence unlike the days of the magic bullet that assumed media consumers as passive. The research by Lazarsfeld et al brought about a new concept of media effect, the two step flow of communication unlike the single step flow.

Communication flows are not as easy and direct as described in the two-step flow. Communication not only flows from the mass media to opinion leaders and from opinion leaders to people, communication also flows from the people to opinion leaders as well as between influencers themselves. This is to say that opinion leaders are also influenced by their fellows. The theory has been criticized for not giving a detailed explanation of how opinion leaders differ from ordinary citizens.

Liu (2007) opined that the theory also did not take cognizance of some major news stories disseminated directly by the news media. It is also wrong to think that only opinion leaders get information directly from the media. The theory did not pay much attention to the reputation and credibility of opinion leaders as information coming from a trusted medium may be difficult to dispel by an incredible opinion leader. The theory also fails to take cognizance of the role of individual differences when it comes to information processing and media use.
The theory has also failed to critically examine the methods of persuasion being used by those regarded as opinion leaders. Some of the opinion leaders have become agents of political parties in Nigeria and are being used to financially induce voters (Adamu, Ocheni, and Ibrahim, (2016).The weaknesses of the theory notwithstanding, the theory is very relevant to this study, especially in Nigeria where the population is predominantly illiterate and rural. Therefore, people do not have access to the vehicles of the mass media. Secondly, because of the sociological bond of the African people where people act based on the influence of the social group to which they belong, the influence of opinion leaders is still largely pronounced.

4.1 Knowledge Gap Theory

The theory was developed by Tichenor, Donohue and Olien (1970) as a result of the observed imbalance in the flow of information within the American society. The theory posits that society does not evenly acquire information as it varies with the social and economic status of the people. Tichenor, Donohue and Olien (1970) argued that as the infusion of mass media information into a social system increases, segments of the population with higher socio-economic status tend to acquire this information at a faster rate than the lower status segments, so that the gap in knowledge between these segments tends to increase rather than decrease. The theory, in essence, talks about the gap between the higher and the lower educated people. The theory posits increasing differences in knowledge due to social structure – based inequality.

The theory did not say that people with lower socio-economic status will not gain information, but the emphasis is that the higher socio-economic class would gain more knowledge faster. Overtime, the relationship between education and knowledge was predicted to increase at a greater rate for topics that received high media attention. Knowledge is defined as information gained and remembered through a learning process, whereas information gaps are disparities in data available to be learned. Corroborating the position of Tichenor et al, Gaziano (2016) argued that as more and more information is disseminated into a social system, a community or a nation, the "haves" gain more knowledge faster than the "have nots" so that relative differentials in knowledge between them increase, both at one point in time and overtime.

The knowledge gap theory is relevant to this study because it captures the educational, infrastructural and informational gap between the rural and urban voters occasioned by the differences in the socio-economic status of the people. It explains why the urban voters are more likely to make independent electoral decisions as a result of their ability to easily acquire information than their rural counterparts who do not have the requisite ingredients. As predicted by the theory, there will always be information gap between the rural and urban voters because of the disparities in data available to be learned. Urban voters are exposed to a lot of informational data, whereas the rural voters are not.

4.2 Rational Choice Theory

The rational choice theory is relevant to this study because it is an economic theory of democracy that gives an economic explanation of voting behaviour. It was propounded by Downs in 1957 in his work called, "An Economic Theory of Democracy". The basic assumptions are: That individuals use rational calculations to make rational choices that result in outcomes aligned with their own best interests, that individuals are rational actors who use rational information to try to actively maximize their advantage in any situation and therefore consistently trying to minimize their losses, that all considerations pertinent to choice (that may include attitude towards risk, resentment, envy, loyalty, and love) can be incorporated into agent's preference rankings over all possible end states. In rational choices, agents are described by their unchanging sets of preferences over all conceivable global outcomes and for choices in which probability of outcomes are either risky or uncertain, rational agents exhibit consistencies among their choices much as one would expect from an astute gambler.

According to rational choice theory, political parties seek to win elections, not with bad intentions but to gain honour and respect attached to being in power. The prestige and profits that political parties pursue is determined by electoral victories. Downs (1957) explained that rationality is derived from the fact that voters, political parties and government have a lot of options to choose from, starting from most to least favourable.

Rationality of the voters is measured in terms of their instinctive capacity to weigh the expected benefits of all alternatives available to them. For instance, if the expected benefit of the party in power carries more weight than that of the opposition, they will likely vote for the government in power and if that of opposition outweighs that of government, they will go for the opposition. If the expected benefit is zero, they will abstain from voting. Therefore, this theory rationally explains the voting behaviour of voters. Downs explains further that what rational theory considers as what matters to voters is not ideology, but concrete actions that government takes. "The theory sees an average voter as a strategist who evaluates the chances of his preferred party winning the election.

The idea of expected benefit as proposed by the theory can be assumed to be relevant to the Nigerian situation to a large extent as majority of voters vote based on the expected benefits from the government that gets to power. Also, the strategic rational voting stance of the theory can also be used to explain the voting behaviour of Nigerian voters as a number of voters interacted with in Ogun State claimed that they strategically voted for APC because they did not want the election to go the way of a political party they considered undesirable. The theory is therefore very useful in explaining certain voting behaviours.

5. Empirical Review

5.1 Opinion Leadership and Influence

Leoper, Steiner and Stewart's (2013) examined the relationship between expertise and the extent of influence of opinion leaders in their work, "Influential opinion leaders". They argued that experts' influence depended on their biases. Leoper et al distinguished between the degrees of bias: moderately biased and partisan expert. The study discovered that good leaders could be very influential and their influence depended primarily on their expertise and visibility. They also found that what matters is not their degree of expertise, but their relative expertise compared to the followers. In a similar study on the role of expertise and knowledge on opinion leadership influence, Kwon and Song (2015) investigated the role of opinion leaders, known as market mavens in marketing parlance, in their work, "The role of opinion leaders in influencing consumer behaviour with a focus on the market mavens: A meta-analysis". The study confirmed that despite direct information from the mass media, consumers still make their purchase decisions based on the opinion of those they consider as experts who are very knowledgeable about the products they want to buy. Hameed and Sawicka (2017) also emphasized the importance of knowledge and expertise to the influence of the opinion leader in their work, "The importance of opinion leaders in agricultural extension". They argued that leaders, by virtue of their knowledge of the way of life of the people, could convey messages of development convincingly in the people's language.

They concluded that opinion leaders, by virtue of their expertise and knowledge of the local community, multiply the efforts of the change agents by carrying the message to more possible adopters, which will translate into effectiveness by achieving more diffusion in less time. Writing on expertise and knowledge as tools of influence by opinion leaders, Scherer and Trepte (2010) went further than Hameed and Sawicka (2017) to investigate the knowledge of opinion leaders in their area of interest as they argued that this aspect had been taken for granted by communication scholars. The study found that the 'informed opinion leaders' displayed both high knowledge and high opinion leadership; the 'uniformed opinion leaders' have average knowledge but high rating on opinion leadership scale. Trepte and Scherer also discovered the 'silent experts', who rate high on knowledge but low on opinion leadership and finally 'other persons', that possess little knowledge and do not perceive themselves as political opinion leaders.

Chen, Glass & McCartney (2016) found out other characteristics that will determine the influence of opinion leaders in their study, "Characteristics of successful opinion leaders in a bounded confidence model". Chen et al attributed a leader's influence to such characteristics as reputation, stubbornness, appeal and extremeness.
In their model, they claimed reputation differs among leaders, stubbornness of a leader is reflected by his confidence towards normal agents, appeal is represented by the confidence of followers towards them and extremes is measured in terms of the opinion values of leaders.

5.2 Factors Influencing Voting Behaviour/Decisions of Voters

Nkwede (2019) examined the factors that influence voter behaviour with special emphasis on individual's psychological processes as a key factor in voting behaviour in his work, "Political parties, citizen participation and voter behaviour in Africa: A study of Nigeria".

Nkwede's study, found that party affiliation and material inducement were the most prominent factors dictating voter behaviour. The study also revealed that religion/ethnicity is of less importance to voter behaviour during elections in Nigeria. This position was also echoed by Omar (2018) when he examined the factors influencing voter behaviour in Zimbabwe in the face of deteriorating living standards, sky rocketing inflation and unemployment in his dissertation, "Analysis of the factors that influence voting behaviour in Zimbabwe: The case of Zvishavane District". The study particularly discovered that vote buying was the most dominant of all the various mechanisms of electoral fraud and was mostly perpetrated in the rural areas of Zimbabwe. This study, no doubt, has mirrored most of the factors influencing voting behaviour, especially in Africa. Adamu, Ocheni and Ibrahim (2016) were concerned about the quality of voter turnout and its effect on the voting decisions on the electorate in their work, "Money politics and analysis of voting behaviour in Nigeria: Challenges and prospects for free and fair elections". The study found that contemporary Nigerian society is characterized by money politics as a result of the inability of political parties and their candidates to conduct their political activities in an orderly manner.

Party manifesto and integrity of candidates contesting for political offices were no longer convincing.

6. Methodology

This study employed survey as the research design. Survey is the most engaged design in social and behavioural sciences for investigating the nature, the cause and effects of a phenomenon. Kothari and Garg (2014) defined survey as the method of securing information concerning a phenomenon under study from all or a selected number of respondents of the concerned universe. Survey enabled the researcher to generate quantitative data from the respondents, who are the electorate in South-west, Nigeria. Survey was found appropriate because of its relevance in providing accurate responses to sensitive issues. The survey approach was triangulated using questionnaire and interview guide as instruments of data collection to answer key questions raised in the study.

A total enumeration of the three states that conducted gubernatorial election in 2019 was done. The states are: Lagos, Ogun and Oyo. The number of registered voters for the 2019 general elections in the three states was 11,879,401 as supplied by Independent National Electoral Commission (INEC).
The sample size for this study is one thousand and sixty seven (1067) participants.

The sampling process for this study involved the use of multistage sampling technique. It was used because for the sampling process, more than one sampling techniques were deemed appropriate and were used at different phases of the sampling process.

Questionnaire was used as it afforded the researcher the opportunity of sourcing information directly from primary sources. The questionnaire was constructed in such a manner that ensured clarity and completeness. The questionnaire contained close-ended items. The questionnaire was structured into six sections (A-F) with each section consisting of questions that provided answers to each of the formulated research questions. Section A, which addressed research question one consisted of items that were close-ended while all the items from sections B-F were close-ended using the Likert format. Therefore, the responses were Very High Extent (VHE), High Extent (HE), Low Extent (LE), Very Low Extent (VLE), and Not at All (NA). The format was used to ensure easy coding and expression of respondents' opinions. The questionnaire items were interpreted to Yoruba for some respondent who could not read and write in English Language.

The research instruments were subjected to experts' perusal and correction. The instruments were assessed by two experts in the field of Mass Communication (Political Communication), two Political scientists and one INEC official, and their opinions and corrections were taken into consideration.

The Cronbach's Alpha test was carried out with 60 copies of the instrument administered at Ifelodun Local Government, Osun State in the pilot test. The benchmark for reliability of Cronbach's Alpha score is 0.70 (Ezekiel et.al, 2010). All the constructs scored above the minimal 0.70. Therefore, the instrument was reliable.

The questionnaire as an instrument was administered by the researcher using the face-to-face approach as it helped the researcher to explain any confusing items in the questionnaire to the respondents (Okonkwo, 2018). The researcher also engaged trained research assistants to administer copies of the questionnaire. Most of the research assistants were people who were familiar with the environment so that information can be freely given to them, especially in the rural areas. The face-to-face administration of research instruments enhanced a high level of returns.

The statistical data analysis adopted included descriptive analysis (simple percentages and frequency tables) and inferential analysis (Hayes process analysis, version 3.4; model 1 and multiple linear regression). The Statistical Products and Service Solutions (SPSS), version 25 was used for the analysis. The descriptive analysis was used to analyze the research questions as it helped to view the proportion of respondents sharing similar characteristics while also noting how dispersed the observation about the phenomenon under study was (Unyimadu, 2016, Dipeolu, 2015).

7. Data analysis

This section analyses the data collected in order to evaluate and compare the influence of opinion leaders on the voting decisions of urban and rural electorates in South West, Nigeria and how this influence translated to electoral gains for political parties. One thousand and sixty seven (1067) copies of the questionnaire were administered, while nine hundred and eighty four copies (984) were retrieved and found valid for analysis; resulting in 92.2 percent response rate.

Research Question One: What is the most influential opinion leadership characteristic that determined voting decisions of urban and rural electorates during the 2019 gubernatorial election in South-west, Nigeria?

Table 1: Link between Opinion Leadership Characteristics and Followership among Urban and Rural Voters

Variables	**Urban**		**Rural**		**Average Mean/Indicator (Standard Deviation)**	
	$\bar{x}$	SD	$\bar{x}$	SD	Urban	Rural
Perceived Reputation						
Opinion leaders in my area are well known; therefore, I follow their advice.	3.84	1.13	3.85	1.37	3.67 (1.14)	3.66 (1.33)
I follow the suggestions of the opinion leaders in my area because they can be emulated.	3.58	1.08	3.54	1.24		
I follow the advice of opinion leaders in my area because they help to project our community	3.60	1.21	3.58	1.39		
Social Status						
The opinion leaders in my community are highly placed individuals whose advice is sought after	3.82	1.12	3.82	1.24	3.64 (1.16)	3.58 (1.30)
The social position of the opinion leaders in my area makes the opinion leaders speak authoritatively for my area	3.61	1.15	3.46	1.31		
The social rating of opinion leaders in my community makes me to follow their advice	3.48	1.22	3.44	1.36		
Perceived Credibility						
I follow the direction of opinion leaders in my area because they are truthful	3.72	1.13	3.78	1.17	3.48 (1.16)	3.44 (1.29)
I listen to opinion leaders in my community because they are dependable	3.49	1.09	3.47	1.27		
I rely on information given by opinion leaders in my area because they are incorruptible.	3.23	1.28	3.07	1.42		

Educational Attainment						
I follow the direction offered by opinion leaders in my community because they are well-educated.	3.83	1.18	3.84	1.17		
I listen to opinion leaders in my community because their educational attainment shows in their good leadership and administrative skills.	3.60	1.13	3.54	1.18	3.68 (1.18)	3.72 (1.17)
I take advice from opinion leaders in my community because their educational attainment shows in their good communication skills	3.61	1.22	3.78	1.16		
Political Status						
I believe in whatever opinion leaders in my area tell me because the opinion leaders are important politically.	3.71	1.16	3.63	1.19		
The political position of opinion leaders in my community determines the people's political decision.	3.50	1.18	3.34	1.17	3.60 (1.19)	3.49 (1.23)
The political stance of opinion leaders in my community is usually being sought after for electoral decisions.	3.59	1.24	3.50	1.33		
Economic Status						
I follow the advice of opinion leaders in my community because they are rich.	3.32	1.30	3.07	1.52		
Monetary assistance from opinion leaders for community projects in my area makes people to take advice from opinion leaders in my area.	3.41	1.15	3.22	1.32	3.35 (1.25)	3.22 (1.38)
I follow the advice of opinion leaders in my community because they have known source of income that explains their wealth.	3.30	1.28	3.38	1.30		
Religious Status						
I always seek the views of religious leaders in my community before taking decisions.	3.61	1.29	3.16	1.46		
The religious position of opinion leaders in my area makes them to speak authoritatively to the people.	3.49	1.20	3.37	1.45	3.49 (1.24)	3.28 (1.46)
Most issues, including political and religious, are always tabled before opinion leaders in my community for their intervention.	3.37	1.25	3.32	1.48		
Average Overall Mean	**3.56**	**1.19**	**3.48**	**1.31**		

Source: *Field Survey 2020*

KEY: VHE=Very High Extent, HE=High Extent, LE=Low Extent, VLE=Very Low Extent, NA= Not at all***Decision Rule if mean is ≤ 1.49=Not at all; 1.5 to 2.49 = Very Low Extent; 2.5 to 3.49 =Low Extent; 3.5 to 4.49= High Extent; 4.5 to 5= Very High Extent

Table 1.0 shows that generally, the link between leadership characteristics of the opinion leaders and their followership was high in the urban areas ($\bar{x}$=3.56); while it was low among rural respondents ($\bar{x}$=3.48). This implies that among urban participants, characteristics of opinion leaders to a high extent were linked to their followership of opinion leaders. However, opinion leadership characteristics among rural participants were to a low extent connected to their followership of opinion leaders. Further analysis however showed that perceived reputation (Urban= $\bar{x}$=3.89; Rural= $\bar{x}$=3.66), social status (Urban= $\bar{x}$=3.64; Rural= $\bar{x}$=3.58) and educational attainment (Urban= $\bar{x}$=3.68; Rural= $\bar{x}$=3.72) were to a high extent linked to both urban and rural electorates' followership of opinion leaders. In addition, political status was to a high extent connected to urban electorates' followership of opinion leaders ($\bar{x}$=3.60); while it was to a low extent connected to rural electorates' followership of opinion leaders ($\bar{x}$=3.49). Furthermore, perceived credibility (Urban= $\bar{x}$=3.48; Rural= $\bar{x}$=3.44), economic status (Urban= $\bar{x}$=3.25; Rural= $\bar{x}$=3.22) and religious status (Urban= $\bar{x}$=3.49; Rural= $\bar{x}$=3.28) were both to a low extent linked to both urban and rural followership of opinion leaders.

This implies that generally, characteristics of opinion leaders determined the followership they enjoyed among urban electorates more than the rural electorates. Perceived reputation, social status and educational attainment were to a high extent linked to both urban and rural electorates' followership of opinion leaders. In addition, political status was to a high extent connected to urban electorates' followership of opinion leaders; while it was to a low extent connected to rural electorates' followership of opinion leaders. Finally, perceived credibility, economic status and religious status were both to a low extent linked to both urban and rural followership of opinion leaders.

Research Question Two: What is the intervening influence of Monetary Inducement on the relationship between opinion leaders and voting decisions of urban and rural electorates during the 2019 gubernatorial election in South-west, Nigeria?

Table 1.1: Connection between Monetary Inducement and Followership among Urban and Rural Voters

Items	Urban		Rural	
	x̅	SD	x̅	SD
I listen to opinion leaders in my community because of material gifts.	3.28	1.44	2.99	1.59
Distribution of gift items makes people listen to political directive from opinion leaders in my area.	3.44	1.25	3.49	1.29
People follow the electoral stance of opinion leaders in my community because they distribute money.	3.48	1.32	3.30	1.38
Opinion leaders in my community are used to distribute monetary gifts such as "trader moni" to the people.	3.23	1.33	3.21	1.51
Average Overall Mean	**3.36**	**1.33**	**3.25**	**1.44**

Source: *Field Survey 2020*

KEY: VHE=Very High Extent, HE=High Extent, LE=Low Extent, VLE=Very Low Extent, NA= Not at all***Decision Rule if mean is ≤ 1.49=Not at all; 1.5 to 2.49 = Very Low Extent; 2.5 to 3.49 =Low Extent; 3.5 to 4.49= High Extent; 4.5 to 5= Very High Extent

Table 1.1 indicates a low level of connection between monetary inducement and followership of opinion leaders among urban ($\bar{x}$=3.36) and rural ($\bar{x}$=3.25) participants. Specifically, participants rated the following assertions to a low extent, that: they listened to opinion leaders in their community because of monetary gifts (Urban= $\bar{x}$=3.28; Rural= $\bar{x}$=2.99), distribution of gift items made people listen to political directive from opinion leaders (Urban= $\bar{x}$=3.44; Rural= $\bar{x}$=3.49), people followed the electoral stance of opinion leaders in their community because they distributed money (Urban= $\bar{x}$=3.48; Rural= $\bar{x}$=3.30) and that opinion leaders in their community distributed monetary gifts such as "trader moni" to the people (Urban= $\bar{x}$=3.23; Rural= $\bar{x}$=3.21).

Research Question Three: What is the intervening influence of material inducement on the relationship between opinion leaders and voting decisions of urban and rural electorates in the 2019 gubernatorial election in South-west, Nigeria?

Table 1.2: Link between Material Inducement and Followership among Urban and Rural Voters

Items	Urban		Rural	
	x̅	SD	x̅	SD
The use of opinion leaders in my community to offer job opportunities makes people follow their directive.	3.75	1.27	3.48	1.36
The use of opinion leaders to nominate people for holy pilgrimage and scholarship opportunities makes people respect the views of such opinion leaders in my community.	3.54	1.20	3.32	1.42
Provision of essential community needs such as boreholes, grading of roads, etc makes people to respect the position of leaders in my community.	3.54	1.32	3.36	1.39
Average Overall Mean	**3.61**	**1.27**	**3.39**	**1.39**

Source: *Field Survey 2020*

KEY: VHE=Very High Extent, HE=High Extent, LE=Low Extent, VLE=Very Low Extent, NA= Not at all***Decision Rule if mean is ≤ 1.49=Not at all; 1.5 to 2.49 = Very Low Extent; 2.5 to 3.49 =Low Extent; 3.5 to 4.49= High Extent; 4.5 to 5= Very High Extent

Table 1.2 shows that generally, the connection between material inducement and opinion leader followership among urban ($\bar{x}$=3.61) participants was high but was low among rural ($\bar{x}$=3.39) participants. The connection between material inducement and opinion leader followership among urban participants was high as follows: the use of opinion leaders in communities to offer job opportunities made people follow their directive ($\bar{x}$=3.75), the use of opinion leaders to nominate people for holy pilgrimage made people respect the views of such opinion leaders in communities ($\bar{x}$=3.54) and promise of scholarship opportunities by opinion leaders in communities made people to listen to such leaders ($\bar{x}$=3.54). On the other hand, the connection between material inducement and opinion leader followership among rural participants was low as follows: the use of opinion leaders in communities to offer job opportunities made people follow their directive ($\bar{x}$=3.48), the use of opinion leaders to nominate people for holy pilgrimage made people respect the views of such opinion leaders in communities ($\bar{x}$=3.32) and promise of scholarship opportunities by opinion leaders in communities made people to listen to such leaders ($\bar{x}$=3.36). This implies that there is more connection between material inducement and opinion leader followership among urban participants than rural participants in terms of: the use of opinion leaders in communities to offer job opportunities made people follow their directive, the use of opinion leaders to nominate people for holy pilgrimage made people respect the views of such opinion leaders in communities, promise of scholarship opportunities by opinion leaders in communities made people to listen to such leaders and provision of essential community needs such as boreholes, grading of roads, etc made people to respect the position of such leaders.

8. Discussion of Findings

The study sought to identify the most influential characteristics of opinion leaders that determined voting decisions of urban and rural electorates during 2019 gubernatorial election in South-west, Nigeria. It also sought to examine the intervening influence of monetary and material inducements on the relationship between opinion leaders and voting decisions of urban and rural electorates in South-west, Nigeria.

Research Question 1: What is the most influential characteristic that determined voting decisions of urban and rural electorates during the 2019 gubernatorial election in Southwest Nigeria?

The study found that opinion leadership characteristics were more linked to urban electorates' followership of opinion leaders than the rural electorate. This could be as a result of the higher level of education and exposure of the urban electorate as urban electorates are presumed to be better educated and exposed than the rural electorate. Their level of education could help in clearer appreciation of such characteristics. This finding also confirms the position of knowledge gap theory stating that knowledge, like other forms of wealth, is often differentially distributed throughout a social system because of the differences in socio-economic status.

The study also revealed that perceived reputation, social status, and educational attainment were considered by both urban and rural electorates as the most influential characteristics of opinion leaders. This finding agrees with the findings of Chen, Glass and McCartney (2016) that opinion leaders with higher reputation were able to persuade their epistemic neigbours, converge to them more quickly and so attract more followers. This finding also confirms one of the assumptions of the two-step flow theory that opinion leaders are considered influential because of their personality strength.

The study also revealed that urban electorates rated political status as one of the most influential characteristics of opinion leaders while their rural counterparts rated political status low. The inclusion of political status in the list of the most influential characteristics by urban electorates is also a pointer to their ability to assess issues appropriately. The issue of voting decision is political and that must have informed their inclusion of political status of the opinion leaders as a key characteristic. Their ability to access issues more appropriately confirms one of the propositions of knowledge gap theory that people of higher socio-economic status are versed in reading and comprehension and are therefore better in selective exposure, acceptance and appreciation of issues.

Research Question 2: What is the intervening influence of monetary inducement on the relationship between opinion leaders and voting decisions of urban and rural electorates during the 2019 gubernatorial election in Southwest Nigeria?

The descriptive analysis showed that the connection between monetary and material inducements and followership of opinion leaders was low among rural electorates while it showed that the connection between material inducement and followership of opinion leaders was high among urban electorates.

This finding negates the findings of Gotlieb (2014) that opinion leaders were used as agents by political parties to distribute money, which consequently influenced the voting decisions of the electorate. It is also important to note that this finding must not be misconstrued as the act of vote buying itself by politicians on election day. What this revelation simply means is that people did not follow opinion leaders' advice because of monetary and material incentives. Therefore, this finding has not negated the findings of Adamu, Ocheni and Ibrahim (2016) that electorates were willing to sell their votes to the highest bidder. It did not also negate the findings of Omar (2018) that vote buying was the most dominant of the factors determining the voting decision of the electorate.

Research Question 3: What is the intervening influence of material inducement on the relationship between opinion leaders and voting decisions of urban and rural electorates during the 2019 gubernatorial election in Southwest Nigeria?

The study discovered that the connection between material inducement and the followership of opinion leaders was high among urban participants while it was low among rural participants. Urban electorates indicated that the use of opinion leaders in their communities to offer job opportunities, to nominate people for holy pilgrimage, to promise scholarship opportunities and for provision of essential community needs made them to follow the advice of opinion leaders while rural electorates said such considerations did not really make them to follow the advice of opinion leaders. This means there is more connection between material inducement and followership of opinion leaders among urban participants than rural participants. The implication is that urban electorates are more interested in material things that could guarantee job security and a secured future for them than the rural electorates. This position can be explained in terms of the level of experience of the urban electorate to the antics of politicians in terms of unfulfilled promises. This particular finding was also reinforced by the qualitative approach. Some of the opinion leaders interviewed in the urban areas explained that politicians did not give them money to distribute, rather they were offering material gestures like drilling of boreholes, rehabilitation of roads, building wards in hospitals and reconstruction of damaged bridges. This finding aligns with one of the postulates of the rational choice theory that says- rationality of voters is measured in terms of their ability to weigh the expected benefits of all alternatives available to them.

9. Conclusions and Recommendations

The most influential characteristics of opinion leaders both in urban and rural areas during the 2019 gubernatorial election were reputation, social status, and educational attainment. Majority of urban electorates were influenced by material inducements because of the thinking that a bird in the hand is worth more than ten in the bush. This must be as a result of failed promises on the part of politicians. Both urban and rural electorates did not follow opinion leaders' advice because of monetary inducement.

Electorates in urban and rural areas must not yield to the influence of just any opinion leaders when making their voting decisions as it was found that most opinion leaders were followed, not on the strength of their credibility but, on the basis of reputation, social status, educational attainments and political status. Rather, they should look for opinion leaders who combine credibility with other characteristics when considering the type of opinion leaders to listen to.

Urban electorates should be wary of opinion leaders who act as intermediary between the electorate and politicians to provide material items such as drilling of boreholes, grading of roads, building of wards in hospitals and purchase of transformers. In most cases, the things they bring are not even durable and they will not see them again until when seeking re-election.

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Part Two

Social Philosophy

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Ifa Divination and its Significance among the People of Ijebu-Ode in South-Western Nigeria

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Abstract. From time immemorial, divination has been a functional art used by many people, especially the Yoruba people as a means of enquiring into past, present and future circumstances. *Ifa* divination among the Yoruba comes in various forms like, *Erindinlogun* (which involves the casting of sixteen cowries), *Agbigba* (which employs a set of separate strings with four markers each), *Obi-dida* (kolanut casting), *Omi-wiwo* (water gazing), *Owo-wiwo* (palmistry), *Awo-wiwo* (mirror gazing) and *Iyanrin-tite* and *Ifa-dida* (divination with sixteen palm nuts). This paper used anthropological approach in its investigation. *Ifa* divination is significant among the people of *Ijebu-Ode* because of its prognostic power. They consult *Ifa* oracle for direction in life, to solve problems and make choices. Thus, there are many people of *Ijebu-Ode* that believe in *Ifa* divination in spite of the spread of Christianity and Islam and social changes. This has led to religious ambivalence as people practice Christianity or Islam as the case may be and still consult Ifa regularly at the same time. It is recommended that those who consult *Ifa* oracle based on their belief in the prognostic power of *Ifa* should be courageous to identify with the practice and propagate their religious beliefs in the public like other religions. Also, Ifa priests should rebrand their practices in order to attract more adherents.

Keywords: Ifa Divination, Prognostic power, Ijebu-Ode, South-Western

1. Introduction

Humans are social beings who are curious about what lies ahead in their future. They want to ensure that the present will not distort the future. This curiosity makes them anxious and in order to reduce their anxiety, they make enquiries about the future through divination. Divination is one of the means human beings used to know what the future holds. This view agrees with a Yoruba adage that says, *Bi oni ti ri, Ola ko ri bee, lomu Babalawo se n difa oroorun*. That is, "since each day has its peculiar problems, the *Ifa* Priest has to divine daily." This adage shows that divination can be done daily in order to prevent unforeseen circumstances or to solve existing problems. The Yoruba which include the Ijebu-Ode people believe in predestination and this makes them curious about what the future holds. According to Alofe (2005), *Ori* (head) determines what someone becomes in life. *Ori* which is the bearer of human destiny is the third part of human beings, others being the *Ara* (body) and *Emi* (life-force) (Oduwole, 2018). *Ori* determines one's destiny at birth and cannot be altered except through sacrifices to the gods, which can only be determined through divination. This fact, shows one of the importance of divination to human beings. *Ifa* divination through the diviners (*Ifa* Priests) helps to identify and solve problems that may be embedded in a cloudy future. The diviners use some system of divination to identify and solve human problems.

Awolalu and Dopamu (1979) identify some systems of divination found among the Yoruba people. They include, *Eerindinlogun* (the casting of sixteen cowries), *Agbigba* system which employs a set of separate strings with four markers each), *Iyanrin tite* (sand cutting), *Obi-dida* (casting of kola nuts), *Omi-wiwo* (water gazing), *Atipa* or *Abokusoro* (necromancy), *Ifa* (divination using sixteen eye). Each of these system has its own peculiar procedure or ways of manipulation. They are done either by magical means or ritual which in some cases involves oral or written text (Parrinder, 1992). Out of all these methods of divination employed by the Yoruba people, Boscom (1969) and Awolalu (2001) consider Ifa divination as more reliable and most popular means of divination. Adewale (1978) agrees to this assertion and went on to define *Ifa* divination as a geomantic form of divination connected with the cult of *Orunmila*, one of the major divinities of the Yoruba Traditional Religion. Notwithstanding the religious pluralism among the people of *Ijebu-Ode*, some of them are seen consulting *Ifa* Priest for divination.

1.1 Ifa Divination

There has been a wealth of studies carried out on *Ifa*. Scholars from African Religion, Anthropology, Folklore, Philosophy, Linguistics, African Studies etc., have devoted themselves to the study of *Ifa* or *Orunmila*, its arts and mostly *Ifa* divination. Notable among these scholars are, Lijadu (1923), Bascom (1969), Abimbola (1977), McClleland (1982), Ibie (1986), Adekola (1998), Ajayi (1992, 2002), Alofe (2005), Adegbindin (2014) and Oluwole (1996, 2014), to mention but a few. They have written extensively on the position *Ifa* occupied in Yoruba pantheon and continually pursue the use of *Ifa* Divination poetry and Literature as source of historical evidence. They all agreed that *Ifa* divination is the highest form of divination consultation amongst the Yoruba people of South-Western, Nigeria.

The Yoruba oral traditions regard *Ifa* as the divinity that is connected with the cult of *Orunmila* (Abimbola, 1976). It seeks to foresee future events or discover hidden knowledge. It is operated by a means of configuration call chapters of *Ifa* (*Odu*), the numerical figures and its multiplies (Adewale, 1978). An inspiring *Babalawo* (*Ifa* priest) must learn at least four verses from each of the 256 chapters of *Ifa* (*Odu*). The 256 chapters of *Ifa* comprise of 16 principals and 240 minor *Odu* each containing mythological stories which the *Babalawo* narrates in the process of divinations. *Ifa* encompasses the revelations, way of life and religion taught by *Orunmila*. That is why it is often said that *Orunmila* is the divinity while *Ifa* is his word (Ibie, 1986). Furthermore, Abimbola (1976) explains that the term *Ifa* can be adopted to mean the same thing as *Orunmila* but with time it became *Ifa* divination method. Adedeji (1991) corroborates this fact when he said, *Ifa* was originally the speeches and teachings of *Orunmila* before it later became the method of divination which was later passed on by *Orunmila* to his followers. However, both words of *Orunmila* and divination paraphernalia can still be referred to as *Ifa* today. Ibie (1986) succinctly puts it that the word *Ifa* implies the revelations way of life and religion taught by *Orunmila*. He further posits that *Orunmila* is the deity while *Ifa* is Oracle.

Furthermore, *Ifa* is regarded as the custodian of knowledge and wisdom of *Orunmila*. His extraordinary possession of wisdom makes him to be eulogised as *Akere-fimi-sogbon* (small but full of wisdom). In *Ifa* lies the knowledge of the past, the present and also the future. It is believed that *Orunmila* was present during the creation of mankind, therefore, he knows all the secrets of humans and *Orisa*. Thus, he can reveal what has been destined and if the destiny is an unfortunate one, he can prescribe remedies to avert the misfortunes. Adewale (1978) affirms that *Ifa* is consulted for several reasons, which include, if a girl wants to know if she has chosen a good life partner, to ensure that the marriage with the person will be a successful one; when new-born child is three days old, *Ifa* is consulted to know what the future holds in store for the child. The parents of the child would also want to be mentored by *Ifa* on some dos and don’ts of the child. *Ifa* priests are also consulted to interpret dreams. The causes of bad, sudden death, accidents, loss of property and similar misfortunes are generally revealed by *Ifa*. In times of national disasters such as drought, flood, famine, earthquake, and outbreak of disease which has become epidemic or pandemic, *Ifa* is consulted in order to ascertain the causes and to know the remedies for peace to reign. *Ifa* divination is done using *Ifa* paraphernalia. Abimbola (1977) identifies the following as *Ifa* paraphernalia: *Ikin* (sixteen sacred palm nuts), *Opele* (divining chain), *Iroke Ifa* (*Ifa* Ivory tapper), *Opon Ifa* (diving tray), *Opa Orere* or *Osu* (*Ifa* ritual walking stick), *Apo Ifa* (*Ifa* bag), and *Ilu Ifa* (*Ifa* drums).

Ifa divination is so important in choice making. For example, the choice of a new ruler or chief is not made without due consultation with *Ifa*. At the beginning of a new year, *Ifa* is consulted to find out what the year holds for the community and if there will be any disaster during the year, the oracle will prescribe ways to avert it. *Ifa* is not only consulted during difficult times, he is also consulted during time of peace in order to enable people to take precaution against anything that could disrupt an orderly course of life. Consulting *Ifa* also reminds one of his or her obligation towards the spiritual beings who are in control of the universe. An investigation can also be made to find out what is going on abroad about relations so as to know the right approach that needs to be taken towards any situation. Thus, this great knowledge and wisdom of *Ifa* made him to be referred to as the King of other Yoruba divinities (*Oba Orisa*). This great recognition and respect accorded *Ifa* among other deities is elucidated by Abimbola (1977:67):

Ifa is more than a branch of Yoruba religion. *Ifa* is the means through which Yoruba culture informs and regulates itself and preserves all that is considered good and memorable in that society. *Ifa* is Yoruba culture in its true dynamic and traditional sense. *Ifa* is a means whereby a non-literate society attempts to keep and disseminate its own philosophy and values despite the lapses and imperfection of human memory on which the system is based.

Although, the practice of *Ifa* divination is prominent among the Yoruba people in Nigeria and the Republic of Benin formerly Dahomey, but it is not limited to them. Awolalu and Dopamu (2005) unequivocally state that it is also practiced among the *Fon* of the Republic of Benin and known as *Fa*. The Ewe of Togo also call it *Fa*. They further state that it is also practiced by the descendants of the Yoruba in Cuba and Brazil, where *Orunmila* is worshiped. This study shows that the people of *Ijebu Ode* that live mostly in deciduous region of South Western Yoruba kingdom are also noted for the practice of *Ifa* divination, which agrees with the findings of Ayandele (1992). The *Ifa* diviners are known in Yoruba as *Babalawo* (Boscom, 1969).

1.2 Terminologies Used to Describe "Ifa"

According to Ayandele (1992), several terms have been used to describe *Ifa* and many attributes have been given to this particular cult. *Ifa* is called *Elerii-Ipin* (the witness of destiny) because it is believed that Orunmila was there as a witness when man chose his destiny before coming to the earth. *Ifa* is also called *Orunmila* (*Orun ni o mo ati la* - only heaven knows the way to salvation). Several attempts have been made toward the etymological meanings of *Ifa*. For instance, Abimbola (1976) attempted the etymology of the terms *Ifa* and *Orunmila*. He however, submits that the terms found in *Ifa* oracle are old and aged that the original etymological meanings cannot be achieved. According to Adedeji (1991), *Ifa* is the speeches and teaching of *Orunmila*. In other words, *Ifa* was spiritual paraphernalia through which *Orunmila* resolved difficult and confusing issues. This spiritual object has no eyes. It was kept in *Orunmila's* mystical bag. Whenever *Orunmila* got to a place and was confronted with difficult issue, he would bring out his *Ifa* from the mystical bag and ask the *Ifa* the way out. Adedeji (1991), concludes that *Ifa* became the method of divination, and later became the name given to the method of divination, which was later passed on by *Orunmila* to his followers. However, both the words of *Orunmila* and divination paraphernalia can still be referred to as the embodiment of *Orunmila's* acts and knowledge. Ibie (1986) succinctly puts it that the word *Ifa* implies the revelations, way of life and religion taught by *Orunmila*. According to him, *Orunmila* is therefore a deity while *Ifa* is his Oracle. Abimbola (1976) in his own view asserts that *Ifa* and *Orunmila* are synonymous. He says, the Yoruba god of wisdom is mostly called by either of two names, *Ifa* and *Orunmila*, both of which are the center of controversy. Abimbola (1976) further opines that a number of writers hold the mistaken view that the name *Orunmila* refers to the deity himself while the name *Ifa* refers only to his divination system. He concludes that the name *Ifa* and *Orunmila* can be used interchangeable because it refers to the same deity. Adegbindin (2014) agrees with Abimbola (1976) that *Ifa* and *Orunmila* can be used interchangeably. In the same vien, Oluwole (2014) opines that *Ifa* is the vast tradition of the Yoruba people that is sometimes used as an alternative name for *Orunmila*.

2. Historical Survey of "Ifa" Oracles

In agreement with the position of Abimbola (1976), Adegbindin (2014) and Oluwole (2014) that Ifa and Orunmila are one and the same, one can unequivocally say that *Orunmila* is the embodiment of *Ifa*, therefore, there is no way the history of *Ifa* could be discussed without the history of *Orunmila*. It is *Orinmila* that owns *Ifa* since *Ifa* is its knowledge and philosophy. According to Ibie (1986), the body of knowledge called *Ifa* is endless, ageless and eternal. He argues that *Ifa* religion is older than other religions because *Ifa* came directly from heaven to earth in company of other major deities. Abimbola (1976) agrees to this historical fact and added that when *Ifa* came in company with other deities, they first landed in *Oke Igbeti* (*Igbeti* hill) at *Ile Ife* which the Yoruba people believe to be the cradle of mankind. That is why one of the praise name of *Ifa* is o*kunrin Kukuru Oke Igbeti* (The short man of *Igbeti* hill). The gods were sent by *Olodumare* from heaven to *Ife* mainly to establish order on earth. *Ifa* played a leading role in this divine order because of its wisdom. Abimbola (1976) says, some historians claimed that after a long stay at *Ife*. *Ifa* moved to *Ado*. It was believed that *Ifa* spent the greatest part of his life while on earth at *Ado* and that may account for the saying, *Ado ni ile Ifa*.

Ifa" had eight children while on earth (Abimbola, 1976). He returned to heaven in annoyance when *Olowo* his youngest son annoyed him, when he sent for them to come and celebrate his festival with him at *Otun Ife*. Each of the children bowed to the ground before *Orunmila* and greeted him in succession, saying *aboru boye bo sise* (May the sacrifices be blessed and be accepted). The last born refused to do that which his predecessors had done, claiming equality with the father, saying:

Iwo Orunmila sodun, o sodun ko
Oun olowo naa sodun, oun sodun ko
Iwo Orunmila f'osun ide lowo
Oun olowo naa f'osun ide lowo
Iwo Orunmila bo salubata ide
Oun olowo naa bo salubata ide
Iwo Orunmila d'ade
Bee ni won si ni
Enikan kiif'ori ade bale f'enikan

Meaning:

Orunmila, you celebrate a festival
I, Olowo also celebrate a festival
You Orunmila wear a golden bangle
I, Olowo also wear a golden bangle
You Orunmila wear a golden sandal
I, Olowo also wearr a golden sandal
You Orunmila wear a crown
I, Olowo also wear a crown
It is said that a crowned head
Should not bow to another crowned head. (Abimbola, 1977)

Things however went wrong on earth after the departure of *Orunmila*. According to Abimbola (1977), the earth was thrown into great confusion, famine and pestilence; it was so great that fertility cycle in human beings was disrupted. When the hardship became unbearable, *Orunmila's* children were forced to commune with their deified ancestor. The children went accordingly, when they got to heaven, they found *Ifa* at the foot of the much climbed palm tree that had sixteen-hot-like branches. The children begged *Ifa* to come back to the earth but he refused. *Ifa* gave each of his eight children sixteen palm nuts and said:

… bee ba dele
Bee ba fowo o ni,
Eni te e moo bi nu
Bee ba dele
Bee ba fayaa ni
Eni te e moo, bi nu un
Bee ba dele
Bee ba fomoo bi,
Eni te e mo bi nu un.
Ile le ba fe e ko laye
Eni te e mo bi nu un
Aso le ba fe e nil aye
Eni te e mo bi nu un
Ire gbogbo te e ba fe e nil aye
Eni te e mo bi nu un.

Meaning:

… when you reach home
And you seek wealth,
Ask the sacred palm nuts.
When you reach home,
And you seek wives,
Ask the sacred palm nuts.
When you reach home,
And you seek children,
Ask the sacred palm nuts.
If you desire clothes,
Ask the sacred palm nuts.
Whatever that you seek on earth,
Ask the sacred palm nuts … (Abimbola,1977)

Ifa gave the sixteen palm nuts to replace himself. He promised them that the sacred palm nuts will reveal whatever they want. This was how the children of *Orunmila* started to use *Ikin* (the sacred palm nut) for divination. Since then, *Ifa* has been playing an important part in the affairs of the world and he still uphold the moral law. He knows that the ultimate end of the world is good and he is prepared to preserve it at all time against the attacks of evil forces who are the enemies of mankind. He set this system of divination bearing his name, so as to facilitate communication between human beings and deities because he saw that man in his weakness and ignorance, set down in a bewildering and terrifying world would need help and reassurance, so therefore he stands for balance and soundness.

3. The Divination Process

In a divination session, the client is asked to whisper their problem to a coin, cowry shell or any legal tender note. He then gives the money to the priest who in turn put it on the divination tray and strikes it against the divination board (*Opon Ifa*) he invokes the spirit of *Ifa* and urges *Ifa* to provide the appropriate answer to the client's problems without delays. He calls on *Orunmila*, a deity believed to have been present with *Ifa* at the time of creation, and who is believed to know the prenatal destiny (*Ayanmo*) of every human being. He offers *Iba* (salute in acknowledgement of supremacy) to *Ile* (the earth) *Olodumare* (the Almighty God) (Abimbola 1969).

The diviner will also call on ancestor to witness the proceeding before he then cast the palm nuts. The diviner will pick up the sixteen palm nut and holds them loosely in his left palm, he then tries to grasp all with his right and throws them through the half closed fingers into the left palm; if one remains two strokes (II or 0) are drawn on the board if two nuts remain. The process is repeated eight times until two parallel columns of four marks each have been drawn (Abimbola, 1977).

A small version of casting *Ifa* is done by using divination chain (*Opele Ifa*). This tool consists of eight seed pods or small copper-alloy plates with concave or convex surfaces linked together by a metal or bead chain. The diviner holds the chain at its centre point and casts it so that it falls on an already laid cloth before him to reveal a pattern of the *Odu* sign. On sighting the revelation of the cast, the diviner recalls the associated storyline or poem revealed in the *Odu* sign. The client of the diviner must be attentive at this point, because the solution to the problem will be revealed in the *Odu* chant (Pogoson and Akande, 2011). In the chants of the diviner, the party concerned hears of others who have suffered various problems, some perhaps greater than that brought the suppliant to *Ifa* and the joy they knew after performing the sacrifices that *Ifa* had asked them to make. At intervals, the diviner taps the divination tray with *Iroke Ifa* (divination tapper). The person consulting *Ifa* is afterwards expected to perform the prescribed sacrifices.

The chants, may at times end with lines revealing that after the person in the *Odu* of *Ifa* had performed the required sacrifice, things became better for him and the lines often run thus:

… Igba ti o dafa
Won ni ebo ni o war u
O sir u u.
Igba o rubo tan…
Lo ba dipe ohun gbogbo nlo deede
Orin awo w abo si i lenu …

Meaning
He took his problems to Ifa
He was told to perform sacrifice,
And he performed it.
After he performed the sacrifice
He became a happy man.
He started to sing the song of Ifa priests … (Abimbola, 1969)

There are different contraptions used in the process of *Ifa* Divination. Bascom (1969) and Abimbola (1979) identify *Ifa* instrument used for divination as the *Ikin* (the sixteen sacred palm nuts), the *Opele* (the divining chain) and various objects that form the *Ibo* (instrument for casting lots). Others are the *Iyerosun* (divination powder), *Opon Ifa* (divining tray), *Osu* (ornamental *Ifa* metal staff), *Iroke* and *Apo Ifa* (bag for keeping *Ifa* divination instrument).

4. The Ijebu People

The Ijebu People inhabit the South-Central part of Yorubaland – a territory that is bounded in the North by Ibadan, in the East by Ondo, Okitipupa and the West by Egbaland. The Southern fringe is open to the sea with the coastlines of Epe, Ejinrin and Ikorodu. Despite the political division which has these three towns in Lagos while the main part of Ijebuland is Ogun State and in the south by the Lagos Lagoon (Oduwobi, 2004). The Ijebu people speak the Ijebu language, a sub-dialect of the Yoruba language.

History on one hand has it that the Ijebu people originated from Ile-Ife but on the other hand, the incumbent paramount traditional ruler of Ijebuland, *Awujale*, Oba Sikiru K. Adetona, Ogbagba II unequivocally insists that the Ijebu people are from Wadai Sudan. Ayinde (2011) in his work which focuses on the Ife origin in the history of Ijebu people opines that unlike the position of the *Awujale* on the origin of Ijebu people, majority of kings in Ijebu areas argue in favour of the Ife origin. Some of these kings are, Liken of Iwopin, Ajalorun of Ijebu-Ife, Lenuwa of Ode-Omi, Odobiya of Makun Omi, Orimolusi’s regent, Ayangburem of Ikorodu, Akarigbo of Remo (Ayinde 2011).

The origin of the name, *Ijebu-Ode* is traced to two names of original founders, Olode, who was a relative of the first Awujale, and Ajebu. Some people said that these two men existed at different times. However, as the legend went, they encountered a third man, Ajana in a dense forest, which is now *Ijebu-Ode*. Together, they asked *Ifa* (oracle) for advice on where to build their homes. The oracle sent Ajeba to the place now known as Imepe. The other two men ended up staying together and settling in the place of today’s Ita-Ajana. Large population of the Ijebu people live in *Ijebu-Ode*. *Ijebu-Ode* is a historic Yoruba town in Ogun State, which was established in the 16th century. The city is known for being the capital of Ijebuland. The Ijebu Kingdom ruler is known as *Awujale*, has his palace there in Ijebu-Ode (Odukoya, 1968).

4.1 Significance of Ifa Divination to the People of Ijebu-Ode

The people of Ijebu-Ode who consult *Ifa* Oracle opined that consulting *Ifa* Oracle is not a thing that started with them in this present day, but with the first settlers in Ijebu-Ode. They believe that *Ifa* divination practice was brought from *Ile-Ife* and that it is practiced the same way *Orunmila* taught his children. This view agrees with the assertion made by

Onasanya (2020) in an interview. He said, *Orunmila* taught his children how to use sixteen palm nut to consult for people and this same means has been adopted by *Ifa* priest that are in *Ijebu-Ode* up till today. He believed that *Ifa* receives from *Oludumare* and whatever is received is true, thus the reason for their faith in *Ifa* oracle. Oseni (2020), an *Ifa* priest posits that whatever prediction made by *Ifa* priest is believed to be accurate. He added that based on the faith of the people of Ijebu-Ode in *Ifa* oracle, hardly will any important traditional event be carried out without consulting *Ifa*. According to Fadeyi (2020), *Ifa* is consulted virtually at every stage of life such as, before embarking on a journey, in times of crisis, before appointing someone to leadership position, before carrying out a social function. *Ifa* is recognised as a social force that can impose rules and guidelines on its devotees and through it can influence general public where opinion will be formulated as codes of conduct.

Iwori-Ayoka is the *Ifa* literary corpus guiding *Ijebu-Ode*. *Ifa* means so much to the *Ijebu-Ode* people. Despite the spread of the two major religions in *Ijebu-Ode*, that is, Christianity and Islam, people of *Ijebu-Ode* still consult *Ifa* divination. Some *Ijebu-Ode* people who claimed to belong to other religions consult *Ifa* oracle secretly and they do refer others to *Ifa* priest when they get solutions to their problems (Ayinla, 2015). The spread of Christianity and Islam has not stopped many of the *Ijebu-Ode* people from consulting *Ifa* oracle because they believe that through *Ifa* divination they can understand what happened in the past, what to do in the present in order to avoid falling into troubles and what to do so as to receive the good that lies in the future. The people consult *Ifa* divination to ascertain the will of *Olodumare* on their present and future life. *Ifa* is consulted in time of prosperity, disaster, want, economic crises or famine, socio-ethnic problems etc.

The significance of *Ifa* divination among the *Ijebu-Ode* people is traced to an event that happened in the 17th century. The story has it that an *Ifa* priest known as *Onisemu* who was from *Itun Leguuru* was consulted by *Awujale*, the king of *Ijebu-Ode* in order to find solution to the problem of water that inundated *Itoroo* premises; which often time claimed lives of people. Solution was provided by this *Ifa* priest and sacrifice was made. Since then, the Ijebu-Ode people consult *Ifa* before embarking on events. For example, *Ifa* is consulted in making the choice of a new king or chief. The *Ijebu-Ode* people believe in the prognostic power of *Ifa* which is why they still consult him. In other words, the predictive power of Ifa. Indicating diagnosis, prophetic signs, has being a major factor responsible for its resilience among the people of Ijebu-Ode. The people of Ijebu-Ode. The people of Ijebu-Ode like other Yoruba express strong belief in supernatural intervention for healing, security and guidance in life endeavours and Ifa is believed to provide this in a more reliable way.

5. Conclusion and Recommendation

Despite the increase of other religions like Christianity and Isalm in *Ijebu-Ode*, *Ifa* diviners are still being consulted for divination. Those who consult the *Ifa* diviners are not limited to their adherents but include some people who claimed to belong to other religions like Christianity and Islam. Those who consult *Ifa* diviners do so basically to find answers to life challenges and situations. They inquire into the cause of problems and *Ifa* divination helps prescribe certain formula to use in order to solve the problems. They also consult *Ifa* to know what the present and future holds for them. Ifa is part of the history of Ijebu-Ode people and it is still being consulted regardless of religious bigotry in Ijebu-Ode. The Ijebu-Ode people believe in the prognostic power of *Ifa* and this belief makes them to have faith in *Ifa* and makes *Ifa* divination significant among them.

Ifa oracle has been in place before the emergence of Christianity and Islam in Ijebu-Ode, thus, its adherents should be proud to talk about it in public. They should speak about its significance using every available media like the social media just as other religions are doing. *Ifa* priests (*Babalawo*) should appear neat, confident and caring in order to disabuse the mind of people who think they are old uneducated and evil. Therefore, it is high time *Babalawo* started to change people's view about them by using the prognostic power of Ifa to advance the life of people and the society. They should rebrand their shrines to look attractive so that they can have more adherents and thereby have a well-established traditional religion practice in Ijebu-Ode which generations to come will embrace.

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Imperativeness of Ethics in Christianity: Perspectives and Praxis

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Abstract. The issue of rightness or wrongness and good or bad is a very crucial matter that society contends within contemporary times. Most religions today including Christianity that promote the making of ethical decisions do not at the same time address a variety of ethical problems which their adherents face. Using several ethical underlying principles, this theoretical paper argued that ethics is imperative to Christianity. It concluded that ethics in Christianity is rooted in the love for God and humanity as a whole.

Keywords: Imperativeness, Ethic, Christianity, Perspectives, Praxis.

1. Introduction

In most cases, ethics is mixed up with a variety of ways in which decisions are made. While most religions support their adherents to make healthy ethical decisions, they have failed to address the ethical crisis faced by them.
The advent of Christianity occasioned a new trend in ethics because it introduced a religious perception of good into Western reasoning. Rooted in a Christian view, is the perception that an individual is holistically dependent on God and cannot attain goodness by means of the will or reason but only with the assistance of the grace emanating from God (Holloway & Holloway, 2013). The '*kpim'* (core) of any Christian ethical belief is premised on "the golden rule" contained in (Matthew 7:12) that says, "So whatever you wish that men would do to you, do so to them"; also in the injunctions to love one's neighbour as oneself in Leviticus 19:18; and to love one's enemies also in Matthew 5:44. Worthy of note is that Jesus believed that the fundamental significance of the Jewish law is predicated on the commandment that says, "You shall love the Lord your God with all your heart, and with all your soul, and with all your strength, and with your entire mind; and your neighbour as yourself" (Luke 10:27). Thus, early Christianity emphasized as virtues asceticism, martyrdom, faith, mercy, forgiveness, and non-erotic love, few
of which had been considered important by the philosophers of classical Greece and Rome (Bulafia, 2002).

Seen from the above context, the rightness and wrongness of decisions or actions cut across every segment of human life. In this sense, ethics affects every stage of life including the proper ways to act by individuals, groups and governments; and having ethically rooted human society. The aim of this research is to synthesize ethics and ethical choices in Christianity. The research recognizes that in individuals' Christian context, ethical decisions concerning what is "right" or "wrong" are a difficult task. This implies that in taking ethical decisions sensitivity and intelligence are required because of the underlying moral situations. While the paper believes that ethics requires practice, it argues that strong frameworks for ethical decision-making are a *sin-qua-non*.

2. Ethics and Ethical Approaches

Etymologically, the term, "Ethics" is from the Greek "*ethika*" or "*ethikos*", also "*ethos*", which means "character" or "custom"; and in Latin, it is called "*mores*" or "customs (Goldsenth, 2009). Technically speaking, from the Greek and Latin contexts, ethics is the principles or standards of human conduct; and by extension, it studies such principles also called moral philosophy. Ethics, as a branch of philosophy, is rated as science which creates standards due to its relation to standardizing of human behaviours (Goldsenth, 2009). However, this research is concerned with ethics mainly in the sense of standards of human conduct and its scope is limited to the Christian religion.

Ethics uses ethical theories (principles) as instruments to measure ethical decisions or judgments (Emeka & Ekpenyong, 2011). Theories underlying ethical decisions are grouped into three with each of them having a variety of approaches that may also cut across one another.

2.1 Consequentialist theories

These theories are solely rooted in ethical outcomes resulting from specific actions. To accomplish their aims, consequentialist theories employ the utilitarian, egoistic and the common good approaches. Utilitarianism which is traced to Epicurus argues that the life which creates less pains and frustrations is the best, while Bentham employed a criteria that is similar to that of individual's acts, and developed a pattern whereby acts may be explained as right or wrong premised on the measure of the results they intended to create (Ramsey, 2009). David Mill, on the other hand, streamlined this pattern by creating a format for the good and a non-impartial notion of happiness which is in variance with the materialistic idea of pleasure (Miller, 2007). One of the commonest approaches employed in ethical decision making is utilitarianism, particularly the choices that have consequences as end results and that have a connection with a larger group of individuals.

Utilitarian ethics instructs people to always appraise the rightness and wrongness of their intended actions before they under take them (Peschke, 1998). One of the variations of utilitarianism is ethical egoism (self-interest). Some influential proponents of this approach include Thrasymacus, Thomas Hobbes and Ayn Rand who posited that respect for one own self and other people are core indicators of ethical egoism (Peschke, 1998). Their views are in variance to that of Plato, Aristotle and Jean-Jacques Rousseau' s "Common approach" which promote the perspective that human action should contribute to ethical communal life where the best society should be guided by the collective will of the people which would in turn produce what is best for the people holistically.

2.2 Non-Consequentialism

These theories employ the duty-based, rights, fairness (or justice), and divine command approaches. Deontological ethics as it is also called is linked to Immanuel Kant, even though it has significant proponents of non-consequentialism in the past who are serious religious thinking people such as St. Augustine of Hippo that dealt on the relevance of the individual's will and the choice to make decisions that are ethical. Immanuel Kant asserted that doing what is good is not about the consequences of our actions but about having the proper intention in performing the action (Insole, 2013). What Kant refers to as ethical act or behaviour is the one rooted in duty, this means, such action is carried out based on a person's duty to carry out the act. Hence, the choice to obey a moral law that is universally accepted amounts to ethical behaviour.

The strength of the rights approach is rooted in the Kantian deontological ethics, having a long historical connection with stoicism in Ancient Greece and Rome, and with John Locke's work (Insole, 2016; Alexander & Moore, 2020). The approach states that protecting people's ethical rights, especially those who are directly affected by such acts amounts to acting ethically, and implying that every human being is entitled to the dignity of humanity. The divine command approach is predicated on God's will – that is, any action commanded by the Supreme Being is right and that ethical standards are the creation of God's will. This is because, God could change what is now considered ethical, and he is not bound by any standard of rightness or wrongness short of logical contradiction. Proponents of this approach include: William of Ockham, Martin Luther, Jean Calvin, and Søren Kierkegaard.

2.3 Agent-centered theories

They deal with the ethical balance of the individual persons or groups (Ranganathan, 2018). These theories employ the virtue and feminists approaches which argue that actions that are ethical ought to be consistent with good human virtues. For instance, Aristotle postulated an ethical value devoid of individualism but devoted to the totality of human life at all times. Thus, one with a good character would be the one that has attained certain virtues. Additionally, the approach from a feminist context in recent times has emphasized the relevance of the inclusion of women and vulnerable groups in society in ethical discourse.

3. Christian Ethics and Virtues

Christian ethics is a branch of Christian theology that defines virtuous behaviour and wrong behaviour from a Christian perspective. In other words, Christian ethics is an organized theological study called moral theology (Gustafson, 2007). Christian ethics ask questions regarding how the rich ought to act in regards to the poor, how women should be treated, and the morality of war. Historically, much of Christian ethics is derived from biblical scripture and Christians have always considered the Bible profitable to teach, reprove, correct, and train in righteousness (Wogaman, 2011; Roger, 2017). The New Testament generally asserts that all morality flows from the Great Commandment, to love God and one's neighbour as oneself (Hultgren, 2017). In this, Jesus was reaffirming teaching of Deuteronomy 6: 4-9 and Leviticus 19: 18. Christ made himself an example of love John 13: 12 seen in the New Testament (Emil, 2002). Christian ethicists tackle ethical issues from a variety of ethical frameworks and contexts.

In addition, Christian virtues are commonly divided into four cardinal virtues and three theological virtues. The four cardinal virtues are prudence, justice, restraint, and courage. They are called cardinal virtues due to their importance in living a virtue-centered life (Ferreira, 2014). The three theological virtues are faith, hope, and love (Yoshino, 2020). The approach of virtue ethics became more relevant in recent times, because of the works of Alasdair Maclntyre and Stanley Hauerwas (Long, 2010). Christian Ethics has been criticized because on the ground that the Bible contains both right and wrong teachings which are morally inconsistent.

Like conventional ethics, Christian ethics is governed by some ethical principles or theories. This includes the: Divine command, Just war, Moral Relativism, and Natural Law Theories. The divine command theory holds that all actions commanded or willed by God are morally right (Kain, 2005). This theory is often criticized by Plato's argument known as Euthyphro dilemma which begins by posing a question whether morally good acts are willed by God because they are ethically good (Grudem, 2018). The Just war theory tackles the question as to under what circumstances it is legitimate to go to war. The theory developed by Thomas and his followers identifies various specific conditions to be met if a war is to be justified. This includes: Just cause; being declared by a constituted authority; right intention; and proportionality.

Moral relativism is opposed to objective ethical truths, and that moral facts only hold relative to a given individual or society. In this ethical theory, what is morally good for one person or culture might be morally bad for another, and vice versa, hence, there is no moral absolutism (Singer, 2011). Thus, moral relativism suggests that ethical truths are subjective rather than objective. The natural law theory has existed in many forms. In its classical form, it is simply the opposite of conventionalist moral skepticism. In its Thomist form, it characterizes morality as a function of the rational human nature that God has given, stressing God's purposes in creation as defining humankind purpose as humans, and how they ought to lead their lives.

4. Bible-Based Ethical Teachings

The Old Testament (OT) morality is housed in the Decalogue and in the Mosaic Law. Two tables of the Decalogue can be identified as the principal moral text and spirituality foundation of Israel's life. The first three commandments (Exodus. 31:18; 34:1-29) deals with human's relation to God, while the fourth to the tenth commandments (Exodus 20 & Deuteronomy 5) are in the second table, deals with human's relation to human beings. This law is recorded in the document of the covenant between God and his people, Israel whose obligation is to keep to the covenant as the condition for the fulfillment of Yahweh's promises, which he on his part had given to them in the mutual bond of the covenant (Grudem, 2018; Card, 2005). The covenant between God and Israel is based on a free initiative from God's part when he destined Abraham to be the father of many nations (Genesis. 2:1-3; cf. Isaiah. 51:4) (Holloway & Holloway, 2013). The covenant at Sinai is the most dynamic event in Israel's history.

The Decalogue has been characterized as an "apodictic law" because it explains the obligations in absolute, in operative form, and in brief negative sentences, e.g. "you shall not kill, you shall not commit adultery" etc. It curtains some basic principles of the mutual moral law, which are of lasting reliability for ethics. On the other hand, the code of the covenant has been described as a "casuistic law" because it has much more the nature of the positive legislation of civil and penal code, which formulates concrete obligations in social life and determine penalties for offences against the rights of others. With respect to inter-personal acts social ethics, OT morality or ethics is guided and motivated by a strong sense of community (Stang, 2015). The tribes of Israel feel bound together by their common racial, origin, initially, culture and above all, by the religion bound of the covenant which Yahweh has entered into with them. The communal sense positively referred to a basic knowledge of social obligation and great regard for the weal and woes of the community (Roger, 2017). This communal sense also reveals an act of common solidarity.

Christianity is presented by the New Testament (NT) as the "new covenant" (Mark 14:24; 1 Corrinthians11:25; 2 Corinthians 3:6; Hebrew 8:6-13; 9:15; 12:24; 14:20). What this implies is that the new covenant is a confirmation and revival of the covenant theme of the OT. In this sense, the new covenant is the initiative to the bond of unity and communion between God and human that comes alone from him. As the old covenant rested upon the act of God in delivering Israel from the Egyptians, so the new covenant rest upon the action of God in redeeming humankind through Jesus' death and resurrection (Pinckaers, 1995). And as the old covenant laid upon Israel consequential obligation which was defined in the Decalogue and more explicitly on the whole law of Moses, so the new covenant lap consequential obligations upon the Christian church, which are in the view of Matthew, defined in the sermon on the mount (5:1-2) (Ridlehoover, 2020). Christian ethics also has its source in the Gospels.

Prominent among them are that of Mark and Luke. At the beginning of the Gospel according to Mark, Jesus' preaching is summarized in the word: "The time is fulfilled, and the kingdom of God is at hand; repent and believe in the Gospel" (1:15). The proclamation of the kingdom is to be followed by a response on the part of human; "Repent and believe in the gospel". What this implies on those to whom the call to repentance is made, is to turn from their former wrongdoings. The attitude of mind that should often militate against repentance is self-righteousness and presumption as illustrated in the parable of the Pharisees and Publicans in Luke 18:10 -14. Christ formulated the great commandment of love of God and neighbour which remain the outstanding characteristics of Christian morality (Hultgren, 2017). Summarily, Christ's message of salvation includes the call to complete submission to the will of the father by loving God and fellow humans.

Ethical teachings of the early Church form another important source of Christian ethics. The *Kerygma* (the proclamation or announcement) is the presentation of the historical facts of the NT, which form the basis of Christianity and of the fundamental convictions of its faith (Pinckaers, 1995). The Christian preacher thinks of himself as an announcer or proclaimer of very important news (the good news). The Christian *kerygma* is a brief account of the life and work of Jesus, his conflicts, sufferings, and death and his resurrection from the dead. The aim of the preacher is to convince hearers that a new era in the relationship between God and humanity has begun and those who respond to this appeal to begin a new life with God become members of the church's community.

The members are then to be instructed in the ethical principles and obligations of the Christians life, the moral instruction so given is covered by the Greek term, "*Didache*" (teaching) (Hill, 2013). So it was first, the *Kerygma*, and followed by the teaching (*Didache*). The epistles to the Romans, Galatians, Colossian and Ephesians and some other epistles present Christianity as an ethical religion to a certain set of religious convictions about God, human and the world. Christians, being reconciled with God through Christ, are new creatures, members of Christ's body and children of God. This new life in Christ is the root and foundation of Christian ethics.

5. Ethical Praxis in Christianity

Human activities amongst other things, behaviours or actions are objectively condemned as ethically wrong. Actions such as stealing, killing, cheating, rape, bribing, adultery, amongst others are objectively acknowledged as morally wrong actions in society (Isiramen & Akhilomen, 1998). Some other actions or attitudes are also accepted as morally right and good in society. This includes such as actions like hospitality, kindness, forgiveness, honesty, fidelity, sincerity, etc. On the other hand, there are some human attitudes or actions that cannot be universally appraised as ethically wrong or right. For instance, abortion, euthanasia, smoking, masturbation, celibacy, homosexuality, same-sex marriage, alcoholism, assisted reproduction, cloning, transexualism, genderism and their likes. What principles of ethics or morality can be used to decide the rightness or wrongness of all the human actions mentioned above? This is where ethics comes into play. To answer this question, the praxis of Christian ethics is imperative.

One of the major shaping forces in Christian ethics was the competition with Manichaeism, a rival religion of Persian origin which held that good and evil or light and darkness were opposite forces struggling for mastery. Manichaeism had an enormous following in the third and fourth centuries (Wogaman, 2011). St. Augustine regarded as the founder of Christian theology was originally a Manichaean but abandoned Manichaeism after being influenced by Platonic thought. After his conversion to Christianity in 387, he sought to integrate the Platonic view with the Christian concept of goodness as an attribute of God and sin as Adam's fall, from the guilt of which one is redeemed by God's mercy. The Manichaean belief in evil persisted, however, as may be noticed in Augustine's conviction of the sinfulness of human nature (Card, 2005). The Christian theologian St. Thomas Aquinas succeeded in reconciling Aristotelianism with the church's authority by acknowledging the truth of sense experience but holding it to be complementary to the truth of faith.

The great intellectual authority of Aristotle was thus made to serve the authority of the church, and the Aristotelian logic was used to support the Augustinian concepts of original sin and redemption through divine grace (*Summa Theologica* cited in Peschke, 1998). These attitudes and views may have influenced contemporary Christian morality or ethical decisions on certain ethical issues such as abortion, alcoholism, divorce, sexual morality, celibacy, homosexuality, wealth and poverty, etc.

Christian positions on abortion have a complex history as there is no explicit prohibition of abortion in either the OT or NT books. Other writers say that early Christianity held different positions at different times about abortion; others say that, in spite of the silence of the NT on the issue, they condemned abortion at any point of the pregnancy as a grave sin. The *Didache* (teaching), in all ramifications, disapproved of abortion of any king (Peschke, 1998). The Roman Catholic Church (RCC) for instance, teaches the total respect for human life from conception to death. It is opposed to any procedures having the intention to harm an embryo or fetus for whatever reasons (Onimhawo, 2001). RCC has always declared its unchanging decision or position against abortion (Peschke, 1998; Singer, 2011; Ramsey, 2000). Since the twentieth century,

Protestant views on abortion have varied considerably, with some taking positions in the anti-abortion and abortion-rights camps (Beach, 1988). Conservative Protestants tend to be anti-abortion whereas mainline Protestants lean towards an abortion-rights stance (Peschke, 1998; Grudem, 2018). For instance, African-American Protestants are much more strongly anti-abortion than white Protestants (Peschke, 1998). Although the scripture is silent on abortion, some parts of it inform Christian ethical positions on this issue (see Genesis 4:1; Job 31:15; Isaiah 44:24, 49:1, 5; and Jeremiah 1:5, etc.).

Another prevalent contemporary ethical issue is alcoholism. Current positions on alcoholism in Christianity are grouped into moderationism, abstentionism, and prohibitionism. Abstentionism and prohibitionism are most times grouped together since they share common notions. However, those in the camp of prohibitionism do not drink alcohol because a divine law says so, while Abstentionists, do so in the name of prudence, calling it "the wisest" decision to take in all circumstances. Some Christians, including Pentecostals, Baptists and Methodists believe that a person should abstain from alcoholism. Fifty-two percent of Evangelical leaders across the globe believe alcoholism is not compatible with a right Christian attitude hence they do not support drinking alcohol.

There are a number of Christian ethical positions on poverty and wealth acquisition. One view says that wealth and materialism are evil that ought to be avoided and combatted (Weber, 2009; Ramelli, 2012). Some Christians argue that a proper understanding of Christian teachings on wealth and poverty needs to take a larger view where the accumulation of wealth is not the focal point of one's life rather a resource to foster the good life (Ramelli, 2012). Miller (2007) produced a three-part model that gives three common attitudes found among Protestants concerning wealth.

According to Miller, Protestants in varied manners have considered wealth as: (1) standing at variant to Christian belief (2) a stumbling block to faith and (3) a result of faith. Cobb (cited in Miller, 2007) invoked the teaching of Jesus that says a human cannot serve God and Mammon (wealth). Jesus did not condemn wealth rather he condemned its wrong acquisition, motive, and usage. In this sense, wealth gotten through dubious means or not used for the communal good of society is condemnable. Thus, Christian ethic creates the awareness of its adherents that honesty, truthfulness and other Christ-like attitudes are better than ill-gotten wealth especially, these days of yahoo-yahoo business boom around the globe.

6. Conclusion

In this paper, I have been able to highlight some important perspectives in ethics as it relates to Christianity including highlighting some ethical theories and approaches which underline ethical judgments. For instance, I used the framework of consequentialism to focus on the future effects of the possible courses of action, considering people who are directly or indirectly affected. An individual using this framework ought to produce the best action. On the other hand, it is not always possible to predict the consequences of an action, so some actions that are expected to produce good consequences might actually end up harming people. In the duty framework, I focused on the duties and obligations that humans have in a given situation, and consider what ethical obligations they have and what things they should not do.

Using the virtue framework, it is obviously useful in situations that ask what sort of person a Christian or one should be. Also, using Christian ethical standards, the paper examined the issues of abortion, alcoholism and wealth acquisition, and arrived at the conclusion that such human actions are inimical to Christian teachings and ethical standards. The motive of Christian ethics, therefore, is the love for God and the love for humanity as a whole. This is the reason for the imperativeness of ethics in Christianity.

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African Culture a Mixed Bag: An Aesthetic Appreciation of Divine Religion in Refinement of African Cultures

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Abstract. Culture is an important aspect of African communities, a pivot for sincere development, a mode of existence and an aspect of man's existential experiences. Without culture there can be no society and without society there can be no humanity. African culture has passed through different stages of evolution from the earliest period to the contemporary time. What constitutes culture in Africa today is embedded with many alien ideas and erosion of values. Therefore, in the quest for achieving the fundamental mission of placing Africa contemporary globalized world, African culture needs an ethical overhaul in separating it from accretions? Therefore this paper examines the conditions of African people with particular focus on the forceful influences of colonialism on African culture. The paper employs analytical research method. The paper argues that there is a need of belief in the importance of divine religion and relevance of God to human existence for improving human existential conditions. Hence, the guidance of God is a source of light to African tunnel.

Keywords: Africa, Culture, Mixed bag, Divine religion and Refinement

1. Introduction

Africa is one of the largest continents in the world. It is surrounded by the Mediterranean Sea in the North, the Isthmus of Suez Canal and Red Sea in the northeast, the India Ocean in the Southeast and Atlantic Ocean in the West. It extends beyond the tropics of Cancer and Capricon, while Equator passes through its middle. Africa is considered by most paleoanthropologists to be the Oldest Earth, with human species originated from the continent and evidence of human occupation as early as 7 million years ago (BP). In his work, Lasisi noted that Africa has shape like the shell of big snail, which is large at the top and narrow at the bottom (Lasisi, 2011:5).

The early man in Africa began to adjust to his environment. He made tools of stones, copper and iron. He cultivated grains, such as wheat and barley and advanced from being a tool maker and scavenger to a cattle rearer and agriculturist. The history of people of Africa and emergency of settled communities marked the beginning of African culture and the people passed through three distinct phases of history, the Early Stone Age (ESA), Middle Stone Age (MSA) and Late Stone Age (LSA).In the archeological records, the Early Stone Age and Middle Stone Age are defined as pre-metal using societies, and the characteristics toolkits were micoliths, ground stone axes, trimmed flakes, pebbles, bifacial core-axes and chisels. These two early periods were characterized by the aforementioned tools while the populations lived only on pursued hunting gathering and fishing activities (Thurstan Shaw, 1975and Alabi, 2005).It was during the Late Stone Age that agricultural societies of more sophisticated hunting technology emerged. In general, the pace of cultural change quicken during the LSA, compared with the earlier periods, human population occupied all the ecological niches of the region from the Sahelian belt in the North to the coastal parts of the Atlantic Ocean, and human settlements were located at different terrains, from hilly locations and low lands to open sites and rock shelters. Human populations seem to have exerted more control on their environments and more regional cultural variations were discernible during the Late Stone Age than in their earlier periods. The period witnessed intense migrations from north to the south due to changes in ecological conditions and a region – wide increase in population. These migrations were instigated by the increasing desiccation of the Sahara during the Late Stone Age.

1.1 Culture

Culture is defined as a way of life, the mental outlook, and the characteristic artifacts produced by a fairly homogenous group of people over a limited period of time. (Thurstan Shaw,1975:8). Culture is shared understanding about norms, rules, laws that govern and control behaviour, belief as in religion, superstitions, witchcraft and sorcery, myths, legends, ideology and artifacts (Swartz and Jordan, 1980:47). According to White, (1976) Culture is ideational; it resides in the minds of a group of people and is reflected in behaviour, rules and sanctions, mandate, objects, social structure and in symbols. In his work Hofstede, declares that culture is mental and social programming which is influenced by man's environment and is reflected in such things as greeting, eating, showing or not showing feelings, keeping a certain physical distance from others, maintaining body hygiene; even the way people actually carry out their sexuality. Culture facilitates the gratification of the basic human need; the need for food, shelter and satisfaction of sexual urge. etc. (Howard and Mckim 1983; Language, 1974:77). Culture is sub-divided, while some cultures are distinguishable from one and others, by clothing, gesture, etiquette, language, religion etc. Culture is universal in nature that all human beings generate and share culture, but is varied from one society and environment to others, (Herskovits, 1955:117).Culture is a shared or collective phenomenon, as no one person can possess his or her personal culture. Culture cannot be assessed on face-value, this is because some aspects or elements of culture are manifest, while others are latent. Culture is generally shared in a group, but not shared equally. Culture is acquired through languages and other symbols by instruction, imitation or identification, through personal or group experience. Culture includes the path, the present and the future societies and events there in. Culture is also a way of life of a distinctive group of people, community or society. In the words of Mahnowski, culture is a vast apparatus, partly material, partly human and partly spiritual, which make man to cope with the concrete and specific problems that face him. (Mahnowski, 1960:36).

Africa is multi-cultural; one of the simplest tests to confirm the utility of culture is to examine situations in which common understandings are absent. Conflicts and contradictions prevail as different people try to use different understanding that do not elicit consensus. The culture of Africa is a product of diverse populations that live in the continent of Africa and African Diaspora. The culture is varied and multi-cultural. It consists of a mixture of many countries with various tribes that each has her own unique characteristics with tribal emblem. The cultures are expressed in its crafts and arts, folklore and religions, dressing, music and languages. Indeed, cultural expressions are done and abundant with Africa with cultural diversity even, within single countries. African cultures entail diversities and similarities. These include the morals they uphold, their love and respect for culture, strong respect for the aged and kings and chiefs. Through contact with outsiders, Africans and their culture have been influenced and just as they have influenced people of other continents. Nevertheless African cultural values are deeply rooted in the way of thinking and revolve around showing respect and treating others with hospitality.

Tailor is a popular scholar who first coined and defined culture in his work *primitive culture* (1958), defined,

Culture as complex whole which includes knowledge, belief, art, morals, law, customs or any other capabilities and habits acquired by man as a member of society. In his words: culture embraces a wide range of human phenomena, material achievements and norms, beliefs, feelings, manners, morals and so on. Culture is a patterned way of life shared by a particular group of people that claim to share a single origin or descent.

Given the above, the culture of a people is what marks them out distinctively from other human societies in the family of humanity. Culture, as it is usually understood, entails a totality of traits and characters that are peculiar to a people to the extent that marks them out from other peoples or societies. These peculiar traits include, people social norms, taboos and values. Values are to be understood as beliefs that are held about what is right and wrong and what is important in life.

2. Foundational Ideas and Development of Culture in Africa

The history of early man and subsequent emergence of settled communities in different parts of Africa marked the beginning of African culture. Among the great relevance to the cultural history of early human ancestors was the economic shift from hunting-gathering to food production. In his essay work on this issue, Alabi notes that a school of scholars has argued that the knowledge of agriculture emanated from the Nile valley, the Maghreb, and the Sahara and then spread down to the Sahelian, Savanna, and rain forest belts of West Africa. These carriers of the knowledge of agriculture into West Africa are described as displaced populations forced to migrate southwards into the Sahel and the Savanna during the period between 4500 and 4000 YBP as a result of the desiccation of the Sahara. (Alabi, 2005:94).It should be noted that the change to food production has never meant the total abandonment of hunting and gathering. While men in north eastern Africa started to gather grains and raise sheep and cattle, those in western Sudan started with gathering seeds and nuts while men in South West Africa did not go beyond hunting and food gathering even till today. (Lasisi, 211:6). Thus, the hunting of wild birds and animals continues, as well as the gathering of wildnuts and berries, and all are valued ingredients in the diet. Adding value judgment to this, Thurstan Shaw notes that there are few economies (people) left in the world today in which their subsistence depends upon food collecting and not on food production (1975:9).

The change from hunting and gathering to food production by means of agriculture and stock-raising resulted in the growth of towns and cities, the formation of states, organization of war, and the development of the arts of writing, metallurgy and more advanced architecture. Thus, food production in Africa is the essential basis for urbanization, state formation and the emergence of high cultures. Therefore, food production was initiated when human culture had reached a point cable of it. Along the line, the invention of agriculture, the development of urbanization, the accumulation of wealth, the concentration of power and the advent of organized warfare are all connected with cultural development. In our contemporary age, knowledge and ideas have been added to human muscle-power. Various forms of mechanical power have been developed, first by harnessing animal muscle-power, then, water and wind power, then power derived from fossil fuels, then atomic bomb and chemical weapon, tomorrow something else. It is not surprising that among the most inspiring verses of the holy Qu'ran that have predicted geometric progress in human development over one thousand four hundred years ago. Suffice are the following verses Q17:70:
And surely we have honoured the children of Adam, and we carry them in the land and sea, and we have given them of the good things and we have made them to excel by an appropriate.

In his work Abdullahi Yusuf (1978) notes that the distinction and honour conferred by God on man are recounted in order to enforce the corresponding duties and responsibilities of man. He is raised to a position of honour above the brute creation, he has been granted talents by which he can transport himself from place to place by land, sea and now by air; all the means for the sustenance and growth of every part of his nature are provided by God; and his spiritual faculties raise him above the greater part of God's creation. Should he not then realise his noble destiny and prepare for his real life in the life after.'

The progress in human societies in Africa shows the effect of the application of scientific method both to the investigation of the physical world and to industrial processes that has led to unprecedented rapidity in our age. The nature and direction of change can be largely under man's control, but the mental and spiritual attitudes to guide this development reside in religion. With the geometric progress in science and technology, the rates of development are not the same among different cultures and different peoples in Africa, as there are differences in the course of time too, so that an area that is advanced in one time lagged behind at other time. Researchers have disclosed the richness of cultures in Africa, both diffusion and dependent inventions played significant role. The independent innovations that occurred at a number of different times were due to environmental need and opportunity. Diffusion and culture borrowing have remained important for culture change in many areas in Africa. Contact between cultures is always important as a factor in change, thus culture transmission takes place.

3. Precolonial Africa

In the history of humanity, the first civilization which emerged over five thousand (5,000) years ago was that of Egypt in the northeastern part of Africa. Egyptian civilization was assembled by technology that produced the pyramids, hieroglyphics, migration and architecture. In the later period, Egypt had trade and cultural as well as political relations with other civilizations and people outside Europe such as the Assyrians, Persians, Greeks and Romans. Egypt was first to step within the threshold of civilization, but it was not the only civilization in Africa at that early time. There were perhaps older civilizations whose achievements were also commendable. Among these were Nubia which conqured and ruled Egypt almost a century .The civilization and glory of Egypt naturally attracted political assaults from the early civilizations in Europe and Asia and this led to its conquest first by the Persians, Greeks and Romans before the Christian era. Besides, the Nubia, there were other civilizations existing in different parts of Africa before the end of BC years and since the present Christian era. These included Kush and Axum empires. There was also the Monomatapa or Zimbabwe empire which emerged more than nine hundred years before Christ and which was noted for its great walls and gatens (Thurstan Shaw, 1975).

Ghana which was founded early in the second millennium AD was the first well-known civilization in Western Sudan. It was followed in succession first by Mali empire and then by Songhai. In the succeeding centuries, Kanem-Bornu Empire, the Hausa city-states, the Benin, Dahomey kingdoms and Oyo Empire in the forested regions to the South emerged. The creation of civilizations in Africa continued until the 19th century when the continent's relations with the outside world, particularly Europeans, hampered these indigenous socio-political and cultural developments.

Throughout recorded history people had developed and aware of cultural difference between their own group and outsiders. In prehistory, people lived in different parts of the world but they differed in their way of life, therefore, civilization developed in some places than others. The differences between human groups and others have been thought of in terms of a supposed inherited superiority. One group or race regards others superior to another.

The ancient Greek regarded all those who did not share Hellenic culture as barbarians. Another reason made for cultural differences has been in terms of climate, and this explanation has an ancient pedigree. In fact, climate affects physical characteristics, climate also influences culture. Climate is the major determinant of vegetation. Vegetation is one of the most important elements of the environment and one which provides many of the possibilities and limitations for human culture. The attitude of Europeans to Africans is very long in time and period. Europeans disliked Africans, their attitude is somehow xenophobic. It was argued among Europeans that no one in Africa ever invented a wheel. In their work, Singer *et al*, remark that:

What was forgotten or not known was that no one ever invented a wheel in Europe either. Europe received the invention by a process of diffusion from Asia (Singer et. al, 1954:204 – 211) (Walls, 1964).

The idea of cultural inferiority was inspired by the European people by the egalitarian principles of French and American Revolutions. Africans have contributed enormously to the programme of mankind in all spheres of life since a creditable past. The museum of primitive art, founded by an American millionaire in New York Nelson D. Rockefeller contains works which have not been produced either by the cultures of European or Asiatic antiquity nor by the European Mediaeval and later traditions; they are works of art from Africa (Thurstan Shaw, 1975:9).The effect of such works of art upon European artistic tradition that had become stale and jaded, had the effect of revivifying it and inspiring it to fresh life and vigour. Among the most important of the dubious justification for the enslavement of African peoples was the myth of Black racial and cultural inferiority. The eighteen century British philosopher, David Hume; 'Blacks were naturally inferior to whites; no civilized nation had ever emerged among them, no individual eminent either in action or speculation; no ingenious manufactures, no arts, no science'. Thus, African people were condemned to the debris of human race by the whites in their jaundiced and parochial views. The social heritage and traditional organizations, coupled with African linguistic traits, religious practices, patterns of family organization, and modes of song and dance are elements of high culture. The Black man (1963) and the rising son (1874) were directed to prove that:

Many civilizations of antiquity were offshoots of Ethiopian or African civilization and that many important personalities of antiquity were Africans (Okon Uya, 2013:9).

It was generally averred that Black people were destined by God to be hewers of wood and drawers of water. Slavery was thus justified as the natural condition for Blacks in the community of peoples. It is averred by some schools of thought that culture changed in different parts of the world, as a result of a various forms of contact with each other. Therefore with contact with outside world, cultural elements of the Europeans, Africans and Indians, interacted with one and other, each as a recipient and donor in the exchange. The spread of African people to Europe, America, and Caribbean aided the spread of African culture. This assisted to create vibrant living communities whose culture and social institutions were discernibly African. Such communities in diasporas represented African cultures and institutions, which have flourished with varying intensities to this day, as especially in areas such as Brazil, the southern United States of America and the Caribbean Islands. The commonalities in cultures, religion, cosmology and world view remained a major resource for African culture in Diaspora.

The European powers have the attitudes of superiority and a sense of mission. The French only recognized and accepted an African if he gave up his culture and adopted French ways of life. Skill in Portuguese language and proficiency in it and adoption its culture, with abandonment of traditional African ways of life, qualified one as civilized

4. Elements of African Culture: As Model for Reconstruction of African Culture

The major thrust of African history, for this generation is explication of African cultures and heroes who have made significant contributions to the life of African people African continent is a continent of many communities and rich cultures. The culture of any community in Africa is a representational symbol of that community. African culture manifests the traditions, philosophies, conventions and aesthetic values of diverse communities. In Africa, each culture portrays the cultural beliefs of the people of that community.

Some of the African cultures of the people of the past are preserved in figures, such as terracotta, which are found mostly in many parts of Africa. Other cultural materials are bronze, stone ivory, wood and metal. Some sculptures have tribal marks on the face, while some were decorated with beads on the neck and wrist, while some male head were bald or capped, still female figures have special hair style and facial marking of particular Africa communities, and some figures depict royalty. Adjudged from the above one could perceive the same material cultures of the past people.

In his work, Babalola, (2008:11- 26) showcases some of these figures of terracotta dated back to 500BC – 200AD.Archaeology and allied disciplines have led to important discoveries about human record and its milieu during the Pleistocene in Africa (Graham Connah, 1983:4), and the staggering extension of the history man on the African continent to the period 2 or3 million years ago . Among the cultural inventory include a number of distinctive fire places with vertical sides, thick sherds of large pots, the clay figurine art. Burials contained bronze discs and bracelets, while stone lip plugs, glass-beads, ostrich eggshell beads, carnelian and other objects (Connah, 1969:120). The aesthetic appeal of the material is an impressive documentation for element of a veritable African cultures and civilizations.

In the words of MaulanaKarenga:

*Our culture provides us with an ethos we must honour in both thought and practice. By ethos, we mean a people's self-*understanding as well as its *self-presentation in the world through its thought and practice in the other six areas of culture. It is above all a cultural challenge. For culture is here defined as the totality of thought and practice by which a people creates itself, celebrates, sustains and develops itself and introduces itself to history and humanity.*

In African context, the characteristic identification of culture is possible by geographical locations, the homeland of the cultural ethnic group. The search for culture is based on the tribal home of the people. In his words, Adepegba (2002 :1) argues that:

African art is a tribal art- or rather a multiple of tribal arts- and what is not tribal is not African. Contemporary art, like skyscrapers is a part of the extension of Europe in Africa. There is no Nigerian art, her is Yoruba art Art, Afo art and Hausa (Islamic) art, have hardly more in Common with each other than with the Sepik River in New Guinea.

5. African Culture and its Dark Shades

Philosophers as harbingers of social change, in their attempts of making relevance of philosophy to ameliorate the condition of African people identified some unflattering aspects of African culture which must be avoided in the quest towards development. In his work, Balogun (2014:31) identifies anachronism, authoritarianism and supernaturalism as predominant elements in African culture which he regarded as dark shades in African culture. This is in consonance with Wiredu (1980:2), who notes that "there are many anachronistic ways and practices in Africa that refuse pavement for new insights and the innovativeness of modernity. Instances are mentioned such as political authoritarianism, binding force of custom and ancestral paternalism, belief in living-dead supernaturalism, unquestionable policies based on the whims and caprices. In addition Wiredu lists various cultural belief systems in Africa which must be jettisoned on the note of their belief they are not relevant to development. Reverence for ancestors and other departed relatives in African belief systems power capable of fact the living, elaborate rituals of mourning, the belief in varieties of spirits, fetishes (Wiredu, 1980:11).In addition to listed examples are female circumcisions in African culture and the various mythologies attached to twins. In analysis of the listed problems through philosophical lenses, one can say it comfortably and confidently that the position of the renown philosophers Wiredu (1980), and Balogun (2014) and their agitation to reject the such cultural aspects are same and in consonance with messages brought by the two 'foreign religions' Islam and Christianity.

Balogun (2014:38), notes that there are many aspects of traditional values that are anachronistic with some unhappy consequences for human flourishing in contemporary times. In this sensibilities and nuances of some unflattering aspects of African culture religion in general, Islam in particular can help in distinguishing between the various interacting cultural elements and the values of African heritage by promoting the ones that are beneficial to African people through preaching and teaching. As pointed out in Balogun (2014:37) in Oduwole (2017: 12), truth telling, the uses of proverbs are components of religious beliefs in Islam and Christianity. Religious moral teachings are relevant to transforming modern African states and promote the moral and social status.

Religion is the best tool to inject moral values into African societies in constructing new values. Goodness to parent, respect to elders and obedience to the constituted authorities are well enshrined in the revealed books and all the followers of Abrahamic faiths are aware of these moral codes. Thus religion constitutes and provides building cells upon which super-structure of African community can be built. Without hesitation, religious instruments through its mechanism is a good antidote to removing or reducing to barest minimal the problems of social degeneration and decay. Religious education is another forum through which moral values can be passed to the citizens especially the young generation of people of Africa. It will instill in them at early stage of life. Through religious education, parents are informed better about their duty towards their children and children on the other hand should appreciate the gesture of parent through obedience and goodness to their parents especially at old age. When viewed objectively. Religious moral teachings keep people away from deadly sins that are enumerated in the revealed books, such as human Sacrifice, killings of twins ,etc

Worse still, twin infanticide was a common practice in Africa traditional belief, a widow is so held in contempt that she is made to sleep with corpse of her deceased husband and also drink from the bath of the corpse, all in an attempt to prove her innocence of the husband's death. (Opeloye, 2006:3). More so, in African social belief, women are labeled with witchcrafts and in most cases women are not allowed to go out during the celeb ration of African festivals, talkless of their participation. (Olajubu, 2003:647)

6. Findings of the Study

In the course of this research work, the following findings were made:

- African culture has a long history, and it has passed through different stages of development, from the Early Stone Age, Middle Stone Age and Late Stone Age.
- The economic shift from hunting-gathering to food production by means of Agriculture and stock-raising with human settlements marked the foundation of African culture.
- Human populations as a result of migrations have impact on the environments hence regional cultural variations were developed.
- Africa does not have a single culture; rather Africa is a multi-cultural continent, with a homeland of a distinct culture.
- Cultural change occurred as a result of various forms of contact elements of the Europeans, Africans and Indians interacted with each other, each is a recipient and donor in the exchange.
- There are some aspects of African culture that are questionable such as human sacrifice, killing of twins, belief in living dead etc.
- Inspite of human progress in science and technology, human wisdom is not sufficient to bring success and happiness human beings still need the support and guidance of God which African people cannot be exempted.

7. Conclusion

From the foregoing, it is evident that Africa is a multicultural continent because of its multi-ethnic communities. African cultures have passed through different stages of development. In the course of cultural change, both diffusion and independent invention have played their part due to environmental need and opportunity, thus diffusion and culture borrowing have remained important for culture change in many parts of Africa, where culture transmission takes place. In making African culture remain relevant in our contemporary time, the paper maintains some aspects of African cultures that call for repudiation as rightly identified by scholars of philosophy. However, in our hope for African development, the paper recommends religion as appropriate tool for African development. This is so, because some of the questionable aspects of African cultures that call for repudiation are the elements of human cultures which Abrahamic faiths declared wars upon. Among these are human sacrifices, killings of twins, belief in living-death etc. that are capped as dark shades of African culture by Balogun (2014) and anachronistic ways and practices by Wiredu (1980). Therefore, application of religious moral values is desideratum in our quest for African development. Even, the tagged 'foreign religion' Islam and Christianity have African elements in their foundational ideas. Biblical Moses (Prophet Musa (AS)) for instance was born and lived in Africa, Joseph (Prophet Yusuf) lived, served and became king in Africa. The holy Prophet Muhammad married African woman, and the first man to make call to prayer Bilal was an African man.

In all, this paper argues that human intellect or wisdom is not sufficient for happiness of humanity; as we need in addition, the support and guidance of our Creator with his fundamental principles of life which are enshrined in the revealed books.

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The Evocative Powers of Yorùbá Art: Archetypal Representations of *Ejò* (Snake) and *Ẹyẹ* (Bird)

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Abstract. This paper discusses two Yorùbá emblematic forms, the snake (*ejò)* and the bird (*ẹyẹ*), which are mostly used and referred to as decorative motifs for the embellishment of bare spaces on different Yorùbá art genres. Although the forms have received enriching scholarly attention, they have mostly been treated undeservingly as motifs rather than icons. The present study employs the theories of iconography and iconology to investigate the representations and connotations of the snake and the bird in Yorùbá art. The study gathered existing scholarly submissions on the representations and the symbolisms of these forms and then interrogate the *odu* Ifa to establish that the forms of *ejò* and *ẹyẹ* are cultural icons in their own right. The paper also submits that the historical familiarity of the Yorùbá people with *ejò* and *ẹyẹ*,likethe animals in their geographical environment and their mythological association with these animals, have formed the basis of their iconological awareness.

Keywords: Yorùbá, forms, *ejò*, *ẹyẹ*, iconology, *odù*-Ifá, snake, bird, motifs, art

1. Introduction

The Yorùbá people mostly occupy south-western Nigeria. They occupy states such as Lagos, Ogun, Ondo, Ọ̀yọ́, Ekiti, Kwara, Kogi and Osun. With a population of over 30 million (Akande, 2015 p. 1), the Yorùbá people constitute one of the largest cultural groups in sub-Saharan Africa. In the process of migrations, inter-ethnic wars and, especially, the trans-Atlantic slave trade, Yorùbá people have spread to other places such as the Benin Republic, Togo, and parts of South America (Aina, 2003 p.8). The Yorùbá have also been displaced to the *diaspora*, where they constitute a sizeable proportion of the population of the Caribbean, Brazil, Cuba, Puerto Rico, Haiti and Trinidad.

Filani (2012 p.1) notes that the Yorùbá people are known for their rich cultural artistic traditions. They produced the best examples of *àdìrẹẹlékọ,*[1] basketry, busts, figural art, woodcarvings, and metal arts, to mention a few. The history of their ancient art tradition places them as one of the most prolific producers of naturalistic sculptures in bronze, brass and pure copper from Ile-Ife and Owo areas. They are also noted to have a remarkable art tradition of stone carving. The evidential facts of this tradition can be found at the Esie museum (Pogoson, 1990 p. 42-51) where over 800 pieces of soapstone carvings of the Yorùbá are displayed. Coupled with these, Carroll (1967) and Adesanya (1999) attest to the sumptuous woodcarving traditions of the people all over their land, but the authors observe the elaborate finishing and monumental wood-carving style of the Ekiti-Yorùbá (located in the north-eastern part of Yorùbá-land).

Intriguingly, almost all Yorùbá art share the use of similar subject-matters and the characteristic surface embellishments with a reserved corpus of forms and motifs. The forms and motifs employed have, for a long time, been in regular use that they have coalesced into a repertoire from where all Yorùbá art genres select. Often, Yorùbá artists seem to loathe empty spaces, they seem to have the 'compulsion' to fill them up (Akande and Onipede, 2020 p. 56). When such compulsions 'come over them', they easily employ any of the several forms and motifs within the traditional form and motif repository. The forms of the imageries in the corpus have over time become fixed and seem to have acquired universal interpretations within the Yorùbá cosmos. I must say that there exist variations in the interpretations of the forms and motifs from one locality to another, but these are few compared to the ones that have an almost universal iconology. At this point, the view of Vasina (1984 p. 101) needs to be recalled; she observes that when a piece of art acquires a fixed graphic representation and the generally accepted interpretations of its form, such art or form is qualified to be considered an icon. From this point of view, I will prefer to address these objects from a perspective different from other scholars who have studied the forms and motifs from a semiotic point of view. Notable Nigerian scholars on Yorùbá forms and motifs on Yorùbá shrine walls and *àdìrẹ ẹlẹ́kọ* have, for the most part, made use of the word semiotics in their analysis of Yorùbá forms and motifs. However, I have my reservations about that, and I will tackle this in the theoretical framework of the present study.

2. Theoretical Paradigm and Objectives of the Study

I will like to distinguish between symbols and icons in order to elevate the forms and motifs that I will discuss here, from the level of signs and symbols to that of images and, indeed, icon. It is interesting to observe how we hear a word, a phrase or a sentence and consequent series of thoughts (imageries) flash through our minds. The other side of this experience plays out when we see emblematic forms or images, and the memories of such images take us through a series of thoughts and visions (almost, definitely, further imageries). In my attempt to collate and gather reflective interpretations of notable emblematic Yorùbá forms and motifs, I contemplated locating an appropriate theoretical paradigm or perhaps the visional matrix through which I should see and interrogate the art. Simply because I was thinking about art and its meanings, the first theory that came to my mind was the semiotic theory. It then occurred to me that the art and their meanings that I contemplate are much more inclined towards imagery; whereas, semiotics has much to do with signs symbols and meanings and, especially, as these features interplay in languages. Furthermore, the semiotic theory has its origin outside the visual arts, even outside languages.

Semiotics took its root from the study of the physical signs or physiological symptoms resulting from sicknesses and diseases in clinical practice (Sebok, Thomas, 2001 p. 4). The experiments on sicknesses and symptoms were carried out by Hippocrates (460-377 BC), the founder of Western medical science who aimed to establish *semiotics* as a branch of medical science. The application of semiotics to other areas of study, such as language, can be traced to the time of Aristotle (384-322 BC) (Edghill & Mckeon, 1941). Aristotle in his work, *Theory of Being*,confine signs into three parts, namely; the physical sign, referring to the sign, symbol or symptom; secondly, the *referent*, which is the person to which the sign is directed; and thirdly, the meaning of the sign. It is observable that from the very root of semiotics, pictures and images are not given priority. Coupled with this obscure beginning of the semiotic theory is the convoluted and ambiguous definition of the word ‘sign’ itself (Budrevicius, 2012 p.116), the central terminology in the theory.

In my analysis of selected Yorùbá forms in the present engagement, I resort to the theory of iconography and by extension, Iconology of Panofsky (1939), a theoretical undertaking that is pivoted on ‘subject matter’ or ‘meaning’ and ‘forms’ (Panofky, 1939 p.3). I engaged the graphic forms of selected Yorùbá forms and motifs with the aim of finding a deeper understanding of the art from the verbal allusions, references to their theme in *odù* Ifa. In this study, I select only two strongly emblematic of the Yorùbá decorative forms, in order tonot just search out their one-word or one-phrase interpretations as done in other studies but to delve into the implications of their appearances in various art forms, thematic mention and interpretation within the Yorùbá culture and cosmos. The selected forms are *ejò* (snake) and *ẹyẹ* (bird). These two forms have been employed by two different cultures to signify healing. The upright snake on a staff is the symbol of healing in Western medicine, whereas, on the Yorùbá Osayinstaffbirds are usually represented (Adepegba, 1991). I will gather the submissions of notable scholars on the iconology of the forms of *ejò* and *ẹyẹ* and then crosscheck the veracity of their submissions in the *odù* of Ifá, an established reliable source of Yorùbá history and culture. From this point, I will refer to the art as forms employed as motifs, since this paper engages their formal appearance rather than as motifs in a design. I will take the forms out one by one and deal with each without reference to their usage as decorative embellishments.

3. Interrogating Existing Literature

Enriching studies have been carried out on Yorùbá forms and motifs. Many of the literature on Yorùbá forms and motifs have visited the subject from the point of view of particular Yorùbá art genre. For instance, Ibigbami (1978), Beier (1984) and Fatusin (1992) discussed the varied extent to which forms and motifs are employed in the embellishment of Yorùbá pots.Okediji (1989), Campbell (1989), Akande (1989) and Folaranmi (2002) have all worked on Yorùbá shrines and wall paintings and have found similarities in the forms and motifs on Yorùbá shrines and wall paintings with the ones on utilitarian art such as *àdìrẹ ẹlẹ́kọ,* calabash carving, pottery, door panels and even other genres of art such as woodcarvings and metal arts. Folaranmi’s work is particularly rich in its interpretation of the motifs on the wall paintings of the palace of the Aláàfin (king) of Ọ̀yọ́.

One of the recent monographs that dedicated its entire volume to Yorùbá forms and motifs is that of Filani (2012). Rather than approach the subject from the perspective of merely identifying the motifs and gathering associated meanings to them, Filani focuses on how these forms and motifs have been used directly and extemporised by eight Yorùbá artists; four (Ben Oyadiran, Ayo Ajayi, Tola Wewe and Wole Olagunju) were educated in established Western art-school types, and the other four (Muraina Oyelami, Jimoh Buraimoh, Wale Olajide and Segun Adeku) had their art training in informal but organised short-time art workshops by religious institutions and private bodies. Filani investigated how these artists have incorporated traditional forms and motifs into their art and compared their applications with one another. He observed that the artists directly use motifs that were gathered from traditional Yorùbá arts and they, along the process, extemporised their own forms and motifs, based on the traditional one they appropriated. He also documented the unique motifs of the different artists.

Areo and Kalilu (2013) traced the origin of a dyingYorùbá-land to accidental discovery, they supported this by reciting *èjì ogbè*, an Ifá divination verse that attributes the discovery of dying in Yorùbá-land to Ọ̀rúnmìlà, through *àlùkò, odídẹré, àkùko, lékeléke* and *àgbùfon*, birds found in Yorùbá-land. However, the authors view the association of the origin of death to birds in an Ifá verse as a way of claiming the antiquated origin of the tradition among the people. The author then looks into the typology of *àdìrẹ ẹlékọ.* They identified the motifs in the realm of geometry, figurals and onomastics.

Elsewhere, Areo and Omisakin (2016) identified standardised extant traditional Yorùbá motifs on *àdìrẹ ẹlékọ* in Osogbo, a Yorùbá town renowned for cloth-dying. The authors classified the motifs found on Osogbo *àdìrẹ ẹlékọ* into five, namely:
"Adaptation or transliteration of traditional *àdìrẹ* motifs, designs based on geometric shapes, lines of different sizes and direction, motifs based on the observation of natural objects such as flora and fauna around them, motifs based on external influences and changes occurring in their environment and finally corporate design which involves the combination of several units of design to form a whole, and usually imitating the grid structural arrangement of traditional *àdìrẹ ẹlékọ*." p. 38.

Areo and Omisakin document the developments and newly introduced motifs to the existing corpus over time. Many of the names given to the motifs are extemporisations based on their forms or sources of their derivation.

4. Analysis of Selected Forms

4.1 Representations and Iconology of *Ejò*

Ejò is the snake. It is a very common animal in the jungles of Africa, especially in the dense rain forest zone where Yorùbá people live. *Ejò* is one of the animals they comein contact with regularly in their daily lives, both in traditional communities and in contemporary ones. The ubiquity of this animal in Yorùbá-land and the awareness of its potentialto cause harm, and indeed death, is enough reason to dread it, earning it its dreaded reputation.

Scholars from different disciplinary spheres have attempted to gather the interpretation of the imagery of *ejò* in Yorùbá art. However, generally speaking, the representation of the curled *ejò* (plate 1) in seeming concentric circles is believed to be iconic of the unending and continuous cosmos of the Yorùbá. However, Parrinder (1967 p. 23) states that when the *ejò* is represented in an upright position (plate 2), it emblematises the connection between the earth and the spiritual. Pemberton (1977 p. 11) mentions the association of the *ejò* with Obatala, a Yorùbá divinity. Pemberton describes the depiction of a large *ejò* on the *ìyá nlá* drum of Obatala. The *ìyá nlá* drum is the main showpiece of Obatala worship. Campbell (1995) keys into the general belief that the image of the *ejò* represents the unending world of the Yorùbá, whereas, Folaranmi (2002) submits that the representation of *ejò*, the circular snake icon, 'is a common feature on Yorùbá and Dahomey carved panels and doors. It is a symbol of regeneration, long life, potency, truth, fierceness, wrath, wealth and guile.' Folaranmi, in the same study of the mural on the walls of the palace of the Aláàfin of Ọ̀yọ́, observes that the representation of the *ejò* in the mural is reminiscent of the founding of the first settlement of Ọ̀yọ́ by Aláàfin Oranmiyan, with the help of a charmed snake that was made for him by the Borgu king. The representation of the *ejò* is, therefore, a reminder of the historical favour bequeathed by the *ejò* for finding a settlement for the Yorùbá; at which point, it may be considered a type of totem.

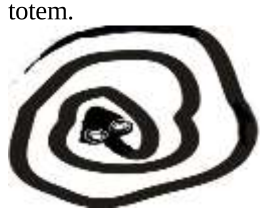

PLATE 1
CURLED *EJÒ*

PLATE 2
UPRIGHT *EJÒ*

Ordinarily, the submissions of scholars on the connotations of the *ejò* seem to portray the animal as one that is economically beneficial, positive and endearing, whereas, its iconological reputation contradicts its actual physical attributes. In reality, the *ejò* is a dangerous and slippery animal, dreaded by many. In fact, quite many people dislike the uncanny and slippery nature of *ejò.* Indeed, Campbell (2008 p. 128) particularly refers to *ejò* as a disliked figure.However, its iconic attributes can be equated with that of the lion; a ferocious destroyer, but still regarded as the king of all animals. And as its kingly posture symbolises greatness and dominance, the Yorùbá people associate with it as a way of coveting its kingly attribute. According to Folaranmi (2002), Yorùbá people believe that some animals possess physical attributes as well as spiritual powers that can be harnessed by humans to boost their personality. *Ejò* happens to be one of such animals.

Campbell (2008 p. 126) corroborates Pemberton's position that the*ejò* is associated with Obatala, Yorùbá-land's chief deity. He mentions that shrine paintings of Obatala usually include the *ejò.* Campbell quoting Eleburuibon (1989 p. 71) also writes that in one of Obatala's praise poems he was compared with a boa.

Campbell (2008 p. 136) made a plausible argument for the acceptance of the *ejò* as an icon of good omen when he observes that the ability of the *ejò* to shed its skin from time to time is a sign of renewal and 'a metaphor for continuity, rebirth, renewal, and regeneration.' This position accounts credibly for the iconology of the *ejò* as an icon of continuity as agreed by many.

In the study of Areo and Kalilu (2013), they suggest that the icon of *ejò* emblematizes the Yorùbá belief in reincarnation; a belief that people who once lived and died can be reborn and live through the world over again. They opined that the representation of the curled *ejò* denotes the cyclical paradigm of the reincarnation belief. This position is arguably linked with Campbell's earlier submission.

A further argument for the plausibility of the positive iconology of *ejò* in Yorùbá art is that the Yorùbá believe that 'in the beginning (*nígbà ìwá ṣẹ̀*), *ejò* was said to be a harmless animal; at that time it didn't even have a venom. According to Babalawo Fasakin Araoye of the Ajanbata family compound, Ìṣàlẹ̀-Ọ̀yọ́ (Akande, 2021), an Ifá *odù,*[2]*ọ̀kànràn òun ọ̀sá* (also known as *ọ̀kànrànọ̀sá*), the representation of *ọ̀kànrànọ̀sá*'s permutations on an Ifá divination tray shows *ọ̀kànràn* on the right-hand side and *ọ̀sá* on the left-hand side. The *odù* runs thus:

Ọ̀kànràn 'sàá
Babaláwo Igbá ló d'ífá fún Igbá
Wọ́n ní kó rúbọ Èṣu ọ̀dàrà, kí Igbá má baà fọ́
Ọ̀kànràn 'sàá
Babaláwo Ìkòkò ló d'ífá fún Ìkòkò
Wọ́n ní kó rúbọ Èṣu ọ̀dàrà, kí Ìkòkò má baà lu
Ọ̀kànràn 'sàá
Babaláwo Ejò ló d'ífá fún Ejò
Wọ́n ní kó rúbọ Èṣu ọ̀dàrà, kí ó lè fi orì ṣẹgun ọ̀tá
Igbá gbọ́rúrú ẹbọ, ó kọ'tí ọ̀gbain
Ìkòkò gbọ́ rúrú ẹbọ, ó kọ'tí ọ̀gbain
Ejò nìkan tí nbẹ lẹ̀yìn tí nsẹbọ, ẹbọ ti ẹ̀ ló dà ládà jù.
L' Èṣu bá fún Ejò l'óró
Kàkà kí wọ́n tún fi Ejò d'igi
Ejò fi orí ṣẹgun omo aráyé pátá porogodo
Rírú ẹbọ ní nfín, àìrú ẹbọ kìí dà
Ejò wá nyin àwọn Babaláwo rẹ̀
Àwọn Babaláwo nyin Ifá
Ifá wá nyin Olódùmarè

Meaning:
Okanran Osa
The diviner that divined for the gourd (igba)
The gourd was advised to sacrifice to Èṣu, for it not to break
Okanran Osa
The diviner that divined for the pot (ikoko)
The gourd advised sacrificing to Èṣu, for it not to perforate
Okanran Osa
The same divined for Ejò
The snake admonished to sacrifice to Èṣu, for it to acquire a venomous bite
Igbá was informed about the sacrifice but refused to carry it out
Ìkòkò was informed about the sacrifice but refused to carry it out
The snake, the last one of them, heeded the call to sacrifice
Èṣu endowed Ejò with its venomous bite powers
Humans no longer use Ejò as a rope to tie sticks

Ejò employs its venomous powers to dispel its enemies 15
To sacrifice leads to acceptance, as refusal incurs misfortune
Ejò then praised its diviners
The diviners, in turn, praised Ifá
Ifá praised Olódùmarè (the Supreme Being)

The narrative of the *odù* relates the story of Ejòfrom the time the Yorùbá refers to as *ìgbà ìwá ṣẹ̀* (the beginning of being). In the story, at that time, Ejò had no poison and it was used by men as ropes for tying sticks on the farm. Ejò became a laughing stock among men. Ejò got fed up with its predicament and went along with Igbá (gourd) and Ìkòkò (pot), who also had grudges against the demeaning nature of human beings, to consult Ọ̀kànràn Ọ̀sá, an Ifá diviner, to find solutions to their problems. Ọ̀kànràn Ọ̀sá the diviner, whose name doubles as the *odù*, suggested to Igbá, Ìkòkò and Ejò that they offer sacrifice to Èsù[4] so that their problems may be solved. Out of the three, it was only Ejò that took the advice of the diviner and carried out the sacrifice. The other two refused and their predicament remained with them till today. The *odù* mentions that Ejò was used as a rope to tie sticks together on farms; this reminds me of the warning our parents used to give to us when we were children. They told us not to call the *ejò* by its actual name, but to refer to it as *okùn ilẹ̀* (the rope of the ground). It was the belief that when one calls its name too frequently, it might appear for real.

In the praise-poems of some families in Yorùbá-land, it is not uncommon to come across members metaphorically associating themselves with the powers of the *ejò*. I gathered one of such praise-poems from Otunba Ayinde Ibikunle (Akande, 2021), a 98-year-old member of the Idofoi family of Ayetoro-land.
Ọmọ ejò wẹwẹ̀wẹ abẹ ìràwé
Tí kò gbọdọ̀ buni jẹ
Ọmọ ejò nlá inú ìlú tí ògbójú ọde kò gbọdọ̀ pa
Idofoi, akànmájà , Idofoi ewé nlá
Ewé tí kìí rú wẹwẹ

Meaning:
The siblings of small snakes under the leaves
Venomous small snakes that must not bite humans
The children of big snakes (perhaps totemic boa) that live within the town and must not be killed even by veteran hunters
Idofoi, who does not fight, Idofoi the big leaf
The big leaf that does not grow small leaves

In this praise-poem, members of the Idofoi family are equated with the big as well as the small *ejò* in a metaphoric language. This praise-poem is a pointer to the possible development of the iconology of some Yorùbá forms, especially that of animals, owing to their physical strength and mythological reputations. Initially, the features of the animals were used in metaphoric comparison with human strength, and from that point, the animals acquire independent iconology based on the initial comparison of the abilities of human personages with their raw beast powers.

From the foregoing, the iconology of the *ejò* is derived from the age-long association (physical and, especially, mythological) of the Yorùbá people with the animal. The ubiquity of the animal within the geographical environment of the Yorùbá, like every other animal within that geography, make it compelling to locate a position for the animal within the mythology of the people. The factors that afterwards determined the positivity or negativity of the iconology of the animal include the Yorùbá belief in associatingthemselves with certain animals to harness their strength and as a means of improving their human personality. For instance, the constrictive strength of the *erè* (constrictor/boa) and the venomous powers of some other *ejò* are considered covetable by the Yorùbá. In addition to these features of the *ejò* is its intermittent shedding of skin, which is interpreted as its potentials to regenerate and renew, which are indications of the propensity for continuity; a quality, so novel that is coveted for the perpetuation of the entire Yorùbá cosmos. This ability of the *ejò* earned it the iconology of renewal and perpetuityin the Yorùbá cosmos.

4.2 Representations and Iconology of the *Ẹyẹ*

My discussion on the *ẹyẹ* recognises the iconology of the animal from two perspectives; the first is the Yorùbá collective reference to *ẹyẹ* and then their reference to the individual *ẹyẹ* within their cosmos. It is interesting to note that there exists a disparity between the iconology of the two. These disparities are also discernible in the various representation of the *ẹyẹ* in Yorùbá art.

Collectively, the imagery of *ẹyẹ* in Yorùbá cosmology connotes the negative spiritual powers of women, witchcraft, and the esoteric knowledge employed in the manipulation of the world by the womenfolk. Such connotations apply to the generality of *ẹyẹ,* but because *ẹyẹ* encompasses a wide variety of birds, domestic and wild inclusive; the domestic and considerably peaceful *ẹyẹ* are associated with affable iconology. Filani (2012 p. 229) interprets the iconology of the different representation of birds. In his interpretation, the domestic fowl connotes ‘meekness’ (plate 3), the ostrich ‘royalty’, the dove 'peace' and the duck 'procreation.' On the other hand, in his interpretation of wild birds such as the owl (plate 4), which he considers an icon of 'bad omen,' and other wild and exotic birds in different strange poses (plates 5 and 6), he considers as connoting 'witchcraft.' Folaranmi (2002) also interprets the iconology of the ostrich depicted at the palace of the Aláàfin of Ọ̀yọ́ as connoting the royalty which is associated with the king. The present study does not intend to dispute these two positions but to corroborate and decidedly push further the discourse on the iconology of the *ẹyẹ.*

PLATE 3
FOWL

OWL
PLATE 4

PLATE 5
STRANGE AND EXOTIC *ẸYẸ* 1

PLATE 6
STRANGE AND EXOTIC *ẸYẸ* 2

Adepegba and Ademuleya (2015) study the symbolic motifs of the appliqué costumes of Remireke masquerade of Ijebu Agbowa-Ikosi. They observe the peacock, *igiowo* (cash crop), cock, Oba's paraphernalia, white horse symbol and others as symbolic to the masquerade community of Agbowa-Ikosi. In their interpretation of the peacock, they submit that the peacock connotes beauty among the Yorùbá and that its representation on the appliqué of Remireke is symbolic of the beauty of the masquerade. The authors consider that the image of the cock on Remireke indicates 'the proclaimer, rise to work,' 'herald … calling attention to the passing of time.' Important to observe is the positive iconology of the peacock and the cock; *ẹyẹ* that are prominent in the Yorùbá cosmos.

I will like to make a case for the Yorùbá dialectic consideration of the iconology of *ẹyẹ* from *ìrẹtẹ̀ ọlọ́tà,* an *odù* Ifá verse recited to me by Babalawo Araoye Fasakin of the Ajanbata Isale-Ọ̀yọ́ family compound (Akande, 2021). This *odù* illustrates the basis of the different attitudes of the Yorùbá people in their iconological disposition towards the same animal family. *Ìrẹtẹ̀ ọlọ́tà*, also called *ìrẹtẹ̀ òun òwọ́nrín*. Its representation on the divination board has *ìrẹtẹ̀*on the right-hand side and *òwọ́nrín* on the left. The *odù* runs thus:

Ṣe àpò duru sími kémi ṣàpò duru sí ọ
Adífá fún Ọ̀rúnmìlà, Baba nṣawo lọ ìlú Ọ̀tà
Adífá fún Ọ̀rúnmìlà, Baba nṣawo lọ ìlú ilẹyẹ
Ọ̀rúnmìlà mú èjì ko ẹ̀ta, ó lọ oko aláwo
Ó kó ó rò, ó da àníyàn ìrìn àjò ìlú ìléyẹ
Ẹbọ ni wọ́n ní kó rú
Kí ẹlẹyẹ ìlú Ọ̀tà jẹ k' Ọ̀rúnmìlà r'áyè gbé
Wọ́n ní kí Ọ̀rúnmìlà ra ẹyẹlé
Kí Ọ̀rúnmìlà dá àpò jèrùgbé fún ẹyẹlé
Ọ̀rúnmìlà s'awo lọ ìlú Ọ̀tà
Nígbà ó d'ọ̀gànjọ́ àwọn ẹlẹyẹ dé s' Ọ̀rúnmìlà
Wọ́n ndún to to to
Wọ́n ndún tò tò tò tò
Ẹ̀rú ba Ọ̀rúnmìlà, Èsù dáa lóhùn pé ṣe bí o rúbọ
Ọ̀rúnmìlà bá bẹ̀rẹ̀ sí ní yín ẹyẹlé inú àpò jèrùgbé lékànáá
Ẹyẹlé ké tòò, àwọn ẹlẹyẹ sá tọ̀ yìn
Ọ̀rúnmìlà kò y'ojú ẹyẹlé sí ìta
Àwọn ẹlẹyẹ sá, wọ́n ṣe bí ẹlẹyẹ tòun ti Ọ̀rúnmìlà
Ọ̀rúnmìlà rí awo ṣe ní ìlú Ọ̀tà
Ọ̀rúnmìlà wá nyin àwọn awo
Àwọn awo rẹ̀ nyin Ifá
Ṣe àpò duru sími kémi ṣàpò duru sí ọ
Adífá fún Ọ̀rúnmìlà, Baba nṣawo lọ ìlú Ọ̀tà
Ǹjẹ ìwọ́ l'ẹyẹ, èmi l'ẹyẹ
Gbogbo wa la l'ẹyẹ l'ápò táa lè fi d'érù ba ara wa

Meaning:
Rattle your sac and I will rattle mine

The same performed divination for Ọ̀rúnmìlà when he embarked on his journey to Ọ̀tà
The same performed divination for itinerant Ọ̀rúnmìlà when he embarked on Ifá's journey to the town of witches
Ọ̀rúnmìlà gave it serious thought and therefore consulted Ifá
He explained his mission to Ifá and pray for success in the town of witches
Ọ̀rúnmìlà was asked to make a sacrifice
So that the witches of Ọ̀tà will allow Ọ̀rúnmìlà to succeed in his mission
Afterwards, he was asked to buy a pigeon
Ọ̀rúnmìlà was to put the pigeon in his *jèrùgbé*[5] sac
Ọ̀rúnmìlà arrived Ọ̀tà
In the middle of the night, the witches visited Ọ̀rúnmìlà with their birds
Their birds were whistling *to to to*
They were whistling *to to to to*
Ọ̀rúnmìlà was afraid but Èsù reminded him of his sacrifice and what Ifá told him
Ọ̀rúnmìlà started to pinch his pigeon inside his sac
His pigeon whistle too, the witches backed off
Ọ̀rúnmìlà did not bring out of the sac his own bird
The witches ran off, thinking Ọ̀rúnmìlà himself was one of them
Ọ̀rúnmìlà was successful at Ọ̀tà
Ọ̀rúnmìlà started to praise his diviners
The diviners were praising Ifá
Rattle your sac and I'll rattle mine
The same performed divination for Ọ̀rúnmìlà when he embarked on his journey to Ọ̀tà
If you rattle me with your bird, I will also rattle you with mine
We all have birds inside our sac that we use in rattling one another

The story in the *odù* tells the narrative of a time in the past when Ọ̀rúnmìlà, the Ifá diviner, planned to embark on his routine itinerary journey to Ọ̀tà. According to Babalawo Araoye Fasakin, everywhere that Ifá makes references to as Ọ̀tà is a town established by witches and witches dominate in such places. Ọ̀rúnmìlà consulted Ifá to find out if his journey will be successful; unfortunately, he was told that witches dominated Ọ̀tà and except he pretended to be one, he could not live successfully in Ọ̀tà. For him to be successful he was asked to sacrifice to Èsù, and he did so. He was then told by his diviners to buy a pigeon (*ẹyẹlé*) and keep it in his *jèrùgbé* sac so that when the witches come shrieking with their birds Ọ̀rúnmìlà will also pinch his pigeon to make it shriek. Ọ̀rúnmìlà took to the advice of his diviners and got the witches to run, by making them think he also had a bird.[6]

In Yorùbá-land, to say someone has a bird means the person is a 'certified' witch. Invariably, birds are associated with witches, and witches with powers of darkness. This belief may not be too far-fetched from another belief of the Yorùbá that witches fly at night. To be in flight will require wings like that of birds. It is not uncommon to hear people say they saw a bird in the night and were afraid. This is because birds and darkness may as well be a representation of the presence of witches. The birds of the *ẹlẹyẹ*in the *odù* are those associated with witches and powers of darkness, whereas, the pigeon (*ẹyẹlé*) in Ọ̀rúnmìlà's sac is harmless and believed to be emblematic of peacefulness. This is why in the *odù*, the diviners warn Ọ̀rúnmìlà not to bring out his own bird (*ẹyẹlé*) from his sac. If he did, it would be recognised as harmless and the witches would harm Ọ̀rúnmìlà.

It is, however, important to mention that there are other *ẹyẹ* apart from the domestic ones; such as ostriches, pigeon, fowls, etc. And there are other positive iconographic uses of other *ẹyẹ.* Adepegba (1991 p. 30) observes that the birds usually depicted on the *ọ̀pá* Ọ̀sanyìn (the staff of Ọ̀sanyìn), the Yorùbá god of herbal medicine, represent the power of witches in medicinal practice. Adepegba points out that all Yorùbá medicine men make use of the power of witches for healing.

5. Conclusions

It will be observed that the meanings of the Yorùbá forms examined in this paper provoke thoughts beyond the image of the forms, indeed they are evocative of several aspects of Yorùbá thoughts. The forms and motifs discussed so far have been long used and their appearances on different items have been consistent. Equally, they have remained constant in meaning. Therefore, the icon of the snake and the bird are cultural icons in their own right. The historical familiarity of the Yorùbá people with *ejò* and *ẹyẹ* as animals in their environment, and their mythological association with these animals have formed the basis of the iconology of these animals. As observed earlier, the snake on a staff is the icon of Western medicine and there are birds on a staff are the icons of Osanyin, the Yorùbá god of healing.
The use of these two animals in these respects are based on mythological histories and their reputation.
Ejò and *ẹyẹ* are truly iconic; however, these forms, like several others, have become part of routinely represented animals on the surfaces of Yorùbá traditional arts. In the cases when they are found represented on *àdìrẹ ẹlékọ,* they become part of decorative motifs and their iconology may not be as impactful as when they are represented on religious

platforms. On such surfaces like tie-dye *àdìrẹ ẹlékọ,* sometimes, these forms may only have been employed to fill up bare space and break the monotony.

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NOTES

1. Resist pattern-dyed fabrics also called batik or *àdìrẹ ẹlékọ*

2. I prefer to use the word image, picture, forms, etc., as against signs and symbols, because sign and symbols

can be ambiguous and sometimes confined to spoken language, body language and symptomatic sign in sicknesses.
3. *Odù* Ifá is the 256 *odù* (verses) Ifá. Ifá is a Yorùbá deity that is consulted through the divination process. The process results in one of the 16 possible permutations of Ifá. Each of the 16 permutations is associated with another 16 sub-verses. The *odù* contains poetic literature of history, wisdom and perhaps all the possible solutions that there can be to any problem.
4. Èsù is one of the arch divinities of the Yorùbá. It is perhaps the closest to Olódùmarè (the Supreme Being) as he is trusted by humans to deliver their supplications and sacrifices to Olódùmarè. Èsù is indeed the intermediary between deities and Olódùmarè. However, Èsù is also noted for causing misunderstandings and mayhem.
5. Apo *jèrùgbé* is the sac carried about by itinerant diviners when embarking on Ifá divination missions to other towns. The sac is where the Babalawo keeps sacrificial items he received from his clients.
6. In the Yorùbá language, when someone is said to 'have a bird,' it means the person is a witch.

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Conflict Management Strategies as Predictor of Peace Culture among Undergraduate Students in Ogun State, Nigeria

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Abstract. This study investigated the impact of conflict management strategies in maintaining peace culture in academia especially among the undergraduates. The study adopted a descriptive survey research design of an ex post facto type. Two research hypotheses were formulated and tested at 0.05 level of significance. Data were collected using a self-developed instrument and one already validated instrument. The questionnaire was administered on a sample of 1800 participants that were randomly selected from 6 universities in South West Nigeria. Data were analysed using descriptive analysis, regression and t-test Statistical Analysis. The findings of this study indicated significant prediction of the use of conflict management strategy on peace culture among undergraduates ($F_{(1,1798)}$ = 18.709; P < .000). The study also indicated a significant difference in the undergraduate perception of university peace culture (MD = 8.38; t = 5.205; P <.05). It is therefore recommended that the school management should ensure that non-violent means is employed as an intervention technique for conflict resolution in schools. This will encourage peaceful co-existence and teamwork between students, staffs and other members of the school community.

Keywords: conflict management, strategies, peace culture, undergraduates

1. Introduction

When human beings come together there is bound to be conflict. This is because human beings have different background, interests and worldviews. These lead to differences in opinion. These differences in opinion could sometimes degenerate into aggression and violence. This conflict may first be noticed at the individual level but may eventually spread to the larger society. But it is important to note that just as peace and cooperation is desirable, conflict could be progressive when not allowed to become destructive. Thus, conflict is considered healthy if there's opposing ideas pertaining to the nature of the business and the advantage is for the improvement of work processes. But in the context of personal conflict, the organization faces a great predicament which needs to be urgently bargained between the two parties (Mughal & Khan, 2013).

Conflict can have a good outcome if it's being handled appropriately. It provides the opportunity of learning from each other, improves workforce and builds good team solidarity. However, when it does get out of hand, it is necessary to break a long-term resolution base on understanding of its underlying causes. This will ensure that resurgence does not arise. However, conflict is commonly defined as an open clash between two opposing groups or individuals. Usually, the disagreement may be as a result in compatibility of views, opinion or access to shared resources.

All the world over, it is no mere saying that humankind needs to take lessons from its past in order to build a new and better tomorrow. The main reason behind this is to ensure that every society, community, organization, and home learns to prevent our violence-ridden history from repeating itself, promotes the values of peace, non-violence, tolerance, human rights and democracy that must be inculcated in every woman and man – young and old, children and adults alike.

Today's world, its problems and challenges are becoming increasingly more interdependent and interconnected. The sheer magnitude of this requires everyone to work together. No time is more appropriate than now to build a culture of peace. No social responsibility is greater nor task heavier than that of securing peace on our planet on sustainable foundation. Global efforts towards peace and reconciliation can only succeed with a collective approach built on trust, dialogue and collaboration. For that, we have to build a grand alliance for a culture of peace among all, particularly with the proactive involvement and participation of the young people.

However, a culture of peace should be seen as the essence of a new humanity, a new global civilization based on inner oneness and outer diversity. The flourishing of a culture of peace will generate the mindset in everyone that is a prerequisite for the transition from force to reason, from conflict and violence to dialogue and peace (Olanrewaju, 2014). Culture of peace will provide the bedrock of support to a stable, progressing and prospering world for all (UNESCO, 2015).

Education is a critical tool through which citizens of any country acquire the right knowledge, skills, values, attributes and attitudes for peaceful living within the society. With well managed education, people's attitudes and behaviours to violence can be redirected to the development of skills that support economic regeneration and sustainable livelihood. Within the developed countries, nations like Japan haven recognized the important role played by education for peace building included in the objectives of education for the peace of Japan. Nigeria can only attain sustainable social, economic and political development when there is peaceful co-existence, cooperation and mutual tolerance among the citizens.

Peace culture is one of the major factors that catalyses the sustainability of any institution of higher learning. Lack of peace in universities and other institutions of higher learning would trigger acrimony, hatred, tension, mistrust, mutual suspicion, instability of the system and dissatisfaction among staff (Romina, 2015). All these would hinder academic productivity within the system. Existence of a peaceful institutional climate indicated by love for one another, where faculty members are closely knitted together as one family, caring for each other, openness, trust, compassion, justice and fairness would facilitate cross fertilization of ideas and enhance knowledge creation and academic productivity, efficiency and effective management of the institution for the attainment of academic excellence in universities (Romina, 2015).

Well managed education can be used as a significant tool for promoting knowledge, values, skills and attitudes that will help in bringing about needed behavioural changes which will enable citizens of Nigeria including youths and adults, majority of whom are university students and who are highly vulnerable to violence, to resist violence and any form of conflict.

In spite of the enormous benefits derived from university education in nation building, Nigerian universities had over the years gradually deteriorated from citadels of learning to "centres of violence" (Rotimi, 2005). According to Liberman, Levy and Segal (2009), the latent force of educational system in developing countries like Nigeria is frequently disillusioned by long-standing problems of programme reforms, changes in policy, and onslaught of conflicts. Thus, contrary to the high expectations of the founding fathers whose vision and dream were to see that Nigerian men and women were equipped with university degrees equivalent to what obtained in Western countries, Nigerian universities have been plagued with conflicts (Oni, 2012). The realization of the dream and vision of the founding fathers is almost becoming an illusion and movement towards global relevance has become a difficult task which can be partly attributed to unmanaged or mismanaged conflicts within the system.

However, a university environment where there is peace will facilitate cross fertilization of ideas, skills, knowledge creation and dissemination. This is so because academic activities would go on undisrupted. Therefore, this study tends to investigate the impact of conflict management strategies in maintaining peace culture in academia especially among the undergraduates.

2. Statement of the Problem

When conflicts arise, organizational performance may deteriorate. This is because conflict can make employees frustrate one another at the detriment of the organization. Conflict also leads to interpersonal disharmony in the organization which makes attainment of goals difficult. Attaining of organizational goals is possible if efforts are always made to reduce the overall level of conflict within the organization by creating a peaceful culture environment. Consequently, it is very imperative that efforts are made towards findings ways of managing conflict so as to achieve university educational objectives. The problem of poor conflict management in the university environment is the focus of this study. Organizations have a shorter lifecycle today because of various changes in the operations of the organization. These organizational changes may cause turbulence and uncertainties that in turn create conflict. Nigerian Universities over the years have been facing conflicts in various dimensions that have reduced its performance.

Within the universities and other institutions of higher learning in Nigeria, there have been secret cult activities which resulted to killing, raping of female students, injuries and maiming of people. Insecurity of live and insurgence have become the order of the day in Nigeria. The federal government has made several efforts aimed at combating the activities of Boko Haram and other issues bothering on insecurity of lives of citizens of the country. Additionally, administrators of institutions of higher learning have built in measures to checkmate the activities of cult groups.

Despite all efforts of government and institutional administrators, there is insecurity of life everywhere in the country. Literature is replete on peace culture and conflicts management strategies, but majority of the literature are studies conducted in foreign countries. There are limited studies cover peace culture and conflicts management strategies in Nigerian universities. This study attempts to fill the gap by providing empirical investigation on strategies towards effective management of education for building a culture of peace in academia.

3. Research Hypotheses

In order to achieve the goals of this study, the following hypotheses will be tested:

- There is no significant prediction of the use of conflict management strategy on peace culture among undergraduates.
- There is no significant gender difference in the perception of peace culture among undergraduates.

4. Methodology

Design: This study employed ex-post – facto research design in which the existing status of the independent variables were only determined during data collection without any manipulation of the variables by the researchers.

Sample: Sampling was done through a simple random procedure. There are six States in the South-west Nigeria; sampling of the States was done through simple random sampling techniques of which three States were selected. From each of the states two Universities were purposively selected (one private and one public). In all six (6) universities, three hundred final year undergraduate students (100 each from Arts, Sciences, and Social Sciences) were randomly selected from each of these schools, making a total of one thousand eight hundred (1800) participants in all. This sample included 1111 females (61.7%) and 689 males (38.3%). Their ages range between 16 and 25 with a mean of 20.1 and standard deviation of 7.38.

Instrumentation: Two validated instruments were used for collection of data for the study. They are:
Conflict Management Strategy Scale (CMSS): Conflict Management Strategy Scale was developed by Olanrewaju (2014). This instrument is a “5” point Likert type scale consisting of 21-items. The internal consistency reliability coefficient was .941. Findings also demonstrated that item-total correlations ranged from .63 to .97. Test-retest reliability coefficients was .90.

Peace Culture Scale (PCS): PCS was a self-developed questionnaire by the researchers to tap into the peace culture experienced within the university by the students. It is a 15-item scale ranging from strongly agree (5) to strongly disagree (1). The reliability was ascertained through test-retest method within two weeks intervals. The validity co-efficient index of 0.75 and a test-retest reliability of 0.81 were obtained. Thus, the instrument was reliable and valid to use.

Procedure: The researcher administered the measuring scales, which guarantee confidentiality and anonymity of the respondents, personally with the assistance of three trained research assistants. The researcher consulted with the Registrars and the Deputy Registrars of the selected tertiary institutions, in order to intimate them with the purpose of the study. The researcher with the help of four other trained research assistants visited the universities’ faculties to administer the instruments directly on the subjects on the earmarked days for the seminar presentation by the faculties. The researcher explained all aspects of the questionnaire to the respondents. The researcher through the help of the Deputy Registrars was able to administer the questionnaire with ease. The cooperation received made it possible to have 100 per cent rate of return. However, it took the researcher a period of six weeks to administer and retrieve the distributed measuring scales.

Method of Data Analysis: The data collected through the questionnaires was analyzed using percentage and frequency counts for demographic information about the respondents. Hypotheses were tested using Multiple Regression Analysis, and t-test at 0.05 alpha levels.

5. Results

Table 1: Summary of Multiple Regression Analysis between conflict management strategy and peace culture

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.514[a]	.164	.136	12.62564

ANOVA[a]

Model		Sum of Squares	Df	Mean Square	F	Sig.
	Regression	41.018	1	41.018	18.709	.000[b]
1	Residual	12395.412	1798	6.894		
	Total	12436.430	1799			

a. Dependent Variable: Peace culture
b. Predictors: (Constant), conflict management strategy

In Table 1, in examining the regression analyses results, it was observed that the constructed models in the study were significant ($F_{(1,1798)} = 18.709$; $P < .000$). It is observed that conflict management strategy significantly predicts peace culture among undergraduates significantly with 13.6% of variance explanation percentage. Therefore, the hypothesis that stated that there is no significant prediction of the use of conflict management strategy on peace culture among undergraduates by this finding was rejected. The implication of this finding is that the use of conflict management tools or strategies will enhance the university peace culture.

This is supported by Olaleye and Arogundade, (2013), which was of the opinion that when conflict arises between student –students and management-students, a good communication system is advisable of which dialogue is a good conflict management strategy leads to school peace which improves a positive relationship among all members of the educational institution. Neale and Bazerman (2011) supported this by stating that mutual agreement involves interdependent parties who consent with the other parties and come to a logical agreement on issues. The use of mutual agreement allows students and management to have a win-win in all conflict that occurs in the school community because it gives room for each party to tender their grievances' and accept each other solutions. This was supported by Ibegbu (2011) who stated that opinion polls give room for all that are affected by the conflict to give a free and fair view on the cause of the conflict. He stated that opinion polls refer to opinion poll as an occasion where people are asked questions to discover what they think about a particular subject or issue. This will promote peace culture among undergraduate students in tertiary institution.

Table 2: Independent t-test analysis of differences in the perception of male and female students of peace culture

	N	**X**	**Sd**	**Mean Diff.**	**Df**	**t-cal**	**P**
Male	689	48.07	16.89	8.38	1798	5.205	.000
Female	1111	56.45	13.11				

Results in Table 2 indicated a significant difference in the undergraduate perception of university peace culture (MD = 8.38; t = 5.205; $P < .05$). The null hypothesis was rejected. Therefore, female undergraduates have more positive perception towards peace culture (56.45) compared to undergraduate males (48.07). It is pertinent to note that when students are represented during decision making by the school management, conflict is reduced because students make their plights known and the school management can tackle the prevalent issues which affect the students. Sound management of students is therefore required where the school management needs to ensure that the students' activities and operation in educational institutions are well monitored. This calls for the action of the management team of universities who are properly grounded in the techniques of conflict management.

6. Conclusion and Recommendations

Based on the findings, it is deducible from this study that conflict management tools can be used to resolve conflicts among undergraduate students.

The following recommendations have been made in light of the findings:

- The school management should ensure that non-violent means is employed as an intervention technique for conflict resolution in schools. This will encourage peaceful co-existence and teamwork between students, staffs, and other members of the school community.
- School management should provide communicative and participative processes

in which students and individual members of staff will have opportunities and freedom to express their views and opinions on issues and in administrative decision making.

- The government and school management should provide good physical conditions, enough resources, equipment and other necessary facilities to schools to avoid conflict arising from such inadequacies.

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Philosophical Perspectives on Environmental Sustainability in Nigeria

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Abstract. The import of the environment to mankind cannot be underrated, as it is the very structure around which life is built. As far back as the 6th century B.C., the early Greek philosophers had interested themselves with the nature of the environment and sought to find out its basic substance. For this reason, they were called physiologists and at other times, Natural Philosophers. They saw the environment as the foundation of human existence. Today, we can see the environment unleashing mayhem on man and development. Environmental sustainability is interwoven with development. Nigeria is plagued with a lot of environmental problems which are now threatening the socio-economic wellbeing of the nation as a result of neglect. The need to sustain our environment is of utmost importance to the existence of mankind and other forms of life. This paper holds that for environmental sustainability to be achieved, one would require training in Environmental Ethics. Environmental Ethics is a branch of Philosophy, concerned with the ethical relationship among all components of the environment. The paper therefore examined the causes of environmental deterioration in Nigeria and the role of Environmental Ethics in increasing the awareness that would protect the environment, for its sustainability.

Keywords: Philosophy, Environment, Environmental Philosophy, Environmental Ethics, Sustainability and Environmental Sustainability

1. Introduction

Life in the 21st century is dynamic and burdened with different challenges. This technologically driven age, introduced innovative methods which have dramatically improved our way of life and also had an adverse effect on the environment. It is pertinent to state that the environment is made up all the components of the ecosystem which include human beings, other organisms and some phenomena. Unfortunately, human beings, through certain misconceptions about the environment have continued to plunder other components of the ecosystem thereby occasioning environmental crisis. The extent of such crisis in Nigeria is monumental and this is why philosophy through environmental ethics is help in arresting the situation in the country. The man-made environmental issues include global climate change, global warming, deforestation, bush burning, air pollution, noise pollution, heat pollution, water pollution, flooding and over population. These have become a threat to the health and existence of man, animals and plants.

Environmental degradation is now of global concern though the developed countries are effectively managing their own problems, the developing countries are down playing such a serious issue. The growing global concern for environmental sustainability and the reduction of environmental pollution, can be noted in the 2015 SDGs of the United Nations. Here the need to protect the planet's natural resources for its sustainability is brought to bear. Hence, the theme adopted is "Transforming our World: the 2030 Agenda for Sustainable Development''

The 17 Sustainable Development Goals (SDGs) are:

- No Poverty
- Zero Hunger
- Good Health and wellbeing
- Quality Education
- Gender Equality
- Clean water and Sanitation
- Affordable and Clean Energy
- Decent Work and Economic Growth
- Industry, Innovation and Infrastructure
- Reduced Inequalities
- Sustainable Cities and Communities

- Sustainable Consumption and Production
- Climate Action
- Life Below the Sea
- Life On Land
- Peace, Justice and Strong Institutions
- Partnerships for the Goals

(www.unenvironment.org/resources/annual)

Nigeria is not left out in this global menace, as these increasing environmental issues have hindered social and economic development in the country. In view of the above, this paper will reveal the environmental issues that are threatening lives in Nigeria. It would also mention the contributions of Environmental Ethics in addressing the present state of environmental degradation in Nigerian environment for its sustainability. To achieve the aim of this paper, we will first clarify some concepts that are relevant to the subject at hand. This is followed by The Nigeria environment and its sustainability, Causes of environment problems in Nigeria, Sources of Environmental pollution in Nigeria, the benefits of Environmental Ethics to the Nigerian environment, Conclusion and recommendations.

2. Clarification of Concepts

2.1 The Concept of Philosophy

Philosophy as a discipline has no univocal definition. Etymologically, Philosophy is derived from two Greek words, "Philos'' which means love and 'Sophia' which means wisdom. Philosophy is therefore the love of wisdom. The Oxford Advanced Learner's Dictionary (2001:872) defines Philosophy as "the study of nature and meaning of the universe and human life". Omoregbe (2007:3) also defines Philosophy as ''a rational search for answers to the basic questions about the ultimate meaning of reality as a whole and of human life in particular''. Philosophy is an activity of thoughts that seeks to develop ones analytical and creative skills. It is the quest of wisdom that uses its method of inquiry, to solve day to day problems that plague the very existence of humanity.

2.2 The Concept of Environment

The environment refers to our surrounding which includes living and non-living life forms like hills, mountains and plants. It is the responsibility of man to ensure that the environment is sustained. The Oxford Learner's Dictionary (2001:389) defines the environment as 'the conditions that affect the behaviour and development of sb/sth, the physical conditions that sb/sth exists in…' While The Business Dictionary defines environment as 'The sum total of all surroundings of a living organism, including natural forces and other living things, which provide conditions for development and growth as well as of danger and damage' (www.buisnessdictionary.com>definition)

2.3 The Concept of Environmental Philosophy

Environmental Philosophy is a branch of Philosophy that concerns itself with the natural environment and the man's activity in it. It is a philosophical basis for activities between the environmental issues and man. ''Environmental Philosophy is a young field that brings together this traditional nurturing of wisdom with a specific interest in the environment…requires us to develop wisdom about the environment and that means, as above, discussing what is best for the environment, especially with respect to our own actions within the environment''. (http://pages.hmc.edu/beckman/environment/Phil-14) Environmental philosophy springs from the fact that Western philosophy played a major role in the creation of a dualistic mechanistic world view. A view of the world as made up of the human mind which thinks and which is superior to other components of the environment.

2.4 The Concept of Environmental Ethics

2.4.1 Ethics

Ethics is one of the core branches of Philosophy and it is derived from a Greek word 'ethos' which means custom, habit or character. It is the branch of Philosophy that concerns itself with moral values, right and wrong actions. Omoregbe (2006:3) defines ethics as "The branch of Philosophy which deals with the morality of human actions'' According to Lacey (1976:60), Ethics is 'an inquiry into how men ought to act in general, not as a means of a given end but as an end itself '.

2.4.2 Environmental Ethics

Environmental Ethics is the part of Environmental Philosophy that examines the moral relationship between humans and the environment. This goes beyond the traditional Ethics which focused on humans alone. It includes the non- human world, how to sustain the environment and the ethical relationship between humans and the environment. According to The Stanford Encyclopedia of Philosophy, Environmental Ethics is 'the discipline in Philosophy that studies the moral relationship of human beings to, and also the value and moral status of, the environment and its non-human content'(https://Plato.Stanford.edu>entries>ethic...) Environmental ethics is the major aspect of environmental philosophy.

The main purpose of environmental ethics is to seek a deconstruction of the dualistic mechanistic conception of the world and to reconstruct a new ecological organic world view. To this end, environmental ethics focuses on a holistic understanding of the environment such that every component is recognized as indispensable for the overall wellbeing of the environment. Thus, an environmental ethicist like Taylor argues that environmental ethics is opposed to the human-centered view of the world, (2001 175). The human-centered view of the world anchors on the creation story as evident in holy books, which conceives the human being as a superior being that has to manipulate all other components of the environment even to achieve its selfish interests. Environmental ethicists argue that this human-centered view of the world, known as egocentrism, is the root of most of the environmental problems that confront man today. Consequently, to tackle any environmental problem, recourse must be taken to the domain of environmental philosophy where the application of environmental ethics gears towards resolving environmental problems.

2.5 The Concept of Sustainability

Sustainability is to have the predisposition to persist on an act for a long period of time. The New International Webster's Comprehensive Dictionary of the English Language (2004:1264) defines Sustain as 'To keep from sinking or falling, especially by bearing up from below; uphold; support.' The UN Commission on Economic Development in its 1987 Brundtland report defines sustainability as that which 'meets the needs of the present without compromising the ability of the future generations to meet their own goals'.

2.6 The Concept of Environmental Sustainability

Environmental sustainability is being able to interact with the environment without degrading its natural resources and this is the basis for human existence. It is actually the building block for development. Sustainable development cannot be achieved without environmental sustainability.
Environmental sustainability is 'the maintenance of the factors and practices that contribute to the quality of environment on a long-term basis' (www.buisnessdictionary.com>definition)

3. The Nigerian Environment and its Sustainability

The deplorable state of the world's environment is of great concern to the developed and developing countries alike, as we depend on the natural environment not only for our livelihood but also for existence. This has prompted the developed countries to put in place measures to manage their environmental issues, while their developing counterparts are yet to come to terms with the significance of the environment to its people. Developing countries don't seem to realize the threat of environmental degradation to human existence and ultimately other life forms, if it is not addressed as a matter of urgency. Ironically, these environmental issues are primarily due to the activities of man to the environment thereby depleting the natural resources and endangering the ecosystem.

Human and material (natural) resources make up a country and environmental sustainability is fundamental to the development of any country as its natural resources underpins their economy. The environment is therefore, the foundation of all living and nonliving things. Man is solely responsible for its sustenance.

Nigeria is a Federal Republic in West Africa with a large landmass and population. It is also the most populous African country and this has earned her the title of the 'Giant of Africa'. Nigeria is endowed with numerous natural resources which include petroleum, coal, bitumen, gold, iron ore, zinc, clay , lead , tin and also agricultural resources. The benefits of these natural resources to mankind are numerous ranging from the food we eat, water we drink and use for our crops to the air, we breathe. For without the environment, there cannot be sustainable development. The human resources are expected to manage the natural resources in the environment but have rather, exploited the natural resources in the name of development.

As noted by Forrister (2016):
Countries in Africa feel the dangers of climate change, but I'm confident. They will also see the tremendous push that climate action can give to sustainable Development. With the right climate policy choices, and by working together, countries can spur investment that benefits people and the atmosphere. In fact, action on climate is action for sustainable development.

The need to sustain the environment for our existence has being an issue in Nigeria but sadly only on paper.

In 2007, the National Environmental Standards And Regulation Enforcement Agency (NESREA) Act 2007 which replaced the Federal Environmental Protection Agency (FEPA) Act of 2004 was signed into law. It is saddled with the responsibility to protect and develop the environment and its natural resources. (www.nesrea.gov.ng>about-us)

4. Causes of Environmental Problems in Nigeria

The Nigerian environment is affected daily by these four main elements namely urbanization, industrialization, poverty and overpopulation. Environmental problems are as a result of man's misuse of the resources provide by the environment. The effect of these four-pronged problem has negatively impacted the country and have also threatened the health and physical wellbeing of its citizens.

Urbanization is one of the elements that affect the Nigerian environment. The cities in Nigeria are observing an excessive rate of environmental degradation as a result of rural- urban migration, which is a constant influx of people from the rural areas to urban centers. The reason for this influx is to seek 'greener pastures' as development is mainly situated in urban areas and Nigeria is experiencing a high level of unemployment. This has led to an increased number of people in the urban areas with limited social services and infrastructure to meet the need of this growth. Urbanization is responsible for the accumulation of wastes in cities. As authorities in charge of cities face challenges with improper disposal of domestic and human wastes , as wastes are littered all over the city. These wastes end up clogging the underground drains and water channels which eventually aids flooding. Urban cities also have a high clustering of vehicles. These vehicles emit smoke and gases that form smog which contributes to air pollution.

In the Western world, cars are subjected to a biennial smog inspection to identify and impound vehicles emitting smoke into their environment. This has greatly reduced air pollution in their country. There is also the issue of housing for people who move to cities. People build makeshift shelters and structures just to live in the cities. Houses are built on water right of ways which now causes flooding in urban cities especially in the low lands like Port Harcourt and Lagos. In 2012, Nigeria experienced terrible flooding that claimed lives and property worth millions.

George (2014) observes as he says:

In 2012, NEMA said that a whooping seven million Nigerians were affected by the worst floods ever since in the past 40 years, the cost of material damage was estimated at 2.29trillion Naira. This does not take into account the amount of lives lost or persons injured during the flood.

All these issues, make the urban environment unhealthy and filthy. Environmental problems cannot be separated from development as it brings issues that affect our environment.

Industrialization is another cause of environmental decay in Nigeria. Industries are mainly sited in the cities and this makes people concentrate in the urban areas. These industries are indiscriminately sited next to residential and office areas. They emit high levels of toxins and dangerous industrial wastes that are hazardous to health. Industrial Areas are compelled to use generating sets to power their heavy equipment hereby constantly emitting carbon monoxide into the atmosphere. This is a major health threat to people living close to those industrial areas. Industrial wastes are also discharged into the ponds, streams or rivers hereby endangering the lives of humans who use the water and also marine life.

Oil is the mainstay of Nigeria and for years, oil production and exploitation has resulted to diverse environmental problems which also include flaring of gas at different oil flow stations in the Niger Delta, acid rain and oil spills. Since November 2016, the activities of illegal oil refineries and bunkering of petroleum products, in Rivers State has become of great concern to its inhabitants especially those in Port Harcourt. The city has being engulfed by what is called 'Black Soot' which is actually, particles of carbon from hydrocarbon substances. (www.vanguardngr.com>...). These practices of illegal refineries have led to many environmental and health problems to its inhabitants such as cancer and respiratory diseases.

Poverty also plays a negative role that affects the Nigerian environment. Poverty is defined as a 'Condition where people's basic needs for food, clothing, and shelter are not being met' (www.buisnessdictionary.com>definition). Poverty and environmental degradation are intertwined as poverty causes environmental problems which in turn sustains more poverty. This is true about the areas where the poor reside, there is deteriorating living conditions like overcrowding, deforestation, poor sanitation, diseases and various forms of pollution. The Niger Delta regions are mainly rural communities that rely mostly on the environment for their food, shelter, fuel and their livelihood such as crop production and fishing . In other words, unfriendly environmental practices are the major cause of economic losses in that region and cities with poorer people have a worse state of environmental degradation. Nigeria is blessed with abundant human and material resources yet poverty persists in the midst of plenty. According to the World Poverty Clock, (July, 2018), poverty is on the rise as 44% of the 196,833,627 population are poor (www.worldpoverty.io). It further states that, 'According to our projections, Nigeria has already overtaken India as the country with the largest number of extreme poor in early 2018, and the Democratic Republic of the Congo could soon take over the second spot'.(ndlink.org)

As observed by Muhammad (2018),
However, the basic cause of poverty in Nigeria is the absence of an enabling environment that will free the people from the prison of Poverty, uplifting their living standard and provide ways to assist them, turn their dreams into reality… (dailytrust.com.ng)

Nigeria is the largest oil producer in Africa and oil is exploited from the Niger Delta regions of Nigeria. The Niger Delta is therefore the treasure of the nation's economy, it can now be described as 'Nigeria's face of poverty' even when it produces the mainstay of the economy that generates over 70% of government's annual revenue. Oil is now seen as the bane of this region. In 1956 at Olobiri which is in the present day Bayelsa State, oil was first discovered in Nigeria by Shell- BP and put the country in the league of oil producing countries (www.nnpcgroup.com>OilGasinNigeria). This region has ever since suffered greatly from oil exploration and its resultant effect on their environment especially as a region dependent on its environment for food and livelihood. Oil spillages damage vegetation and agricultural farm lands, pollute the rivers and streams, thereby depriving people of their food and livelihood. The environmental effects of oil pollution on the people of the Niger Delta region are immeasurable.

The last factor in this paper that affects the Nigerian environment is Overpopulation. Overpopulation is a major problem of developing countries especially African ones. Over population occurs when humans in a particular environment exceed the resources available to them. This would also exert pressure on their natural resources. Nigeria is the most populous African country and the seven in the world. It has a total land area of 983,213 square kilometers and its population is growing faster than the economy. According to The National Population Commission (NPC), Nigeria has a growing population of 198 million people with increasing rural- urban migration. (dailypost.ng>News). It is pertinent to note that approximately 50% of Nigerians are urban dwellers (www.cia.gov).

As a rapidly urbanizing and industrializing nation with a growing population , it is no surprise that it is facing many environmental problems. Nigerian cities especially in the urban areas, are experiencing a high rate of unattended environmental problems caused mainly by development which has had adverse effects on the social, economic, health and wellbeing of the citizens.

According to Nigeria's 2004 National Policy on Population for sustainable Development which had an end date of 2015;
With a current population exceeding 170 million, the Federal Republic of Nigeria is the seventh- largest country in the world and the most populous in Africa. Despite the introduction of policies and programmes over the last 30 years to address and Nigeria's rapid population growth and the challenges it poses for development, the country is projected to become the third-largest nation in the world by mid-century (United Nations Population Division, 2015)

The urgent need to address environmental problems in Nigeria cannot be overemphasized as a healthy environment is key for sustainable development.

5. Forms of Environmental Pollution in Nigeria

There are diverse environmental pollutions in Nigeria and they can be classified under the following; Oil pollution, Air pollution, Water pollution, Land pollution and Plastic pollution. These environmental issues are a threat to life of its citizen and need to be addressed urgently. It is pertinent to note that the environmental issues in Nigeria are mostly connected to its petroleum industry and the largest sector of the economy.

5.1 Oil Pollution

Oil pollution refers to the leakage from oil pipes into rivers, streams and farmlands. This can be due to poor maintenance or sabotage through vandalizing of oil pipe lines and storage tanks. Unfortunately, this adds up to thousands of barrels of oil spills every day.

With the discovery of oil in Nigeria in 1956 and years of exploitation and refining, it is no surprise that the Nigerian environment has suffered a great deal of degradation especially in the Niger Delta regions of the country. The inhabitants of the Niger Delta regions, especially women and children experience a lot of hardship with the destruction of farmlands and livelihood. Other causes of oil pollution are from burning of toxic wastes, dumping of oil wastes into rivers and streams. This has not only threatened the lives of people in those communities but has also impoverished them. Oil pollution is the main cause of the ecological disaster in the country.

5.2 Air Pollution

The World Health Organization (WHO, 1990), defined air pollution as 'limited to situation in which the outer ambient atmosphere contains materials in concentrations which are harmful to man and his environment'. It occurs when the quality of air is contaminated with the release of oxides which include sulphur, nitrogen and carbon. This form of pollution can be caused by man or even nature. Nature can sometimes cause pollutions, for instance in April 2010, when there was a volcanic eruption in Iceland that saturated the airspace of Europe with ash and lava. This eruption affected air travel and also a health hazard. (www.nationalgeographic.org/...cyclopedia/volcanic)

Nigeria is blessed with numerous industries that depend on their own source of power for production. These industries use power generating sets that emit poisonous gases into the air and are known to dump their solid wastes into the waterways. As stated earlier in this paper, Port Harcourt is currently engulfed with what is now referred to as 'Black Soot' According to Obi, the spokesman of PENGASSAN (2018),

The black soot settles on everything and finds its way into the corner of living rooms no matter how hard people try to stop it. Food items in Port Harcourt markets are as well not spared from getting mixed with this deadly soot that is ever present everywhere.
(https://www.vanguardngr.com>...)

The increased usage of personal generators also worsens the quality of the atmosphere. With the epileptic supply of electricity from power grid, people are forced to use generating sets at home and business. In developed countries, power is provided and supplied from the national grid for personal and industrial use, this keeps their air clean. Cars also emit carbon monoxide that contaminate the air and is harmful to human health.

5.3 Water Pollution

Water pollution occurs when water sources like streams, rivers, oceans and lakes are contaminated and therefore harmful for consumption by any life form.

Water is an essential element for the survival of all living things. Streams, rivers and lakes are the main sources of water and its uses cannot be underrated. Water is required for drinking, farming, cooking, bathing and is even a source of livelihood for fishermen. The livelihood of fishermen is threatened when the water bodies are killed by contaminated water. It is disheartening to state that, harmful substances from oil spills and industrial wastes also contribute to this problem which is a health hazard and impoverishes people. Another act that contaminates water is when people dump their domestic wastes into canals and gutters near residential areas. This is common practice in developing countries especially in poor neighborhoods and gives good breeding ground for mosquitoes. Contaminated water aids the spread of water- borne diseases like typhoid fever, diarrhea, cholera , dysentery and eventually death particularly in the rural communities. In Lagos State, on the 16th of January 2017, 1,222 students of Queens College, suffered abdominal pain from drinking contaminated water and unfortunately two students died (www.buisnesspost.ng>2017/03/16).

As observed by Dr. Ewelike (2017), a public health specialist,

About 60 million Nigerians who lack access to safe water
Are exposed to such water borne diseases as diarrhea, cholera,
Dysentery and hepatitis A and hepatitis B. Some of these diseases
Result in high mortality rate amongst the population.
(https://www.dailytrust.com.ng>general)

In the urban areas, due to the increasing population, lack of proper sewage and waste disposal systems, domestic and human wastes are dumped into waterways, streams and rivers when it rains . This causes flooding which occasionally leads to loss of lives and property. Nwachukwu (2018) advises further as he says 'Stops dumping dirt/ refuse into the drainage system, this can cause blockage thus causing undeserved dangers. Avoid walking or driving during rainfall, especially near drainage'

5.3 Land Pollution

Land pollution occurs when man activities of man destroys earth's surface. Land is man's first contact with his environment and its significance to mankind cannot be overemphasize. Land is the foundation of man's survival and wellbeing. It also caters for animals and plants likewise. Man's first occupation is hinged on the use of the land for agriculture. Land pollution is another form of environmental pollution that degrades the land and this can be linked to oil exploitation in Nigeria through oil spills, gas flaring, flooding, the use of insecticides and pesticides.

Another form of land pollution is deforestation. A forest is a large area of land that has trees and trees play a crucial role in the life of man, as it is not only the home for animals, food for man but also acts as wind and storm breakers for villages. A forest acts as a shield for man and animals from the direct rays of the sun thereby reducing the effect of global warming. Deforestation is the process of felling trees for different purposes. With the increasing population and urbanization, there is now the need to cut down trees for farming, to build houses, industries, roads, for cooking fuel and much more. Deforestation contributes to land pollution as it causes soil erosion and infertility, desertification and aids flooding. It is pertinent to note that the removal of trees without replacing them can result in damage of the habitat of all living things.

Desertification also contributes to land pollution as it occurs when the desert encroaches on land which was once fertile. This can be induced by man or even nature and if not controlled can lead to famine and also extinction of living things.

5.4 Plastic Pollution

Plastic bottles, bags and containers are used to store water and food .They are convenient and portable for the end user but when not properly disposed, it becomes a form of pollution known as the plastic pollution. Plastic pollution is defined as ' the accumulation of the different types of plastic material on land, as well as in water bodies like rivers, oceans, canals, lakes, etc.' (https://helpsavenature.com>effe...) This form of pollution reflects also in other forms of pollution mentioned earlier in this article namely, oil, air, water and land. These containers do not decompose for years. According to Adesanya (2018) who says:

The effect of plastic pollution is enormous because plastic items
Are non-biodegradable; they cannot be broken down. Used plastic
Bottles that have decayed are source of health dangers to us. When
They are indiscriminately disposed by burning which we see in most
Cases, chemicals that are made up of plastics are contained in the fumes
Which could be inhaled. The chemicals contribute to health conditions
Such as lung cancer and asthma. (https://punch.ng.com>plastic-po...)

6. Environmental Ethics for Environmental Sustainability in Nigeria

The environment is an important part of human existence as it comprises of, the air we breathe, the climate, weather, the food we eat and our physical surroundings. It is the core of human existence and should be treated as man's best friend. Hence, there is an urgent need to protect it for the benefit of mankind and others that depend on it .This should be made top priority in our country- Nigeria. In developed countries, a relationship between man and his environment is on the front burner while developing countries are less concerned but are even worse hit by the menace of environmental pollution. This has resulted in the deteriorating state of the environment which is now endangering the lives and existence of living things in the country. Human activities are primarily responsible for negatively affecting the environment and this has led to climate changes like global warming and all other forms of environmental pollution. With the growing environmental issues in Nigeria, there is the need to educate Nigerians on how to be environmentally accountable and responsible. The need to educate the Nigerian populace on the threats to human existence by polluting their environment is hereby emphasized. This is so because the actions taken against the environment is based on ignorance and a high level of literacy. Environmental education is therefore required for development and Environmental sustainability. The study of Environmental ethics is therefore needed to create an awareness of neglecting the environment.

Philosophy provides a good basis for training people on the present dangers of environmental problems and its effects to the future. The branch of Philosophy responsible for this is known as Environmental Ethics. Environmental Ethics is a branch of Environmental Philosophy and it is concerned with the environment and its sustainability.

In the 6th century B.C., which is the beginning of the quest for rational inquiry was ignited by early Greek philosophers who sought to find out the nature and origin of the world. They were called the 'Pre-Socratics' and their theories paved the way for use of rational abilities as opposed to superstitions, setting aside the mythical approach to problem solving.

Philosophy is an academic and parental discipline, with no univocally acceptable definition. As a parental discipline, it contributes to every disciplines. Etymologically, it is derived from two Greek words 'Philos' or 'Philia' which means Love and 'Sophia' which means Wisdom. Philosophy is therefore the love of wisdom. It is a rational activity that is concerned with problems that affect mankind and attempts to proffer solutions to them.

Velasquez (1997) defines Philosophy as thus:
The word Philosophy comes from the Greek words, 'Philia' meaning to love, and 'Sophia' meaning wisdom. Philosophy is the love of wisdom about what it means to be a human being, what the fundamental nature of God and reality is, what the source and limits of our knowledge are and what is good and right in our lives and in our societies.

Traditionally, Philosophy is divided into five main branches namely; Aesthetics, Ethics, Epistemology, Metaphysics and Logic. Each branch handles a specific aspect of human development:

- Aesthetics is interested in the beauty of Art.
- Ethics is concerned with the moral aspect of man.
- Epistemology deals with every aspect of human knowledge.
- Metaphysics is responsible for the study of the universe and existence.
- Logic is the study of the methods and techniques used to distinguish good from bad reasoning

Ethics is a normative branch of Philosophy that is concerned with the moral values, right and wrong human actions or conduct. It questions what ought to be and is derived from a Greek word 'ethos' which means customs, habit or character. Omoregbe (2006) defines ethics as 'The branch of philosophy which deals with the morality of human actions'.

Environmental Ethics is a new subdivision of ethics that studies the relationship between man and his environment. It investigates the effect of man's moral relationships to the environment which is unlike the traditional Ethics which is concerned with only man and morality. Environmental Ethics emerged as a discipline on the first Earth Day which held on the 21st of March, 1970 . The responsibility of Environmental Ethics is to proffer philosophical solutions to environmental issues especially with the increasing population. In other words, it would provide an ethical perspective to environmental challenges that affects the whole community of life. Nigeria with its numerous environmental issues is in dire need for solutions to be provided by Environmental Ethics. The traditional Ethics was anthropocentric (human -centeredness) by nature excluding other living things in the planet even when he is degrading the environment as a result of his activities such as deforestation, industrialization, air, land, oil, water pollution and the need to consider others in the planet.

Environmental Ethics in its own part studies the relationship between humans and the environment and also tries to present how it can be relevant in the sustainability of the environment. Its approach is rather that of Ecocentrism. This means that it is the role of plants and animals in the society are also considered as an essential part of the environment. As a branch of philosophy, it tries to examine the moral justification of present state of affairs in the environment by asking questions like:

- What is the role of man in the environment?
- Is it proper for people to continue to cut trees for their needs without planting more just for their personal use?
- What is the effect of tree cutting to the environment?
- Why should humans continue to propagate its species ?
- What environmental obligations do humans need to keep for future generation?
- How should humans best conserve the environment to secure and expand life?

According to Callicott, environmental philosophy should be environmental activism for the intrinsic value of nonhuman natural entities which are also components of the environment (1995 28). The principle of intrinsic value presupposes that every component of the environment has intrinsic value known as 'its good'. That good is prima facie worthy of being preserved or promoted as an end in itself. Viewed in this perspective therefore, no component of the environment should be exploited or unreasonably explored for the purpose of satisfying human wants.

7. Conclusion and Recommendations

Environmental sustainability and development in Nigeria can only be possible when the numerous environmental issues are fixed through environmental education. This can be achieved with the study of environmental ethics.

This paper is of the view that the study of Environmental Ethics will improve the present state of pollution in Nigeria, thereby aiding environmental sustainability and development. These issues are of great concern and a threat not only development but also human existence . The need to educate people on the importance of the environment to their existence is paramount. There is the need to examine ourselves to know where we are, what we are doing wrong and how to make it right. As Socrates states 'An unexamined life is not worth living' (Plato's Apology 38a5-6). It recommends that environmental ethics should be included into the educational curriculum and taught at all the levels of education.

At the primary school level, the pupils should be introduced to their environment and its value. This early exposure would be the foundation to sustaining our environment.

At the secondary school level, the syllabus should include environmental ethics where the values and dangers of neglecting the environment should be emphasis.

At the tertiary level, Environmental Ethics should be made compulsory under the General Studies Programme

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Ecologisation of Communities through Environmental Adult Education

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Abstract. The goal to achieve sustainable global environment may remain a wild goose chase if environmental education, awareness creation and action are not promoted and sustained at community level. Ecologisation of communities will play a significant role in behaviour modification to action competence of community members. The emergence and development of an ecologically driven agenda for communities will enable adults (who are the major stakeholders in community development) play an active role in shaping an ecologically sustainable social and economic order. Ecologisation, in this sense, involves awareness and action, social structures and observable effects on the quality of the environment. The action competence approach through transformative and outdoor experiential learning theories is to develop a critical, reflective and participatory approach by which the adult members of the community can cope with future environmental problems.

Keywords: Ecologisation, Sustainable communities, Environmental adult education.

1. Introduction

The assumption hitherto that children play a critical role in educating parents to behave in more environmentally sustainable ways, can no longer hold because the reverse is the case. This is so because adults who are parents are consumers, industrialists, community leaders, educators and policy and decision makers in all walks of life. In other words, they are the main users of the environment through their occupational activities. This is not, however, to undermine environmental education for children. Parents have the traditional role to educate and train their children, and this is inclusive of environmental education.

Kudryavtsev (2016) affirms that community environmental education prioritizes community wellness, and uses learning in and about the environment as a means towards community wellness and healing. Alex Kudryavtsev defines community environmental education citing Price, Simons and Krasny (2014) as: "community environmental education aims to enhance a community's wellness through thoughtful environmental action. It fosters collaborative learning and action, taking into account the social, cultural, economic, and environmental conditions of a community".

As an analogues term to community environmental education, the term community characterizes common location, social connections or belonging, cultural identity and interests (Delanty 2003). Its use in this paper is as applied to community wellness defined as "social, environmental, and economic conditions that support health and quality of life, including the presence of healthy green spaces, food, and water, and opportunities to engage in healthy activities with others" (Kudryavtsev, 2016). It is Kudryavtsev's view that because building connections among people, neighbourhood, common interest are all important aspects of community wellness, a learning theory that emphasizes how learning occurs through interaction with others is useful in elucidating the learning process and outcomes of community environmental education. Wals (2007) highlights social learning as encompassing a group of theories that have a common focus on learning through interactions with others and with the environment. Two social learning theories used in understanding environmental education by Kudryavtsev (2016) include communities of practice and cultural historical activity theory. These two learning theories are tangential with transformative and outdoor experiential learning theories highlighted in this paper, and to which brief detail is made later.

Ecologisation of communities, therefore, and community environmental education are synonymous in their content and theories of learning with a focus on communities.

2. Ecologisation: Meaning and Application

In spite of the importance of the community to the survival of society, it is out of place that there is a dearth of literature on ecologisation of communities whereas a plethora of literature exist on ecologisation of schools.

As Posch (1999:241-242) puts it: "ecologisation means shaping our interaction with the environment in an intellectual, material, spatial, social and emotional sense to achieve a lasting/sustainable quality of life for all." What this definition clearly shows in that ecologisation is not a one-time affair, but an on-going task. More importantly, it is applied not only to schools, but communities and all institutions within the social fabric.

To promote ecologisation of communities, community environmental education will lead to action competence which is characterized by:

Education *about* the environment – which aims to develop knowledge and understanding of community members about values and attitudes;

Education *for* the environment – with emphasis on community members developing an informed concern for the environment. The ultimate main is for community members to develop a personal environmental ethic which will lead them into actions to benefit the physical environment;

Education *in* or *through* the environment – which allows community members to develop knowledge and understanding plus the skills of investigation and communication.

The focus of ecologisation is for members of community to develop attitudes of care, curiosity and concern for the environment. The overall aims of ecologisation of communities are:

- To save resources (energy and water);
- To preserve the ecosystems (forests, flora and fauna);
- To preserve the aquatic environment;
- To promote healthy living conditions, eg. healthy nutrition;
- To reduce and manage waste;
- To design indoor and outdoor space in an aesthetic and ecologically viable way; and
- To promote a culture of learning (in non-formal and informal settings).

Their knowledge of ecology will be applied in day-to-day life in their work processes and occupational development both in urban and rural settings.

3. Approaches and strategies for Ecologisation of Communities

Ecologisation of communities is an educational mechanism for providing outdoor environmental education activities for adults. The community is a critical sector for ecological stability for environmental sustainability. Ecologisation is a process of developing awareness, knowledge, skills, attitudes, and participation in order to understand the environment and take informed action towards protecting the environment. Social learning theories that can be adapted to ecologisation of communities according to Fitzwilliam-Heck (2018); Kudryavtsev (2016) are:

- Transformative learning theory;
- Outdoor experiential learning theory;
- Communities of practice theory; and
- Cultural historical activity theory.

Ecologisation of communities is a mechanism for social learning theories as approaches for teaching/facilitating knowledge about the environment and natural resources. The transformative learning theory according to Fitzwilliams-Heck, is based on the work of Mezirow (2000, 2009, 2012) and Clover et al (2013).

3.1 Transformative Learning Theory

Clover et al (2013), report that environmental adult education has a goal of leading adults towards transformation involving understanding and improving social-ecological relationships, while Mezirow (2000) maintains that transformative learning theory provides a lens in environmental education for developing knowledge and skills to help adult citizens understand their changed environment and help empower them to make positive changes. It is Mezirow's view that after a transformation has taken place in the learner's frame of reference, they will come to perceive themselves and the world in a seemingly superior meaner than previously, because their initial assumptions and expectations have been challenged and changed to fit reality or a particular context.

It is Mezirow's postulation that a person's frame of reference also includes meaning schemas as well as meaning perspectives (Mezirow, 1991). Meaning schemas here refers to a set of constructed beliefs of how things work, how things should be done, and how things should be understood (Mezirow, 2009). A meaning is a more fundamental belief compared to the meaning schema. The meaning perspective is composed of assumptions within which a person's experience assimilates and transforms new experiences. Meaning perspectives encompass learners' notions of their roles in the world, the value of family, as well as their identities. The theory also puts forward that transformative learning can either be epochal or incremental. Epochal is when transformation of a learner's meaning happens quickly, while incremental means that transformation takes place in small shifts.

Similarly, the experiences of disorienting dilemmas, critical reflection and rational discourse can cause transformation. The disorienting dilemma refers to the dilemma that heavily disrupts and disturbs a person, making them realize their initial frame of reference or their frame of reference prior to a learning experience is adequate and should be changed. Critical reflection takes place when the individual creates new meanings after deeply examining his beliefs following a learning experience. Finally, rational discourse refers to the discussions and interactions with other people that lead to the highlighting of incongruences and biases held that should be addressed (Mezirow, 2009).

Transformative learning theory is also described as a form of adult learning, which helps reveal how adults learn in order to make meaning of their experience (Mezirow, 1991). As an important tool in adult teaching-learning transaction, an understanding of adult learning and transformation can influence what types of educational approaches would influence adult learning and how to best teach adults.

3.2 Outdoor Experiential Learning Theory

Clover et al (2013) identifies outdoor experiential learning in environmental adult education as critical for the understanding of the fundamental transformation of human-nature relations. Environmental adult education encompasses humans' relationship with earth's physical and biological dimensions in a relevant, hands-on approach. With this approach, the goal is to increase environmental awareness, knowledge, skills, and change in attitudes and behaviour.

Using Kolb's (1984) model of experiential education as a lens of outdoor education begins with outdoor experience, followed by the learner's reflection, conclusions derived based on experiences, and planning new outdoor learning experiences to help with the transfer of learning. The transfer of learning or application or continued use of outdoor experiential education in a person's life after exposure to it can be considered a transformation. Outdoor experiential education teaches about the value of commitment to environmental stewardship. Learners are taught specific facts and concepts such as the interlinking of natural resources to each other and the relationship of humans to these natural resources (Fitzwilliams-Heck, 2013).

Kudryavtsev (2016) gives insight into social learning theories that promote nature conservation and sustainability. These social learning theories can help in promoting outdoor activities in environmental adult education in as much the same way as the transformative and experiential learning theories examined above.

3.3 Communities of Practice

Alex Kudryavtsev explains that communities of practice which was originally developed to understand how people learn a craft or skill through interactions with more skilled craftsmen, examines individual and group identity formation and transformation as a learning process. Wenger (1998); Lave and Wenger (1991) describe a community of practice as a place where people with a common interest or concern engage as members and initiate a project or enterprise that is of common interest to members of the community. By this process, members of the same community groups or associations cultivate common bonds or cultural values with which they promote ecological equilibrium. The framework considers learning as a social process that occurs when individuals participate in groups associated with specific physical, historical and cultural context often in an apprenticeship manner around a common interest or concern.

3.4 Cultural Historical Activity Theory

The cultural historical activity theory is based on the idea that humans change or learn when they engage in productive activity within a cultural and historical context and environment, and in so doing, they transform their environment.

Ecologisations of communities flourish under conditions of knowledge sharing, which is useful in addressing sustainability issues. In this process, members of community engage in dialogue and develop altruistic values upon which individual contributions are made towards the sustenance of communal resources and environment.

Ecologisation of communities falls within the framework of social learning developed by Glasser (2007) regarding individual learning, social learning, and eco-cultural sustainability as:

- a higher form of learning occurring in a social context for the purpose of personal and social adaptation;
- the process by which organisms 'see' their environmental circumstances by intelligence gathering and act with foresight or prepared adjustment. This precautionary but evolutionary adjustment may be a vital one for responding to environmental stress;
- the process by which society democratically adapts its core institutions to cope with social and ecological change in ways that will optimize the collective well-being of current and future generations;
- reflects the idea that the share learning of interdependent stakeholders is a key mechanism for arriving at more desirable futures...

Ecologisation of communities as a creation of social learning will help achieve a sustainable world when we all see, perceive, act, hear, understand, and feel the environment pulsing through human activities.

3.5 Strategies

To achieve a sustainable world, it seems inevitable that people will have to act individually and collectively, and as well as participate in ecologically sustainable ways. This will require the integration of the approaches highlighted above into a combination of strategies to engage man in eco-reflection and as a constant reminder of our relationship with the natural world. Any community engagement and action plan will be a bottom-up strategy to be effective.

Adults who participate in outdoor environmental activities can develop knowledge about the natural world and discover a deeper appreciation for it. The elements of outdoor education may include:

- Exposing members of the community to nature with the intent of fostering an understanding and appreciation of its integrity;
- Teaching citizen responsibility toward environmental stewardship; and
- Leaching about the social-ecological interconnections to our natural resources.

Some practical activities the community members may engage in include:

- Tree planting
- Plant identification
- Training of eco-vanguards
- Eco-festivals
- Environmental campaigns
- Production and wearing of eco-insignia (eg caps, badges etc to raise awareness)
- Nature hiking
- Field trips
- Environmental clubs

4. Ecology and Sustainable Communities

An environmentally sustainable community is one that meets the current and future basic resource needs of its people in a just and equitable manner without compromising the ability of future generations to meet their basic needs. The Stafford Borough Council (2020:1) described sustainable communities as places where:

- The needs of everyone in the community are met and people feel safe, healthy and ultimate happy
- Our environment is appreciated, protected and enhanced and damage to the environment is minimized.
- Our economy is vibrant, employment opportunities are improved and our working lives are more rewarding;
- While creating a sustainable society involves protecting and enhancing the environment which include:
- Use energy, water and other natural resources efficiently and with care
- Minimize waste, then re-use or recover it through recycling, composting or energy recovering, and finally sustainably dispose of what is left
- Limit pollution to levels which do not damage natural systems
- Value and protect the diversity of nature.

The key to achieving sustainable communities is community environmental adult education. Communities live on the frontier and on the fringe of the forests. Community-based conservation should be the focus of education as an approach to achieve sustainability. Social sustainability according to Chan (2018) citing Andrea Colantonio, concerns how individuals, communities and societies live with each other and set out to achieve the objectives of the development models that they desire for their communities and planet Earth as a whole. The natural resource ecology laboratory of the Colorado State University (2020:1) is committed to research education and engagement of communities in their ecological research efforts. The thrust of its research in sustainable communities is that:

Our most challenging ecological issues involve the difficult balance of ecosystem sustainability and human well-being. Sustainability is a pressing concern for towns, cities and communities, which depend upon natural resources and ecosystem services for economic stability and support of growing populations.

The question that arises from their research effort is how to improve livelihood opportunities and reduce poverty today, while conserving natural resources for tomorrow, protecting the livelihoods and well-being of the future generations.

The role of ecosystem services in sustainable development has been highlighted by the United Nations Economic and Social Council (ECOSOC) (2008). According to this report, the Millennium Ecosystem Assessment in 2005 reveals that humans over the last fifty years changed ecosystems more rapidly and extensively than in any comparable period of time in human history in order to meet the rapidly growing demand for food, fresh water, timber, fibre and fuel. The changes that have been made to ecosystems have contributed to substantial net gains in human well-being and economic development. However, these gains have been achieved at growing cost in the form of the degradation of many ecosystem services, increased risks of nonlinear changes, and the exacerbation of poverty for some groups of people.

The Millennium Ecosystem Assessment maintains that approximately 60 percent of the ecosystem services evaluated are being degraded or used unsustainably: 20 percent of the world's coral reefs were lost, 35 per cent of mangrove area has been lost and the withdrawal from rivers and lakes doubled since 1960, 25 per cent of the commercially exploited marine fish stocks are over harvested and 10 to 30 per cent of mammal, bird and amphibian species are currently threatened with extinction. This has resulted in a growing concern worldwide about the destruction and degradation of natural ecosystems and the related loss of biodiversity.

The foregoing analysis presents a grim picture of the world's ecosystemic balance. Maintaining ecological sustainability is important because ecosystems provide direct services, such as food and water, regulate climate, support nutrient cycles and crop pollination, provide spiritual and recreational benefits and preserve diversity. In the short term, it is the world's poor that depend most heavily on these ecosystems services, but in the long term, all of humanity depend on these ecosystem services for their survival and well-being. Maintaining healthy ecosystems is therefore not only essential in order to ensure environmental sustainability, but also to ensure continued human development.

It is because of the global risk which humanity faces from our endangered ecosystems that the United Nations secretary General has identified natural disasters, climate change, the food crisis and the surge in fuel prices, as top priority issues. Given the importance of ecosystem to world's prosperity, forests should be an important theme in the provision of environmental adult education for the realization of sustainable communities. Perhaps the United Nations Department of Economic and social Affairs in its World Economic and Social Survey 2013 has provided a grim note of finality on sustainable development challenges. In this executive summary, the environment occupies a priority place in the achievement of global sustainable development that the global community has set for itself. The United Nations (2020:5) survey reads partly:

The world is faced with challenges in all three dimensions of sustainable development – economic, social and environmental… unsustainable consumption and production patterns have resulted in huge economic and social costs and may endanger life on the planet. Achieving sustainable development will require global actions to deliver on the legitimate aspiration towards further economic and social progress, requiring growth and employment, and at the same time strengthening environmental protection.

Putting action to policy on ecosystem and communities' sustainability, will deliver majority of the world's poor from poverty and unemployment, among other socio-economic benefits.

5. The Environment, Adult and Education

The local communities face many challenges in an increasingly globalized world. A new framework for sustainability that includes environmental adult education can help them survive, and even thrive in the age of globalization. Lange (2010) encapsulates in her work, Environmental Adult Education: A many-Voiced Landscape, a statement by UNESCO which asserts that adult education is both long-term solution and primary lever that can link our existing way of living to a very different future that is ecologically sustainable and socially just. What this means is that adult education is an instrument of social and environmental justice and equity. It is a tool in the hands of man that can change the social and environmental landscape. Adult education has an empowering potential able to redefine boundaries and set new agenda for growth and development.

Clover (1997) discusses the key task of environmental adult education moving from words to action, in the face of escalating environmental problems. Adults are involved in many walks of life as government and community leaders, decision-makers, voters, entrepreneurs and consumers. Yet, majority of the adults do not know the basic environmental impact of their own activities. Environmental adult educators through their practice, therefore, can help adults connect with the rest of nature through sensory perception and emotion, which arises from the perception that understanding can flow from feelings and intuitions as much as from scientific knowledge.

Darlene clover acknowledges that environmental adult education considers the environment in its entirety, natural and built, technological and social, and assisting people make global and local links. It attempts to make people to become more politically literate about ideologies, systems at work and in the local community that are contrary to the promotion of a healthy social and natural environment.

Similarly, environmental learning encourages participation and builds a vision in which the contributions of men, women, persons of colour, indigenous persons, the young, the old and differently abled are equally respected. Environmental adult education draws from the knowledge of indigenous peoples, those who are most often closest to the land.

This reflective thought by N'Gaba-Waye (1997:124) captures the whole essence of environmental adult education in the ecologisation of communities. It is one which views environmental adult education as "a way of thinking that is characterized by deep reflection on the elements on which our existence depends". Since the causes of ecological crisis are linked directly with the over exploitation of the resources of the Earth and toxic industrial waste, Adoum N'Gaba-Waye maintains that environmental adult education has become an absolute imperative that will enable the various communities in our world which are rapidly changing, to manage their own educational, cultural, scientific and technological resources and to direct them towards a form of development of which they will themselves decide the content and priorities in accordance with their experience and particular ways of life.

As an urgent necessity, environmental adult education plays an increasingly crucial role of developing knowledge, skills, understanding and awareness of working men and women on which depend both the ecological equilibrium of the Earth and the survival of humanity. This is to enable the adults bear both the heavy responsibility for decisions affecting the environment of the planet, and the duty to educate the younger generation. Also, improvement in nutrition, sanitation and economic and social conditions, to which all peoples of the world aspire, depends on adults' awareness of environmental care. It is this awareness that may stimulate people to participate actively in saving the environment in the 21st century that is in great peril.
UNESCO (2002) provides a broad view of the environment. It considers the weft of the environment as life itself, at the interface between nature and culture. The environment is seen as the crucible in which our identities, our relations with others and our "being-in-the-world" are formed. Here, the environment is considered in sevenfold representations:

- First, the environment is considered as nature (to be appreciated, respected and preserved);
- Second, the environment as resource (to be managed, to be shared);
- Third, the environment as a problem (to be avoided, to be solved;
- Fourth, the environment as a system (to understand so as to improve decision-making);
- Fifth, the environment as a place to live (to get to know, to improve);
- Sixth, the environment as a biosphere (in which to live together over the long term); and
- Seventh, the environment as a community project (in which to become actively involved).

The above representations of the environment, imposes on man the compelling need to engage in ecological education (on a continuous basis) in order to develop requisite knowledge, skills, attitude and awareness for critical investigation, and in dealing with problems arising from the environment. Eco-education is the tool for making people responsible users of the ecosystem. It is to help develop consciousness in people about the interdependence and interrelatedness of all living organisms. It is to help build a world of commonwealth in managing and sharing environmental resources through responsible resource production and consumption for present and future societies. This will foster partnership and cooperation to achieve desired changes in communities. Building communities of learning and practice, therefore, is the cardinal objective of ecologisation of communities – and one which environmental adult education is capable of achieving to make planet Earth safe, secure and sustainable for all that inhabit it.

6. Conclusion

The application of environmental adult education approaches, strategies and methodologies in the ecologisation of communities demonstrate how the knowledge of others can become a basis to create new knowledge and a new vision of the world. They are processes of learning that begin with the experiences of the learner, involve a high degree of participation and are action-oriented. The recognition that the division between the North and South or between the developed and developing countries mask how people of colour, indigenous peoples, the differently abled, and persons of other non-dominant social identities are disproportionately affected by climatic change, toxic waste, polluted waters and other biopheric contaminants. It is this recognition that provides the motivation for participation.

The overarching issues in environmental adult education are environmental problems created by human activities. Ecologisation of communities fosters ecosystem integrity and maintains livelihoods. For example, community based conservation as an approach to achieve sustainability will foster the ecologisation of communities. Learning in groups or organisations under conditions of outdoor education or social learning activities promotes nature conservation, and which invariably promotes sustainable environment as an all compassing web of life upon which survival depends.

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Epistemic Justice as a Panacea for Political Freedom

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Abstract. The paper examines the links between epistemic justice and political freedom. It is also an attempt to reveal how epistemic injustice leads to oppression, disabling conditions for an individual as manifested in testimonial practice. However, political freedom here includes civil liberties and positive exercise of human rights. The paper argues that social inequalities are the root cause of epistemic injustice. Epistemic justice on the other hand concerns the just exercise and attribution of epistemic power. Epistemic power is enabled by authority, a prerequisites for being regarded as epistemically trustworthy. The paper adopted descriptive and content analysis method to examine the role of epistemic justice in ensuring political freedom. It x-rays how epistemic power allows us to explain the moral and epistemic nature of epistemic injustice. The paper concludes that epistemic justice is important for the welfare of society as a whole, having epistemic justice and responsibility leads to satisfaction and pleasure of life, as well as the respect and loyalty to political leaders. People who suffer epistemic injustice eventually rebel and make the abuser pay dearly.

Keywords: Epistemology, Epistemic Justice, Political freedom, Social inequalities.

1. Introduction

Epistemic justice concerns the just exercise and attribution of epistemic powers that is, one's ability to exercise epistemic influence. Epistemic power is enabled by authority or credence these are prerequisites for being regarded as epistemologically trustworthy. Epistemic injustice occur when an individual is perceived uninformed of information mutually known by others. On the other hand, individuals are treated epistemically fairly when credibility assessments match up with the available evidence, unimpeded by prejudice. (Fricker, 2007:19).

The paper is particularly interested in some of the epistemological issues that emerge in the context of discussing the relationship between epistemic justice and political freedom. These concerns raise questions about epistemology and epistemic justice, epistemic justice and testimonial practice, epistemic justice and political freedom, epistemic injustice and social inequalities.

To deny someone the opportunity either to contribute knowledge or to receive knowledge without epistemic reason is an epistemic wrong. These can lead to oppression inequality and epistemic injustice, and in turn impoverishes our political freedom. In order to approach epistemic justice, it is also important to know how knowledge is incorporating in our understanding of everyday concept of knowledge. This concept has to do with the social aspect of epistemology. Social epistemology studies epistemic properties of individuals that arise from their relations to others, as well as epistemic properties of groups or social systems. This has to do with transmission of knowledge or justification from one person to another. Epistemic relations are a legitimate part of epistemology.

2. Epistemology and Epistemic Justice

What can we know? How do we know? These are questions very central to Philosophy. Epistemology is the technical term for the theory of knowledge. As a branch of Philosophy it studies the sources, nature and validity of knowledge. The following problems or questions that arise in this branch of Philosophy are: what are the sources of knowledge? This has to do with how we attain genuine knowledge. How can we know the nature of knowledge? In order to understand the nature of knowledge, it is important to seek to understand what role the concept has in our lives, and why it should enjoy such a widespread use in our lives, (Welbourne, 1986: 25). Given the importance we attach to knowledge, how can we distinguish between truth and error? Why is it that some statements are qualified as knowledge while others are not? Williams writes:

Even if sufficiently complex analysis never succumbed to counter examples that would not entail the identity of the analyzing concept with the concept knows. Indeed the equation of the concepts might well lead to more puzzlement rather than less. For knowing matters, the difference between knowing and not knowing is very important to us. Even unsophisticated curiosity is a desire to know. This importance would be hard to understand if the concept know were the more or less ad hoc sprawl that analyses have had to become (2002:30).

He is of the opinion that mental states or more generally, mental attitudes, both stative and non – stative, can be externally individuated and this makes it tenable to claim that knowledge is a mental state, namely a factive one. Longino is of the opinion that knowledge is social and that the criteria for knowledge are set by the scientific community (2002:162). It can also be understood as an attitude or mental state ascribed to humans. Given the everyday sense in which knowledge is a mental state, which is ascribed to us, it links us to truths and hence means that if we are in a state of knowing, we possess truths. Williamson puts this clearer when he says:

The importance of knowing to us becomes as intelligible as the importance of truth. Factive mental states are important to us as states whose essence includes a matching between mind and world, and knowing is important to us as the most general factive stative attitude (2002:40).

He sees knowledge as the most general one of all the active mental state that is, one that is entailed by other factive mental states, such as perceiving, remembering, and hearing. Knowing then takes a pivotal explanatory role in explaining the mental, and our actions (William, 2002:7). However, any account of knowledge should enable one to understand the connection between knowledge and epistemic justice. Knowledge features in philosophical accounts of beliefs, actions, evidence or justification, and assertion. Knowledge cannot be eliminated from an explanation of action. Knowledge is the evidential standard for the justification of belief. It follows that one should assert 'A' only if one knows 'A' (Williamson, 2002:11).

However, epistemic justice requires knower's to develop particular virtues that facilitates our relations with one another in particular ways. Fricker is of the opinion that social epistemic practice is a human practice through which knowledge is gained in or indeed lost (2007:vi). Testimony as a social practice is central to the generation and preservation of knowledge; there are also moral epistemic norms that pertain to testimony that derive from the social nature of knowledge. We can substantiate the substantive norms yielded by generation of knowledge, by beginning from actual practice and identify certain ways in which we may epistemically wrong another person (Fricker, 2007:4). Or the injustice of perceiving another epistemic agent as less credible due to identity prejudice.

The point here is that there are certain things knower's have a right in relations to other knower. Epistemic injustice is a wrong that happens to an individual and one that can be perpetrated by individual. But the truth of the matter is that knower's are not solitary individuals but rather agents within a larger community whose interdependency with one another requires a mutual relation to one another. To remedy this epistemic injustice our epistemic lives should be interdependent. The knower's should develop virtues that facilitate our relations with one another, such as open – mindedness, respect, charity, epistemic courage, and epistemic humility. Epistemic injustice occurs when hearers do believe the testimony of a speaker whom they would otherwise have believed had the speaker not been a member of a particular social group. Another reason that can be attributed to this is the prejudice against the social identity of the speaker, may cause the hearer to perceive the speaker as less credible. With this deflation of credibility, it becomes difficult to transfer knowledge to those whom they wish to give it, leading to a number of epistemic wrongs.

However, in both cases, speakers stand to lose a great deal if they are not believed. This epistemic unjust means that one knower's fails to believe another without proper warrant. This constitutes epistemic wrongs, not only on the individual but also on a communal level. Epistemic relations with other knower's in the community enable an individual to verify and coordinate with others experiences in such a way that facilitates reliability about what is true and what is false concerning the experienced world. Epistemic justice is an important element for any society that aspires to be a just one. It is part of what justice requires and became. Injustices of a non-epistemic kind can be addressed only when those who are mistreated or who suffer injustice of a structural nature are heard (Fricker, 2013:1324). Epistemic justice means that all human beings can contribute to the shaping of social meanings and that all putative sources of information are included.

3. Epistemic justice and Testimonial Practice

Recognizing an agent as having an epistemic standing, acknowledges the agent's status in the epistemic society. For people to enjoy epistemic power, the concept needed for people to express themselves should be available to them. Let's consider the following cases: in a well established textile company, a female employee always generates valuable contributions to her work team but never gets acknowledge for this. Rather, her male boss takes her ideas to later use and present as his own. He does this because of gender discrimination that men need to move up the business ladder, but women do not need to advance in business. This is a clear example of epistemic injustice. This is different from testimonial injustice because, the boss here is not misjudging his employee's credibility. He sees that she is capable of producing good ideas.

However, the female employee is wronged because of an identity prejudice. What the boss is required to do here is to give recognition to his employee and see her as an epistemic agent, who deserves credit for her ideas. Rather he treats her as a mere source for his own epistemic goals. Epistemic justice means all human beings can contribute to the shaping of social meanings and that all putative sources of information are included. Testimony on the other hand means the communicative interactions of an informative nature whereby knowledge is being shared (Coady, 1994:7). One of the problems of testimony is that, it is difficult to explain how knowledge can be gain through "mere say so" (Wellbourne, 1986:1). Knowledge is shareable, it can be had by virtue of mere say so. It can also be viewed as a social epistemic practice through which knowledge is gained or lost. The conception of testimony as a practice means that there are many interactions, each of which is part of the practice. It also involves epistemic dependence on others.

Testimony is regarded as a source and foundational for much of our knowledge. It is also a source, which is transmissive of already existent knowledge whereby that knowledge was based on other sources (Audi, 2013:510). Testimony provides us with knowledge, but not with the justification. Audi explains further that:

You are my source of information, but your knowledge is not the ground of mine or my evidence. It is not because you know that I do. It is because you tell me, given that you know. Your knowledge is required for successful transmission, but my knowledge is not based on your knowledge, if this entails more than it is appropriately depending on it (2013:511).

False claims do not qualify as being knowledge. An account of testimony should include an account of the role of the hearer and specifically, an account of what rationally explains or justifies a hearer's uptake which is the acceptance of testimony issues in a state of believing (Faulkner, 2011:19). The puzzle about testimony arises because knowledge requires justification. We also want more than a general entitlement. The context of testimony is typically an interaction between two parties, the speaker and her addressees come to have a belief which she presents to them, therefore we are not talking of just any speech act nor indeed of mere assertion, telling is a special case. The relationship between the persons involved is relevant, the fact that the speaker addresses an audience means he or she is requesting the trust of these specific individuals.

Testimonial injustice is a wrong an individual suffers when he or she is perceived as not being a credible informant because of stereotype associated with it. As Kiss argues:

Providing a platform for victim is one of the core tasks of truth commission, not merely as a way of obtaining information but also from the standpoint of justice. Those who lives are shattered are entitled to have their suffering acknowledged and their dignity affirmed, to know that their pain is real and worthy of attention. We affirm the dignity of those who have been brutalized by attending to their voices and making their stories a part of the historical record (2000:73).

Undermining someone as a knower is conceptually and historically closely related to their being undermined as a practical reasoner (Fricker, 2007:137). Not understanding the mechanisms of oppression significantly limits one's ability to challenge them.

4. Epistemic Justice and Political Freedom

Fulfillment of our political obligation to vote in a democratic society should be seen as political freedom. Citizens have a right to exercise their civil duties. This epistemic justice will contribute to the epistemic advantages of democracy. Human rights have always been, and always will be a struggle (Alston, 2017: 3). Political freedom is one of the most important features of democratic societies. It is the ability of a nation's citizens to participate freely in the political process, and have equal access to relevant knowledge. Epistemic justice enables people to participate freely in the political process which is the system by which the polity chooses authoritative policy makers. In a free society, this represents the right of all adults to vote and compete for public office. Epistemic oppression is an instance of epistemic injustice, this occurs when there is repeated widespread systemic injustice (Deutsch, 2006:10). Epistemic oppression occurs when there is a restriction on an agent's capacities and successes within the political domain. An agent can also be epistemically marginalized, when he or she is excluded from political practices in light of group membership. Marginalization occurs when women are expelled from useful participation in political society. This marginalization is epistemically unjust because women should be given the opportunity to exercise their capacities in a defined and recognized way.

Epistemic justice prevents monopoly of authority, this is because the government is bound by an election term where parties compete to regain authority, and the elected ruling will make sure their policies will work for the people. Epistemic justice also protects equality of the citizens. Generally, democracy is based on the rule of equality, which means that all people are equal as far as law is concerned. Every citizen have the right to experience and enjoy equal political, social and political rights and the state is not allowed to discriminate him on the standard of sex, class and religion. Epistemic justice also gives room for a responsible and stable administration when there are elected and fixed representatives; a more responsible government is formed within an epistemic community. Everyone with certain rational capabilities has standing in the broadest sense of the epistemic community. This standing makes certain behavior appropriate, such as permitting the agent to speak, and giving a standing to criticize. This gives room for political freedom and democracy can be efficient, firm and stable. The society is ruled and conducted with a sense of dedication, and people under this system discuss matters and problems thoroughly to come up with sensible decisions.

5. Epistemic Injustice and Social Inequalities

Epistemic injustice is a distinctive epistemic kind of injustice in which an individual is wronged specifically in his or her capacity sas a knower (Fricker, 2007:1). People suffer from epistemic injustice and social inequalities when they are denied the credibility that they deserve (Coady, 2017: 61). Treating credibility as a distributive good has an advantage, though credibility is not an agent. When individuals are not taken seriously due to prejudice, they suffer from a distinctively epistemic injustice. Insensitivity is at core of epistemic injustice that is being cognitive and effectively numbed to the lives of others. It also include being inattentive to and concerned with their problems, and aspirations. It is important to examine the harm and think critically about possible solution. This also raises bigger question about the nature of epistemic agent. An agent words can be unfairly discredited to racial prejudice. For example in a recent example, a person in need of legal assistance was initially neglected after a white man refused help from a black female lawyer. This is a case of epistemic injustice and it is not only morally problematic, but also epistemically problematic. Racial discrimination has shaped the existing distribution of economic resources

However, fixing epistemic injustice is obviously not easy, but we can take a hard look at ourselves, take stock of our beliefs, our biases and work to change them. We also need to think about and change how we talk about each other as individuals and as a society. We need to speak up when see any form of epistemic injustice. Empowering ourselves and each other is an important way to begin. We need to talk to our children about epistemic justice and injustice and teach them healthier ways to treat each other. We need to work with our schools to be sure that all children, no matter what, have access to a good and supportive education. We need to ensure that there are programs in place to not just help people who are poor or struggling, but lift them out of poverty. We need to be sure that our laws truly protect all citizens, not just some people. From the foregoing, it is now clear that epistemic justice plays a vital role in the inculcation of rights attitudes, values, such as cooperation, open-mindedness, honesty, respect, obedience, national consciousness and loyalty on the citizens.

6. Conclusion

Epistemic justice is worth pursuing in its own right, epistemic justice can further other kinds of justice.

Some rights can be valued for more than one reason, the right to freedom of expression, for example, may be valued in terms of intrinsic good of self fulfillment, or because it is a means towards the generating of truth and knowledge, or because it is a necessary condition of democracy (Malcolm, 2017:29). Preventing epistemic injustice and seeking epistemic justice is a question of how to reduce the negative impact of prejudice within our interpersonal interactions and our epistemic communities. It is important to point out that individuals at political disadvantage are those experiencing epistemic injustice. Full and equal participation of men and women in political decision making will provide a balance that much accurately reflects the composition of the society and may as such enhance the concerns and perspectives of all segments of the society.

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The Establishment and Growth of Doulos Ministry in Ondo City, Nigeria

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Abstract. The Church is a place people meet in order to worship God in a given time at a particular place. The study examines how the Church was founded and the impact it has made so far and was the Church established according to Biblical injunction or just a business center for commercial purposes. The study also gave an insight into what is being practiced in the Church and how it has affected society positively and negatively. The study also x-rays an in-depth knowledge of what is happening to our local churches today and how we can be able to make an amendment into what is being practiced and how it should be practiced according to the biblical pattern.

Keywords: Grwoth, Doulous, Ministry, Establishment

1. Introduction

Establishment of a new Church planting is a process that results in a new (local) Christian Church being established. The Purpose of the Church was to respond faithfully to the Great Commission in Matt 28, "Go and make disciples," remains central to the mission of the Church. The new Church should be distinguished from Church development where new service, new worship center, or fresh expression is created that is integrated into an already established congregation. According to Witness Lee (Lesson Book, Level 5), why is there a need to establish churches? Said, the universal Church has already been formed by the Triune God, but where can people see it? The glorious Church must be practical and real to people. Local churches are needed so that people may see God's glory. Before Christ ascended into heaven, He said in Acts 1:8, "But you shall be my witnesses both in Jerusalem and in all Judea and Samaria and unto the remotest part of the earth." Local Churches are His practical expression and His testimony. Therefore local churches must be established all over the inhabited earth for the sake of His testimony, the Apostle obeyed the commandment, and we are to continue this process until the Lord's return. The Church is under the umbrella of P.F.N. (Pentecostal Fellowship of Nigeria) is the umbrella which coordinates the activities of Pentecostal, Evangelical and Charismatic Ministries, Churches and Associations for the purpose of unity as underline by the prayer of the Lord Jesus in John 17.

2. Pentecostal Fellowship of Nigeria

This is an affiliate of the Christian Association of Nigeria in the group of PFN/CPFN. Her motto is "we ought to love one another" (1Jn 4:11). It operates at the National, state, and local levels. It organizes seminars and lectures for ministerial empowerment. It organizes crusade and prayer rallies. It organizes Press conference to address issues which bother on the interest of the Church and the general well being of the nation.She acts as a rallying platform to foreign Evangelists and Preachers towards carrying out their kingdom missions in Nigeria.Where necessary case rises, it protests by peaceful demonstration any act that is deemed to persecute the course of the preaching of the gospel in any part of Nigeria. Rises to defend the gospel against any foreign government policies which run contrary to the tenets and promotion of the gospel and general world peace, e.g., the homosexual views of the western nations and their stand on Anti Gay Law in the Developing Countries.

3. Pentecostals And the Belief in the Supernatural

Much of Western Christianity has been heavily influenced by an anti-supernatural bias, which has tended to lower if not remove the emphasis on the supernatural in western churches. However, the supernatural is a very basic part of the traditional African worldview. Therefore, when Pentecostalism came along, offering a Biblical version of the supernatural, it was very appealing and quickly adopted by many African Christians. According to B. Hearne, quoted by Nwanaju (2005), "the insecurity and uncertainty of life today means that many people crave for security and certainty.

3.1 Belief in Demons and Evil Spirits

According to Nwanaju (2005), quoting F. Oborji, "In African Traditional Religion misfortune is generally interpreted as the work of the evil spirit, witches, sorcerers, the evil eye, broken taboos, perjured oaths, or even of the deities or ancestors." Nearly all African Traditional Religions have believed strongly in the existence of various kinds of evil spirits.

3.2 Belief In Divine Healing

Traditionalists use herbs and other remedies in their healing process, use spiritual or supernatural practices as well. Pentecostalism stresses that we can expect and experience miracles today of the same nature as the miracles of the biblical days.

3.3 Emotional And Physical Expressions Of Worship

Nwanaju said, "Pentecostalists express their worship through singing and dancing, encouraged people to express their worship and praise to God in whatever they felt would be meaningful." Pentecostals claimed that dancing and praising as a way of expressing their joy and devotion. They speak in tongues as an expression of the influence of the Holy Spirit.

4. History of the Founder

Doulos ministry in Nigeria was founded by Pastor Achonwa Charles Chukwuedum born on Saturday, February 2, 1952, in Mamfe, Cameroon, male, has B.Sc, M.B.A., married to Shade Owo-Odusi, 1980(deceased); Ngozi Nwadiogo Okoye,1991, has 5children(3males and 2females), his profession is Pastor; Administrator.

4.1 His Previous Appointments

He was the traveling secretary fellowship, Christian students, 1978-1981; traveling secretary and Assistant General Secretary, Nigeria Fellowship of Evangelical students, 1981-87, crusade director, Redeemed Christian Church of God, 1990-92; General Overseer and Founder Doulos Ministries, 1993. Basel Mission, Bena Cameroon, 1958-60; salvation army, surulere, 1960-65; Government secondary school, Afikpo, 1966-72; University of Nigeria Nsukka, 1973-77, University of Ilorin 1987-92. International Fellowship of Evangelical Students, 1973-87. He held many positions in the Pentecostal Fellowship of Nigeria (P.F.N.) in Ilorin between 1987-96 and Lagos in 1997. He anointed his successor in 2012 to carry on the assignment as the General overseer whose name is Pastor Bamidele Oluwatomisin an assembly Pastor in-charge of Ondo parish before becoming the General overseer, the founder became the Grand Patron of the Ministries, Pastor Bamidele Oluwatomisin is a University graduate and a specialist in Agriculture, when he graduated from university and finished his N.Y.S.C. (National Youth Service Corps) he came to Ondo where he was working with Lebanese as a representative of the company in charge of Cocoa, Cashew and Palm Kernel products, he was busy doing this job when he had the call of God into the Ministry and he joined Shepherd Intercessory Ministry and was with this Ministry before God told him He did not send him to that Ministry and he was confused and went to Redemption camp to join their intercessory group and God now told him to go back to Ondo and join Doulos Ministries, he met the assembly with less than 10 members and the Church grew within 10 years that was in-charge to around 850 members before he left to become the General overseer. According to Living stream ministry internet message,

''One of the greatest threats to successful church planting is
the attempt to bring outdated and strict models to bear the
which may have been successful in previous generations,
but are hindrances to our or cultural dynamics, Regardless
of the unique change of the cultural dynamics of a targeted
people group, any methodology should seek Biblical warrant.
There always seems to be some 'new' way to plant churches
but many are a gimmick and shallow, and will not sustain through
time for lack of giving converts a foundation of sound doctrine
or intimacy with Christ, the Church which works outwardly

from a scripturally patterned core of dynamics offers a greater
potential of establishing a lasting presence.''
During the time of his staying with the Church, the Ministry became a force to be reckoned with in Ondo city and his environs

5. History of the Church

The Church under Doulos ministry started in Ondo around 1995, but the Church did not grow until the present General overseer joined them and became their Pastor and the Church grew because of the charisma of the Pastor, he was endowed with the Ministry of deliverance, and people use to fall under his ministration and this help to give solution to their problems. Supernatural manifestation means the demonstration of the power of God through deliverance and the working of miracles. According to Ogunewu (2015), some argued that members of the Aladura churches are not committed Christians; rather, they are only after having their needs met through prayers and deliverance. In other words that they sustain a worldly orientation and are only out to use Christianity as an avenue for worldly acquisitions. But scholars like Clarke denied such assertions that it is not true.

Ogunewu continued, the issue of miracle is a controversial one, in many cultures of the world. While some belief in its reality and there are those who generally dismiss claims to miracles as false, and contend that miracles are impossible. Hume defines miracles as a violation of the law of nature, rules out its possibility, and contends that religious people use false claims of miracles to propagate their religions. The antagonists of Christianity today claim miracles as untenable.

5.1 Evangelism

One of the factors that affect the growth of the Church when there was a change of leadership in the assembly in Ondo is evangelism; it added value with the gift of the Minister of God in-charge of the Church. The Church conducts open-air crusades in order to promote the gospel and make it accessible to people; this has been helping the growth of the Church. Focus is given to the sequential flow of Biblical history and the Ministry of Jesus Christ to offer redemption to all who surrender to Him through faith.

5.2 Bible study

The church use to Bible study as one of the weekly activities, this help to bring people into the knowledge of the truth where people are privilege to learn and ask questions on some areas where they are confused.

5.3 Counseling Time

Counseling time always meant for personal matters with pastors whenever people need advice on any issue when necessary, this serves as avenue to get clear directive of what to do and how to do it.

6. Doctrine of the Church

6.1 Using of Anointing Oil

The Church believes in the teaching of the scripture as well as the application of the words of the scripture according to the writers' intentions. The Church believes in the use of anointing oil for healing. They also believe in making use of it for safety while leaving for any destination or travelling. They conduct deliverance which has also serve as avenue for bringing people into the fold, when people are delivered from their problems they become members of the Church, according to Matt 16:15.

6.2 Speaking in Tongues

They also believe in speaking in tongues according to what happened on the day of Pentecost when the disciples were baptized with the Holy Spirit and they all spoke in tongues. There are controversial about speaking in tongues, some believe that it has stopped while some say speaking in tongues still exist till today.
Covering of Head for women in the Church

The emphasis is not laid on this it is an optional which is decided by an individual, is just depend on individual discretion.

6.3 Fasting

It on individual interest not make compulsory for members even when the need be, they do have it occasionally.

7. Administration

Church administration and management positions guide, direct and oversee the critical functions that help churches meet their long term goals. Church administrators also play a role in helping the community, given the nature of today's churches.

Church administration is spiritual service to the Body of Christ which involves the wise stewardship of God's resources for the accomplishment of the work of Ministry. Church administration or management has to do with the organization of Church ministry, and with the operations that govern hat organization. With regard to organization, affairs of the Church are to be guided by Biblical qualified elders who are nominated by the congregation especially where they practice congregational administration. The church practice Presbyterian type of administration in which leaders and executives meet to decide on the needs of the Church, they involve in important decisions like finances, facilities, equipment and Church programmes. Apart from the decision made by the Minister and the executives, we cannot rule out the possibility of God speaking through the Minister's in-charge, and that one is non- negotiable, no committee can decide on that because it is divine instruction. A Church may be a place you go on Sundays to attend service, but the Church is much more, including a fully functioning business and /or organization. The business nature of today's Churches makes administration a vital function.

7.1 Mission Statement

The mission of any Church should be to follow God. The Church administration must establish a mission statement that clarifies what it believes (according to its denomination or theology) and what it follows (such as the Bible).

7.2 Purpose

The purpose of a Church administration is to manage the organization. The Church administration must plan and make all decisions, both large and small, for the day- to day consistency. Since this administration is religion, it must stay true to the morals and practices of the Church.

7.3 Finances –Income and Expenditure

Money matters can be a point of contention for Churches, be it tithing, poor fiscal management, or outright fraudulent practices (intentional or otherwise). According to the General overseer, the Church was built by Late Oba of Ondo Kingdom- Oba Festus Ibidapo Adedisewo Adesanoye (Osungbedelola 11). The work had not finished when Oba was demised, and immediately God raised a 40years old young man to finish the project. The Church gets her income through tithes, offering, voluntary donations, pledges, and special anniversary. The tithe is used to pay Pastors' salary. Offerings and other income are used to cater for other needs of the Church.

Dennis McCallum said in his New Testament Principles of Church finance:

- Should pay its own elders (ministers) and workers at the offices (1Tim 5:17,18, Gal6:6, Lk10:7-10)
- Should pay for evangelistic and missionary work including logistic expenses for meeting and training (Acts 18:5, Phil 4:15,16, 1Cor 9:4-11)
- Should give to the needs of the Christian poor (Gal 6:10, Jn 12:8, Lk 10:30-37, Matt 19:21)
- Should give to the needs of non-Christians' poor (Gal 6:10, Jn 12:8, Lk 10:30-37, Matt 19:21)

He further emphasizes on how the Church should handle its Money:

- Those who lead in Spiritual matters should also lead to financial matters. (Acts 4:35-37; 11:29-30; 1Tim 3:3,8)
- Money should be handled in such a way that is defensible against any accusation (2Cor 8:21)
- Money stewards should be trustworthy people. More than one person should perform every function so that we have accountability (2Cor 8:18-24, Acts 6:3-6)

7.4 How to Collect Money in the Church

The collection should be done in a regular and orderly manner. We should facilitate consistent individual giving by reminding members in a variety of ways, including taking collections on a regular basis.

The Church should teach Christians the many Biblical reasons for giving.

7.5 Accountability

A recent article by Michael Messher on the Assemblies of God website says it is important for a Church to maintain its accountability. The article quoted a sermon by Southern Califonia college President Wayne Kraiss, which presented ten danger signals that point to an erosion of integrity, including a Church administration becoming more issue-oriented than Christ-centered, vulnerability to outside forces and Church goals that are too materialistic or financially motivated.

7.6 Pay Roll

The number of paid individuals on the administration varies based on a budget of the Church. At a small Church, only the Pastor and one or two people may be paid. However, very large Churches may have hundreds of paid positions.

8. Problems of the Church

When the present General overseer was anointed for the position, he handed over to another Pastor and moved to Lagos, which is the seat of the General overseer in order to oversee the Churches under the Ministry from the central, according to the present General overseer he handed over 850 members to the Pastor who took over from him when he was about to leave for Lagos, and under 5years the new divided the Church and took 828 members away to start his own Ministry and leave 22 members in the Church who could not follow him. This situation now forced the General overseer to relocate his administrative seat to Ondo, so as to monitor the Church himself. Another problem the Church has is that they depend much on prophecy for anything they do, and since they could not see someone who could continue, the new Pastor takes advantage of the distance to cave away his own empire.

8.1 Preferred Solution

The solution to this problem is to start a discipleship program in the Church that will make every member a disciple of Christ, and this will guide against future occurrences. This will allow individuals to know their God and whom to depend upon and not an individual Pastor.

9. Recommendations

- It is recommended through this study that what people called Church today is not yet understood by people; people think gathering people alone is what is meant to be a Church. The Church is more than that, people of Christ minded that will follow Christ in Character, heavenly minded, focusing on heaven first than on this earthly things, people that will think about what to acquire for than to what to acquire for ourselves, until people are able to see that such occurrence will still continue, teaching that will let people see this must start from our new convert class.
- Bible study for all members should take priority than prayer and deliverance, and through the teaching, it will help them to know how to pray.
- Mature to be soul-winning oriented, this will help them to grow into adulthood in Christ.
- To make members focus on Christ for a solution to their problems and not to put ourselves in the position of Christ who has a solution to their problems, Heb 12:1 says look unto Christ, the author and the finisher of our faith.

10. Conclusion

When will our society leave the stage of the present predicament to another stage where we will stop breaking heart? The Pastor that broke the heart of another Pastor to start his own Ministry, how would he be able to relate with him after his departure? God called us to follow peace with all men and holiness without this; no man shall see the Lord –Heb 12:14. We should know that we can only manage what is given to us, talents are given to an individual, based on the ability, and we shall give an account of the one given to us as an individual. Let us begin to do God’s work and not human’s work because of our belly; our reward will not be based on the numbers of our congregation but on the means and faithfulness that is involved in gathering them.

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Interview with the General Overseer (Doulos Ministryin Nigeria) on 14/3/19

Part Three

Communication Studies

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Video Drama Intervention on Knowledge of Breast Cancer and Practice Intention of its Early Detection Methods

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Abstract. The rising incidences of breast cancer, high mortality and morbidity rates, and poor knowledgeability level of the disease and low practice intentions of its early detection methods among rural women is constituting serious health challenge in Nigeria. These conditions are often blamed on inadequate infrastructures and poor enlightenment avenues. Consequently, these observed situations demand for planned education in favour of the rural women. Therefore, the study examined the effects of video drama intervention on the knowledge of breast cancer and practice intention of its early detection methods among Aboh Mbaise women of Imo State, Nigeria. A quasi-experiment was conducted on 100 women; (Amaasa, experiment and Ngwuru-Nweke, control). The Aboh-Mbaise women at reproductive age constituted the population of the study. The participants were recruited using simple random sampling by balloting. Data was retrieved using validated questionnaire at pre-test and post-test evaluation with reliability confidence of 0.799. Health belief model and attitude change theory underpinned the study. Data was analysed using paired sampled t-test. The findings showed that the intervention significantly improved participants' knowledge of; breast cancer ($\bar{x}$=42.02 experimental and $\bar{x}$=26.02 control), early detection methods ($t(49)=22.74$, $p=0.000<0.05$) and intention to practice the methods ($t(49)=19.50$, $p=0.000<0.05$), with a significant difference of ($t(49)=1.95$, $p=0.057>0.05$). It was concluded that frequent exposure to health based video drama is effective means of enlightening the rural women on breast cancer concerns, while recommending it application on regularly basis.

Keywords: Breast Cancer, Early Detection Methods, Practice Intention, Video Drama Intervention.

1. Introduction

In recent times, breast cancer incidences have drastically increased in Nigeria, as breast cancer has become the leading cause of cancer related deaths in the Nigerian society and the world over (Erhabor, Abdulrahaman, Retsky, Forget, Vaidya, Bello, Adias, Dagana, Egenti, Mainasara, Sahabi, Rilwanu, Ahmed, Hassan, Ajayi, Okara, Lori, Ibiang, 2016). The rising incidences, high mortality rates, and poor knowledgeability level of the disease demand urgent and timely attention, specifically in the area of improved health education on the disease among the nation's citizenry particularly, the women of reproductive age, who are highly susceptible to the disease (Bray, Ferlay, Soerjomataram, Rebecca, Torre, & Jemal, 2018). Such education remains imperative in the fight against breast cancer and all other types of health challenges. Highlights from previous studies exposed various debates among medical scholars regarding whether cancer can be cured or not, which curative or management methods are safe for victims, as well as what the victim should know, when, and how (Hendricks-Sturrup, 2017; Ikechukwu, Nnenna, Nwimo, & Onwunaka, 2015; Nelson, Kehinde, Oyero, Wiliams, & Soola, 2014; Nwaneri, Osuala, Okpala, Emesowum, & Iheanacho, 2017). Hassanpour and Dehghani (2017) reported existence of about 277 types of cancer which are capable of attacking different organs of the body. Based on these debates, World Health Organization [WHO] (2018) maintained that all cancer types including female breast type are not just preventable but are curable. In line with this submission, various research reports insisted that possession of accurate, recent, and comprehensive information on early detection methods as well as performance of the methods could impact breast cancer prevention and cure (Allo, Edewor, & Imhonopi, 2018; Ginsburg et al., 2020; Tayo, Allo, Amoo, & Olonade, 2019;

Wagner, Hibbard, Greenlickh, & Kunkel, 2018). More so, research reports affirmed that detecting breast cancer at advanced stage remains highly dangerous, destructive, and deadly to human society including Nigeria (Ginsburg et al., 2020; Carol Milgard Breast Cancer 2020; Schliemann, Donnelly, Dahlui, Loh, Ibrahim, Somasundaram, & Su, 2018; Hendricks-Sturrup, 2017; Erhabor et al., 2016; Jedy-Agba, Curado, Ogunbiyi, Oga, Fabowale, Igbinoba, & Adebamowo, 2012).

According to WHO (2013) statistics for 2000 to 2012, a total of 69,200 cancer related deaths in males and females occurred in Nigeria; 30,400 for the former and 38,800 for the latter, out of which breast cancer alone accounted for 13,270 (34.2 percent) of all deaths, while the remaining 25,530 were observed among other cancer types. Also, the work of Erhabor et al. (2016) explained that breast cancer alone accounted for about 16 percent of all cancer related deaths, with a five year survival rate of dismal 10 percent of the Nigeria victims, as against over 85 percent five year survival rate in the United States. More recent and further observation made by Muanya and Ogune (2019) declared that four out of every five people diagnosed of cancer in Nigeria have usually died, while only one manages to survive. Moreover, this situation unfortunately, presents the opposite of the experiences among Nigeria's counterparts within the developing world (such as, India). Implying that Nigeria's cancer situation is comparatively worse compared to those of many other developing countries. The above statistics indicate very serious threats imposed on the Nigerian society by breast cancer. The reports indicate that the severity of the disease within the Nigerian society has not started to abate, but seems to have maintained a steady upward rise.

Meanwhile, the variation found in the earlier reported percentages could have resulted from lack of functional cancer registers, poor record keeping, misdiagnosis in some peripheral hospitals and none reported data; particularly on the side of traditional medicine practitioners (Erhabor et al., 2016). Consequently, Nwaneri et al. (2017) acknowledged existence of only two functional cancer registers – Abuja and Ibadan Centres in Nigeria, while doubting the effectiveness of only two registers for the whole Nigeria nation based on the large population and geographical spread. On the other hand, while WHO (2018) report aligns with that of Ferlay, Soerjomataram, Dikshit, Eser, Mathers, Rebelo, Parkin, Forman, and Bray (2015) that the observed increase in death rate resulted from; low knowledgeability level of breast cancer early detection methods (breast-self examination (BSE), clinical Examination (CE), and routine mammographic screening) poor practice intention of the methods and diagnosis at advanced stage, Erhabor et al. (2016), attributed the constant rise in breast cancer cases within Nigeria to possibly changing demographic profile of acquisition of western lifestyle, changing socio-economic profile, environmental pollutions that have directly affected both the urban and rural areas of Nigeria, inadequate/ineffective control measures or diversion of global attention to HIV/AIDS and tuberculosis in the country.

Since poor knowledge level of breast cancer imposes dangerous health conditions to the rural Nigerian women, and only the knowledgeable who practice the early detection methods of cancer detect breast cancer early enough to seek medical aid (WHO, 2018), efforts made to remedy any breast cancer condition detected at advance stage might yield no positive result. Hence, reducing or eradicating the rising incidences of breast cancer at the rural level in Nigerian States remains a serious public health burden. More so, limited studies exist on applying video drama intervention as an information technique especially in developing countries (Abazie & Oluwatosin, 2014; Anaeto & Solo-Anaeto, 2010; Ferlay et al., 2015). Thus, in search of a reliable means of alleviating the foregoing breast cancer burden through improved communication, this research examined the influence of video drama health education intervention, on the knowledge of breast cancer, its early detection methods and the practice intentions among Aboh-Mbaise women of Imo State.

2. Conceptual Review

2.1 Concept of Breast Cancer

WHO (2018) defined breast cancer as a diseases which has the potential of creating abnormal cells in the tissues of the breast and thereby attacking or infecting the human breast and its surrounding regions. Also, breast cancer "...is a disease in which cells in the breast grow out of control...", and it sometimes grows beyond its boundaries to infect other organs of the body (Centre for Disease Control and Prevention, 2018:1). In the opinion of Eggert and Kasse (2010) breast cancer like all other types, results from the faulty or abnormal genetic expression informed by changes in the deoxyribonucleic acid (DNA), a kind of substance which carries organism's genetic information. Consequently, breast cancer constitutes unbearable public health concern as its annual diagnoses is over 1 million new cases, leading to about 400,000 deaths per year, while about 4.4 million women live as victims of the disease. Various research reports have estimated that one in every eight women will develop breast cancer in their life time, and that the disease is the leading cause of cancer related deaths globally including Nigerian (Erhabor et al., 2016; Ferlay et al., 2012; WHO, 2018; International Agency for Research on Cancer [IARC], 2018).

According to National Breast Cancer Foundation [NBCF] (2019), breast cancer disease occurs in at least three varied forms depending on the part of the breast in whose cells it develops. Therefore, breast cancer can develop in any of the three main parts of the breast which are the lobules (such as, the glands that produce milk), the ducts (which are the tubes that carry milk to the nipple), and the connective tissue (such as, the fibrous and fatty tissue that surrounds and holds every part of the breast together). However, breast cancers often start from the ducts or lobules before spreading to other parts of the breast and beyond. In a similar vein, breast cancer is a type of cancer which occurs in the form of development of malignant cells in the tissues of the breast, and can spread to the surrounding tissues and beyond Eggert and Kasse (2010). From the foregoing definitions, not every disease or abnormality in or on the breast can be referred to as breast cancer. Thus, an infection of the breast can be perceived as breast cancer only if it results from or into an abnormal growth of breast cells and tissues which affects the structure and functioning of the breast with the tendency of spreading to neighbouring cells and tissues, causing them to malfunction (NBCF, 2019).

2.2 Early Detection Methods and Practice Intention

The World Health Organization (2018) views breast cancer early detection methods from two different but related approaches; the early diagnosis, which is the identification of symptomatic cancer at a very tender stage, and the screening, which obviously deals with establishment of asymptomatic disease in a target population of seemingly healthy citizens (Ginsburg et al., 2020). In light of this, breast cancer screening examinations remain paramount for effective identification of breast abnormalities. More so, informed decisions on care or treatment options are likely to be taken immediately, following an individual awareness of breast cancer conditions on the breast. Scientifically, research has shown that breast cancer detected at an early stage has 93 to 99 percent survival rate in the first five years (Carol Milgard Breast Cancer, 2020; Erhabor *et al*, 2016; National Breast Cancer Foundation, 2019; Khatib & Modjtabai, 2006). Accordingly, three broad methods of early diagnosis are recognized by the global public health. They are; mammographic examination (such as, the use of low-energy x-rays) to identify abnormalities in the breast by the specialists, on yearly basis; clinical breast examination (CBE), performed on the breast of a target individual by professional health practitioners, specifically on quarterly routine; and breast self-exam (BSE), ought to be regularly performed by women on monthly basis after their menstrual cycle. However, combinations of the three processes result to better outcomes (Carol Milgard Breast Cancer, 2020; NBCF, 2019).

Consequently, taking these measures into account remains necessary for all categories of people especially women because they are often affected by the disease. For this reason, prompt referral and access to diagnosis, in the forms of cancer screening services like mammography, CBE, and BSE becomes imperative especially, as it has been discovered that there are two broad categories of breast cancer, which have been observed from different medical cases. They include the non-invasive and the invasive breast cancers (Balentine 2016; Eggert & Kasse, 2010; Erhabor et al., 2016; Ginsburg et al., 2020). These are actually different phases of breast cancer. The non-invasive type of breast cancer is the type of the disease which has not spread beyond the region of the ductal carcinoma in situ (DCIS). At this level of the development of the disease, the abnormal cells are simply contained within the ducts of the breast, of which a quick observation of the symptoms, prompt referral and access to early diagnoses through mammography, and or clinical breast examination would impact prevention and cure of such disease without serious damage Furthermore, this condition, if not promptly detected and handled, can lead to its development into invasive breast cancer (Erhabor et al., 2016; Ferlay et al., 2012; Ginsburg et al., 2020; NBCF, 2019).

2.3 Health Communication Intervention

There seems not to be an available scholarly definition for the concepts of health communication intervention and health intervention. Therefore, this review attempts to define the concept through a merger of the scholarly meanings of the concepts of health communication, intervention, and health intervention. Health communication is defined as the study and use of communication strategies to inform and influence choices people make about their health, using health information technologies like digital tools and services which are used to enhance patients' self-care, assist in patient-provider communication, inform health behaviours and decisions, prevent health complications, and promote health equity (Community Guide, 2017; Office of Disease Prevention and Health Promotion, 2017, Rural Health Information, 2020). On the other hand, an intervention is a deliberate act of entering into a situation with the intention of influencing events to prevent undesirable consequences (The Community Guide, 2018). Accordingly, health intervention is the act of entering into a health situation with the intention of influencing events surrounding the health situation in order to prevent the occurrence of undesirable health consequences (Office of Disease Prevention and Health Promotion, 2017). It then logically follows that health communication intervention is the deliberate act of applying certified health messages to influence unwanted health situation in the society by acquainting people with carefully selected information that are necessary for influencing their health choices in order to prevent an unwanted health circumstance.

2.4 Video Tool for Health Communication Intervention

Video drama, in the context of this study, is a form of recorded audio-visual entertainment-education in which an intended message is carefully and deliberately embedded in a drama in such a way that the drama serves the dual purpose of entertaining and educating the target audience. In the process of watching the drama and being entertained, the viewer(s) also get acquainted with the message(s) embedded in it, thereby developing a greater tendency to adopt the intended behaviour change. Television programmes in the forms of soap operas, as well as other audio-visual entertainment programmes, other than video drama, fall into the category of tools and strategies that constitute entertainment-education. On a general note, Singhal and Rogers (1999) defined entertainment-education as a process in which a media message is purposively designed and implemented for both entertaining and educating audience in order to increase its members' knowledge about an education issue [*health issue in this case*] and create the intended favourable attitudes and change of behaviour in them (Singhal & Rogers, 1998; emphasis is mine).

Consequently, video tool, be it drama, film, game or home video has recently gained its ground in the Nigeria society (Abiodun, Olu-Abiodun, Sotunsa, & Oluwole, 2014). Accordingly the authors noted that video is known as a communication strategy or tool for attracting its audience to real life events, operations and practice of any given subject of interest. Scholars have opined that video drama is a prestigious, credible, and highly persuasive medium for encouraging people to adopt new lifestyles, because it has the ability of arousing interests, clarifying notions, aiding retention, and stimulating the quest for additional knowledge due to its audio-visual quality (Anaeto & Solo-Anaeto, 2010; Borchers, 2002). It is also a scholarly knowledge that video drama aids deeper understanding of any subject on which its message may be based at any point in time. Moreover, this is made easier because of its usual play-back feature (Chignell, 2014). This play-back feature is part of the reasons why Abiodun et al. (2014) perceive video drama as an irreplaceable information medium with high level effectiveness for all types of health intervention. Furthermore, video messages are specifically attractive, colourful, and can be watched in any given environment, and the messages can be appropriately packaged following the cultural characteristics of the target audience (Nwadigwe, 2018).

3. Empirical Review

A number of studies have been carried out on the examination of breast cancer early detection methods among the study participants. In Nigeria, a study by Ikechukwu, Nnenna, Nwimo and Onwunaka (2015) revealed that women in Ebonyi State generally had average knowledge of all the components of breast cancer (symptoms, risk factors, prevention, and treatment options) except for treatment centres where women demonstrated high level of knowledge. The findings reveal, however, that the overall awareness of women about breast cancer was average. This outcome conflicts with the common belief that women have low awareness of the disease in developing countries such as Nigeria (Badar, Faruqui, Ashraf & Uddin, 2007; Okobia, 2003). Fregene and Newman (2005) noted that breast cancer awareness in their list of health care priorities continues to be relatively poor, even among the most affluent Nigerians. The results also disagree with those of Oluwatosin and Oladipo (2006), which indicated that women were ignorant of critical breast cancer issues and early detection measures.

Tayo et al. (2019) study found that almost all respondents in the study area in Ogun State, Nigeria have heard about breast cancer, and more than half knew that it is preventable with just only a fraction knowing of mammography. Even with the majority of the women not knowing what mammography is, an appreciable number of them have a favourable attitude towards it. This result is not in agreement with Olajide, Ugburo, Habeebu, Lawal, Afolayan, and Mofikoya (2014) who found that there was an unfavourable attitude towards breast screening even among those who were aware of the screening methods. In other similar studies, no association was found between breast screening, age, educational attainment, profession and marital status (Adebamowo & Ajayi, 1999; Allo et al., 2019). A work by Heather, Huang, Sheila, and Thomas (2008) on entertainment-education in a media-saturated environment on two primetime TV programs, found that the individual ER and Grey's Anatomy storylines were similarly effective in the number of outcome variables they impacted.

4. Theoretical Framework

The assumptions of health belief model by Lewin (1951) and Yale's approach of attitude change theory by Hovland, Janis, and Kelley (1953) were synthesized in relation to the paper's main concepts particularly knowledge of breast cancer. Its early detection methods and practice intention of the methods which explain audience' acceptance of the messages and dispositions toward the intervention health messages as enumerated by according to Abraham and Sheeran (2016).

Health Belief Model is an attempt to clarify the relationship between belief, attitude, and behaviour of humans in relation to health matters. Its origin can be traced to a group of Social Scientists at the United States Public Health Services in the 1950s, who maintained a concern on designing health belief psychological models for enhancing the effectiveness of health education programmes (Abraham & Sheeran, 2016). Lewin (1951) significantly enumerated the relationship between health beliefs and behaviours, using the idea of 'valence' with the explanation that beliefs can make behaviours more or less attractive, thereby promoting expectancy-value model of belief-behaviour relationships that make events appear more or less positive or negative to different individuals (Abraham & Sheeran 2016). Health belief model claims that belief is necessary for laying the foundation for attitude which leads to taking certain position and leading to a specific kind of behaviour. The model exists as a combination of stimulus-response theory and cognitive theory, as well as a blend of the concepts of classical conditioning and instrumental conditioning which attempts to explain human social behaviour under conditions of uncertainty (Lordo, 2018).

Basically, the model strongly assumes that an individual's course of health-related action will often depend on his or her perception of the benefits and barriers associated with the intended health behaviour and that unless the perceived benefits outweigh the perceived barriers; the individual will not likely adopt the intended behaviour change. Thus, health intervention can only be effective enough to lead to change in behaviour when the message of such promotions justify perceived susceptibility, perceived severity, perceived benefits, barriers to action, cues to action, and self-efficacy. Accordingly, Yale's approach of attitude change theory on the other hand assumes that information meant to cause change of attitude should be credible, trustworthy, recent, importance and should originate from experts, while the process of presented of such messages should be in attractive conditions to the target audience (Hovland et al., 1953). It assumes also that the characteristics of the members of a target audience to whom a specific message is to be delivered, with the hope of bringing about a change of attitude in them, must be specially considered in the preparation of the message before it is delivered to them. This paper influenced change of attitude in the target audiences by filling the health messages with authentic and reliable information. Moreover, the paper's style of the communication process incorporated evidence based, well-informed audio-visual plays (video drama) to convincingly convey the necessary health messages meant to persuade the participants of the need to adopt and maintain a healthy lifestyle. The features of the message tallied with the characteristics of the target audience which the researcher already determined during the pre-research investigation.

5. Methodology

5.1 Study Design and Location

A quasi-experimental design was adopted for the pre- and post-tests of the study. The choice of the study's design was influence by recommendations of numerous survey and exploratory studies conducted in various areas of the Nigerian nation. Such as, a study conducted by Abiodun, Olu-Abiodun, Sotunsa, and Oluwole (2014) on the need for cervical cancer screen among Odogbolu and Ikenne Local government women of Ogun State, Nigeria. The locations of the study consisted of Amaasa (intervention) and Ngwuru-Nweke (control) communities of Aboh-Mbaise Local Government Area (LGA) of Imo State in Nigeria. The two locations of the study were very similar in every consideration. They are both in the remote areas of the LGA, with limited supply of social amenities/infrastructure like accessible road networks, electricity, and health facilities. Consequently, the people living in these communities experience similar levels of difficulty in accessing necessary health information and care.

5.2 Sampling

The sample size for the study was derived from an estimation made using Katz (2006) formula for experimental studies, with the aim of achieving 95% confidence interval, 80% power, and 0.05 degree of accuracy. The formula produced a group sample size of approximately 43 participants, which was rounded up to the nearest tens to expand the scope of data that could be retrieved from the field. Thus, the overall sample size (intervention + control) was 100 participants. This sample size was considered appropriate following Creswell and Creswell (2018) counsel that experimental studies which aim at measuring the effects of health intervention programmes need small sample sizes. Fifty participants were randomly selected from each community from among the agreeing women of the reproductive age (15-55 years). This group of women were selected because they are the most susceptible to breast cancer.

5.3 Data Collection Instruments

Field data was gathered with the use of a structured questionnaire on a five-point Likert type scale (strongly agreed = 5, agreed = 4, disagreed = 3, strongly disagreed = 2, undecided = 1), administered by the researchers. The data gathered with this tool included demographic characteristics of the research participants, knowledge of breast cancer (including its symptoms and risk factors), breast cancer early detection methods, and the intention to practice breast cancer early detection methods. The questionnaire was translated to Igbo language (the local language) and re-translated to English to establish its content validity.

5.4 Pre-Intervention Activities

At this stage, the researchers obtained the necessary permissions for the study from the authorities at the Aboh Mbaise LGA headquarters and the traditional rulers in each of the two communities. In the first week, the researchers created necessary awareness, sought the consent of eligible women for participation, trained two research assistants, carried out pre-tested on the sample of 100 women from the two communities in a base-line survey.

5.5 Intervention Activities

During this stage, participants of the intervention group (selected from Amaasa) were exposed to video health messages (acted with Igbo language), of six different episodes (fifteen minutes each), for six consecutive weeks at the Amaasa Town Hall. The participants asked questions after each day's episode of the serial programme. Meanwhile during this session, the researchers concluded each day by offering in-depth and detailed explanations to all their questions. On the other hand, members of the control group (selected from Ngwuru-Nweke) were not exposed to the video health messages on breast cancer. Rather, researchers interacted with the respondents of control group and discussed issues concerning HIV/AID, which has nothing in common with the intervention subject at pre-test and post-test meetings respectively.

5.6 Post-Intervention Activities

At the end of the intervention programme, a post-test appraisal was conducted to ascertain the impact of the health messages. A post-test examination was administered using the same questionnaire on the sample of 100 women from both the experimental (50) and control (50) groups, to determine the levels of increase in the knowledge of breast cancer, and other factors associated with the disease in the rural area of Imo State.

5.7 Data Analysis

All data retrieved with the use of the questionnaire were computed and analyzed using Statistical Package for Social Sciences (SPSS 21.0) software. Field data was coded for analysis based on the five-point Likert type scale of the questionnaire (strongly agreed = 5, agreed = 4, disagreed = 3, strongly disagreed = 2, undecided = 1). The demographic data were analysed using simple percentage count, but the data on knowledge of breast cancer (its symptoms and risk factors), early detection methods, and the intention to practice breast cancer early detection methods were analysed using mean scores and paired samples t-test. The following decision rules were applied regarding the mean scores. If: $\bar{x} \leq 1.49$, the acceptable response is undecided; $1.5 = \bar{x} \leq 2.49$, the acceptable response is strongly disagree; $2.5 = \bar{x} \leq 3.49$, the acceptable response is disagree; $3.5 = \bar{x} \leq 4.49$, the acceptable response is agree; $4.5 = \bar{x} \leq 5.0$, the acceptable response is strongly agree; the post-test $\bar{x}$ (for the experimental group) > the post-test $\bar{x}$ (for the control group), the acceptable response is effective intervention; the post-test $\bar{x}$ (for the experimental group) < the pre-test $\bar{x}$ (for the experimental group) and or the post-test $\bar{x}$ (for the experimental group) ≤ the post-test $\bar{x}$ (for the control group), the acceptable response is ineffective intervention. For the test of hypothesis, if $p \leq 0.05$, then the null hypothesis should be rejected, but if $p > 0.05$, the null hypothesis should not be rejected

5.8 Ethical consideration

The paper adherence to ethics of research was strictly followed regarding confidentiality, anonymity, respect for human dignity, and non-falsification of data, non-data manipulation was applied in the data collection and collation process. In addition, sources obtained from the studies of other scholars were duly acknowledged.

6. Discussion of Findings

Table 1 indicated that the majority of the research participants in the experimental groups at the pre-intervention stage did not agree that they knew about breast cancer ($\bar{x}$ = 3.24). But they strongly affirmed their knowledge of breast cancer at the post-intervention stage ($\bar{x}$ = 4.62). Similarly, at the pre-intervention phase, majority of the participants did not know that breast cancer is a type of cancer that attacks the breast and the areas of the human body around it ($\bar{x}$ = 2.98). However, at the post-intervention stage, they strongly agreed that breast cancer is a type of cancer that attacks the breast and the areas around it ($\bar{x}$ = 4.68).

Table 1 further indicated that at the pre-intervention stage of the research, most of the participants in the experimental group disagreed to the fact that the types of breast cancer are the invasive and the non-invasive types ($\bar{x}$ = 2.72), but conversely agreed to the notion at the post-intervention stage ($\bar{x}$ = 4.58). Improvement in the participants' knowledge of breast cancer within the experimental group is obvious in their post-intervention affirmation of the facts that some diseases could make someone to become easily infected with breast cancer ($\bar{x}$ = 4.54); bad lifestyle such as excess consumption of alcohol, sugar, and inadequate exercise could lead someone to become infected with breast cancer ($\bar{x}$ = 4.56). Cancer has many signs like persistent sores, unexplained bleeding or bruising of the breast, and unexplained muscle and joint pains ($\bar{x}$ = 4.72); cancer could be treated or prevented through adjustment in lifestyle and orthodox medicine ($\bar{x}$ = 4.70).

Table 1: Participants' Knowledge of Breast Cancer

Variables	Groups	Time of Test	Mean
Had prior knowledge of breast cancer	Experimental	Pre-intervention	3.24
		Post-intervention	4.62
	Control	Pre-control	2.96
		Post-control	2.84
Breast cancer is a type of cancer that attacks the breast and the areas around it	Experimental	Pre-intervention	2.98
		Post-intervention	4.68
	Control	Pre-control	2.60
		Post-control	2.66
The two types of breast cancer are the invasive and the non-invasive types	Experimental	Pre-intervention	2.72
		Post-intervention	4.58
	Control	Pre-control	2.60
		Post-control	2.58
Some diseases can make someone to become easily infected with breast cancer	Experimental	Pre-intervention	2.80
		Post-intervention	4.54
	Control	Pre-control	2.34
		Post-control	2.50
Bad lifestyle like excess consumption of alcohol, sugar, and inadequate exercise can lead someone to become infected with breast cancer	Experimental	Pre-intervention	2.78
		Post-intervention	4.56
	Control	Pre-control	2.34
		Post-control	2.42
Cancer has many signs like persistent sores, unexplained bleeding or bruising of the breast, and unexplained muscle and joint pains	Experimental	Pre-intervention	2.80
		Post-intervention	4.72
	Control	Pre-control	1.98
		Post-control	2.32
Cancer can be treated or prevented through adjustment in lifestyle and orthodox medicine	Experimental	Pre-intervention	2.96
		Post-intervention	4.70
	Control	Pre-control	2.16
		Post-control	2.42

Source: *Field Survey 2020*

Furthermore, Table 2 showed that at each instance, the post-test mean score ($\bar{x}$) of the experimental group is greater than the post-test mean score ($\bar{x}$) of the control group. The summary of these results, as indicated in Table 3, showed that the overall post-intervention mean of the experimental group ($\bar{x}$ = 42.02) was higher than that of the control group ($\bar{x}$ = 26.02), which further confirmed the fact that the video intervention was effective in enhancing participant's knowledge of breast cancer.

Table 2: Descriptive Statistics on knowledge of Breast Cancer

Variable	Maximum Scale Point	Experimental Group		Control Group	
		Pre-intervention	Post-intervention	Pre-intervention	Post-intervention
Knowledge of Breast Cancer	50	$\bar{x}$ (SE)±SD = 28.62(0.47)±3.34	$\bar{x}$ (SE)±SD = 42.02(0.38)±2.68	$\bar{x}$ (SE)±SD = 25.28(0.52)±3.69	$\bar{x}$ (SE)±SD = 26.02(0.49)±3.47

Source: Field Survey 2020
$\bar{x}$ = Mean; SE = Standard Error; ±SD = Standard Deviation

Table 3 indicated that participants in the experimental group, at the pre-intervention stage of the research process, largely disagreed that they knew breast cancer signs to include unexplained bleeding of the breast, feeling of lump in the breast, hardening of the breast, and general body pains, especially around the breast ($\bar{x}$ = 2.28), but at the post-intervention stage, they affirmed knowing the signs of breast cancer ($\bar{x}$ = 4.70). Also, the participants' knowledge about the symptoms that aid breast cancer early detection improved at the post-intervention stage in that they were able to identify additional signs of early onset of breast cancer to include loss of hairs, sudden dryness of the skin of the breast and the surrounding areas, strong feeling of tiredness, and progressive weight gain or loss (pre-intervention: $\bar{x}$ = 2.22; post-intervention: $\bar{x}$ = 4.24). The research participants further gained knowledge on breast cancer early detection by realising and affirming that the disease can be detected early enough, through its signs and symptoms, before it begins to spread to other parts of the body (pre-intervention: $\bar{x}$ = 2.74; post-intervention: $\bar{x}$ = 4.56).

Table 3 also showed that respondents in the experimental group at the pre-intervention stage did not agree that doing self-breast examination regularly is very useful in detecting breast cancer early enough before it develops fully and begins to spread ($\bar{x}$ = 2.70). Their stance, however, changed at the post-intervention stage where they strongly agreed with the statement ($\bar{x}$ = 4.62). The research participants' knowledge about breast cancer early detection practices also improved at the post-intervention stage in the following ways: They agreed that they knew that it is important for every woman to go for clinical breast examination (CBE) as soon as she notices conditions on or in her breast that she cannot understand or explain (pre-intervention: $\bar{x}$ = 2.06; post-intervention: $\bar{x}$ = 4.64); that it was good for every woman to go for yearly mammographic examination to detect breast cancer at its early stage (pre-intervention: $\bar{x}$ = 2.76; post-intervention: $\bar{x}$ = 4.62); that breast cancer could be cured if it is detected early enough before it spreads (pre-intervention: $\bar{x}$ = 2.62; post-intervention: $\bar{x}$ = 4.68); and that breast cancer is better handled to reduce the pain it causes for the patient and for reducing its spread if it is detected early enough (pre-intervention: $\bar{x}$ = 2.72; post-intervention: $\bar{x}$ = 4.62). From Table 4, it is obvious that at every point of the analysis, the post-intervention mean of the experimental group surpassed the post-intervention mean of the control group. Therefore, the video intervention on knowledge of breast cancer early detection practices was effective in improving the participants' knowledge of the usefulness of breast cancer early detection practices.

Table 3: Participants' Knowledge of Breast Cancer Early Detection Methods

Variables	Groups	Time of Test	Mean
Bleeding of the breast, feeling of lump in it, its hardening and feeling of pain around the breast are breast cancer signs	Experimental	Pre-intervention	2.28
		Post-intervention	4.70
	Control	Pre-control	2.52
		Post-control	2.52
Breast cancer causes hair loss, sudden dryness of the skin of the breast and the surrounding areas, strong feeling of tiredness, and progressive weight gain or loss	Experimental	Pre-intervention	2.22
		Post-intervention	4.24
	Control	Pre-control	2.28
		Post-control	2.40
Breast cancer can be detected early enough, through its signs and symptoms, before it begins to spread	Experimental	Pre-intervention	2.74
		Post-intervention	4.56
	Control	Pre-control	2.54
		Post-control	2.54
Regular self-breast examination helps in early detection of breast cancer before it fully develops and begin to spread	Experimental	Pre-intervention	2.70
		Post-intervention	4.62

	Control	Pre-control	2.58
		Post-control	2.58
Every woman should go for clinical breast examination (CBE) as soon as she notices unusual conditions on/in her breasts	Experimental	Pre-intervention	2.06
		Post-intervention	4.64
	Control	Pre-control	2.14
		Post-control	2.14
Every woman should go for yearly mammographic examination to detect breast cancer at its early stage	Experimental	Pre-intervention	2.76
		Post-intervention	4.62
	Control	Pre-control	2.56
		Post-control	2.56
Breast cancer can be cured if it is detected early enough before it spreads	Experimental	Pre-intervention	2.62
		Post-intervention	4.68
	Control	Pre-control	2.32
		Post-control	2.32
Early detection of breast cancer is useful for better handling of the pain it causes for the patient and for reducing its spread	Experimental	Pre-intervention	2.72
		Post-intervention	4.62
	Control	Pre-control	2.56
		Post-control	2.56

Source: *Field Survey 2020*

Table 4 indicated that there was a significant difference in the pre- and post- health message intervention levels of knowledge of breast cancer early detection practices among the research participants ($t(49) = 22.74$, $p = 0.000 < 0.05$). The mean difference at the pre- and post- intervention stages was 20.32 (i.e. 46.08 – 25.76), implying that at the post-intervention stage, the knowledge of breast cancer early detection practices among the research participants significantly improved. Furthermore, the analysis of the control group showed that there was no significant difference in the knowledge of breast cancer early detection practices among the participants ($t(49) = 1.95$, $p = 0.057 > 0.05$), which obviously is because the control group did not receive the adopted interventions.

Table 4: Paired Samples T-test Analysis of Difference in Participants' Pre- and Post- Intervention Knowledge of Breast Cancer Early Detection Methods

Groups	Time of Test	N	Df	Mean	SD	T	p-Value
Experimental	Post-intervention	50	49	46.08	3.92	22.74	0.000
	Pre-intervention	50		25.76	5.00		
Control	Post	50	49	24.82	3.15	1.95	0.057
	Pre	50		24.70	3.25		

Source: *Field Survey 2020*

Table 6 depicted that there was a significant difference in the pre- and post- health message intervention levels of the participants' intention to practice breast cancer early detection methods among those exposed to video drama health messages ($t(49) = 19.50$, $p = 0.000 < 0.05$). The mean difference at pre- and post- intervention stages was 20.84 (46.16-25.32), implying that at the post-intervention stage of the research, the participants' intention to practice breast cancer early detection methods significantly improved. The control group also had a significant difference in intention to practice breast cancer early detection methods ($t(49) = -4.341$, $p = 0.000 < 0.05$). However, the magnitude of the difference in terms of mean score suggests that the intervention was effective for the experimental group.

Table 5: Paired Samples T-test Analysis of Difference in Participants' Pre- and Post- Intervention Intention to Practice Breast Cancer Early Detection Methods

Groups	Time of Test	N	Df	Mean	SD	T	P
Experimental	Post-intervention	50	49	46.16	3.58	19.50	0.000
	Pre-intervention	50		25.32	7.17		
Control	Post	50	49	25.58	2.47	-4.341	0.000
	Pre	50		26.08	2.72		

Source: *Field Survey 2020.*

7. Conclusion

Based on the foregoing findings of the study, it was concluded that frequent exposure to health based video drama is effective means of enlightening the rural women of Aboh Mbaise on breast cancer, its early detection methods, and for boosting their intention to practice the early detection methods which can help them avoid the menaces of the disease. This study therefore recommends that following:

- There is need to constantly prepare well-packaged breast cancer and related messages for frequent enlightenment of the rural women of Aboh Mbaise Local Government Area, and other places where this method may be effective in delivering the required messages for behaviour change.
- The study should be replicated in other locations especially rural areas in developing countries to further broaden the importance of applying video drama intervention as an information technique in enlightening women in rural areas on breast cancer and other health issues.

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Knowledge Management and Organizational Design: A Case Of First-Generation Banks in Ibadan, Oyo State Nigeria

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Abstract. The banking sector in Nigeria has undergone several structural changes in recent times to meet the competitive demand within the industry. Aligning institutional information through processes and practices and effecting such on organizations design have been a major challenge for attaining efficiency. Knowledge management practices are organizations threshold that allow for innovation utilization of information to drive both internal and external demand for sustainable organizational growth. The study examined the extent to which knowledge management influenced organizational design in first generation banks in Nigeria. To achieve this objective, the descriptive survey research design was adopted with emphasis on quantitative and qualitative data gathering and analysis techniques. Sample size consists of 114 respondents (regional, business, sales and operation managers) from sixty-six branches of the three selected first generation banks in Ibadan. Simple random sampling technique was used to select all respondents. Data was collected with the aid of questionnaire. Data was analyzed using regressions at univariate and bivariate levels showing the relationship among knowledge management indices such as Knowledge Management Strategies and Practices (KMSP), Knowledge Management Strategies and Development (KSMD) on organizational design. Empirical evidence revealed a strong interconnectivity among the variables under study. Hence, knowledge management practices was found to have direct influence on organization design that serve as a bedrock for performance

Keywords: Knowledge Management, Organization Design, Information Technology, Knowledge Implementation.

1. Introduction

The ever changing and competitive world of work, laced with unprecedented increase in technological sophistication with clearly influence of covid-19 pandemic on the organizations has increased the need to redesign the structure of organizations to bolster organizational performance and effectiveness. Organizations are social complex system that emerge in order to accomplish definite set goals and are usually established by minds of similar ideology. In order for organization to attain a status of “gladiator” in a given industry, competitive advantage needs be achieved and this will be practically impossible even in the presence of strong production resources if appropriate design elements are not in place.

Organizational design is concerned with the factors and issues that must be considered, and the rules and processes that must be implemented, with respect to the development, implementation and maintenance of a successful and effective organization. Literature is replete in branding organizational design as structure (Hamd, Elwany and Zaki, 2016). However, beyond structure, which bothers on organizational organogram, organizational design encompasses factors such as decision-making process, culture, information and reward system, vision and mission, norm, strategy and goals and purpose for which the organization exist.

A sound financial system is critical to economic growth of any country, and a healthy banking system is a key component of this. The banking sector in Nigeria has witnessed numerous reforms due to abnormally which has plagued and incapacitated the sector to perform optimally. Inappropriate structure, operations coupled with poor management oversight has engendered the sector in recent time (Tang, 2017). Consistently, technological advances are getting more sophisticated, new innovation are daily evolving in the banking sector, government financial policies are frequently moderated as are management practices, all these in addition with the current global pandemic requires most organizations including banking sector to redesign the organization for maximum effectiveness.

Economic research shows that a well-functioning banking system helps accelerate economic growth and poverty alleviation, while poorly-functioning banks can impede economic progress (Christine, Albert, Barakat, Pieter, Michaella and Jana 2018). Nigerian banks have a lot of impediment as reported by (National Bureau of Statistics, 2019) about ₦1.4 trillion excesses according to the last (NBS) report in June 2019, and as much as 9% of all loans in the economy are at the verge of becoming bad debt.

One of the chronic factors plaguing the banking sector in Nigeria is poor organizational design (Ezinma, Ebele, and Henry, 2015). Appropriate organizational design ensures that management act in the best interest of the organization and remain viable in the business world. Essentially poor organizational design is often identified as a major factor in virtually all instance of financial sector distress. The competitive pressure experience by first generation banks since the reconsolidation and emergence of fintech has placed a premium on speed in order to reduce the amount of time required to offer a banking service, revisiting organizational design to eliminate potential threat has been envisage by many authorities (Ardi, Apriliadi and Adman, 2019).

Advancement in information technology have changed the landscape of the banking sector which lead to incorporation of computer tools and common data set to generate and disseminate substantial amount of information and data throughout the organization. While development supports creation of less hierarchical organization, the tool will only be effective if organizations develop adequate information processing capabilities and modify their organizational designs. Organizations across the world battles challenges resulted from changes in a new knowledge economy (Zwain, Teong, & Othman, 2012; Mohajan, Haradhan, 2017). Consequently, organizations need to prepare to tackle the challenges by revisiting organizational design or grope in its failure. Redesigning organization for optimum performance and effectiveness requires that knowledge factors be considered as essential.
The world economy model has position human factors as one of the most important in the organization, The decisive role assigned to human factor in the banking sector is knowledge base, the emergence of e-banking, FinTech's, quest for acquisitions of other banks coupled with desire to maintain competitive advantage and remain viable has orchestrated banks to rethink its strategies, mechanisms for creating values, its cultural values and ways of functioning. As a result, aligning institutional information through processes and practices and effecting such on organizations design have been a major challenge for attaining efficiency. Designing and redesigning of organizations have been a major challenge in the banking sector. It is imperative to note that performance functioning depend on knowledge management principles and processes.

Knowledge management (KM) is the process of using meticulous steps to acquire, design, manage and share knowledge within an organization to achieve better performance such as reduced costly rework, faster work and use of best practices (Abubakar, Elrehail, Alatailat, and Elçi, 2017).
Knowledge management becomes highly important because these situations are inevitable. Further, Rollett (2003) reported that 44 percent of employees are either poor or very poor at transferring knowledge. **All this adds up to knowledge** workers **s**pending 30% of their time looking for **or recreating information that already** exists. When knowledge is not shared and accessible, employees waste time recreating solutions, making mistakes people made before, had difficulty in getting the insights they need to be productive, and answering the same questions over and over again, these calls for effective knowledge management system practices.

Information technology (IT) is widely used to link individuals with reusable systematized knowledge, and it encourages open discussions between organizational members. It can be considered as a common medium for the knowledge stream. By utilizing information technology in an organization, streams of knowledge that were disconnected long ago can be rejoined. Interests in information technology appear to be inevitable for the expansion of KM ventures. Advanced KM frameworks pay off because of their capacity to exploit existing knowledge. IT facilitates the usage and management of knowledge, and helps organizations to realize the expected benefits from it (Bagher et al, 2017).
Conventionally, first generation banks utilized manual process in dealing with information, this however is not without its shortcoming. Electronic system act as a buffer in handling large volume of data in order to manage banking processes, this

however has resulted in less reactive responses and decline of capacity. It is imperative to note that without proper management of knowledge, efficient and effective organization cannot be obtained. In order for first generation banks to be effective, organizations are now making decisive moves to capture, store and share knowledge in their quest for organizational design and re-designing. Studies have tried to establish the relationships between knowledge management and organizational design in diverse setting but view focused on first generation banks. Hence this study purposed to establish the relationship, relative and composite effect of knowledge management practices on organizational design among first generation bank in Ibadan, Oyo State Nigeria.

2. Literature Review

KM is a set of procedures, infrastructures, technical and managerial tools designed for creation, sharing, and implementation of information and knowledge inside and outside organizations. (Torabi et al., 2016). Further, knowledge management is a systematic or structured activity to improve organizational capabilities through the process of managing knowledge both tacit and explicit relating to acquisition, transfer, storage, retrieving to support knowledge creation as a basis for generating innovation. Thus, supporting optimal achievement of organizational performance (Budihardjo, 2017).

Knowledge management encompasses distinct stages, knowledge creation is a process in which new knowledge is created through four sub-processes (socialization, combination, externalization, and internationalization) of the theory of continuous organizational knowledge creation (Shujahat, Ali, Nawaz, Durst, & Kianto, 2018). Knowledge Storage is described as an activity that includes separating knowledge into various categories, transferring knowledge, and storing knowledge in organizational databases (Mahdi, Nassar, & Almsafir, 2018). Knowledge sharing involve activities through which knowledge (i.e. skills, expertise or information based on experience, as well as reports, manuals and documents relating to user needs, possible innovations, barriers and other areas) are exchanged through informal dialogues, face-to-face meetings, and group discussions (Islam, Agarwal, & Ikeda, 2017).

The process of sharing knowledge is seen as a socio-cultural interaction that involves the exchange of experiences, ideas, and skills through departments and organizations (Alaarj et al., 2016). The last phase of knowledge management is knowledge utilization, Knowledge utilization is defined as a routine that applies and exploits newly modified knowledge to modify and create operating routines that improve performance results (Lee, Hung, & Chau, 2011). Therefore, through the utilization of knowledge gained knowledge can be transformed from potential capabilities into realized and dynamic capabilities that impact organizational performance (Mills & Smith, 2011).

Evidently the world economy is becoming more knowledge based, this situation has raised the status of knowledge as the most important organizational assets above conventional factors of production. Departing employees are unable to pass on their technical know-how even when replacement are trained, computer hard drives fail and devices get lost or stolen, wiping out any information stored locally, storing knowledge in email threads and on local drives, there's always an occasion of unintentional loss which increases stress associated with task completion.

Knowledge management is considered a powerful strategy in this information age and regarded as a determinant for maximizing the organization performance and competitive edge. There is a general agreement that KM will represent the biggest competitive advantage for organizations in the new millennium (Halawi, 2005). The main cause for this concern with KM is the idea propagated forth by Halawi et al. (2017) that knowledge and its various applications are the means by which creativity can be promoted when redesigning organization for maximum effectiveness.

Poor knowledge sharing results in companies running much less efficiently and productively**.** An effective knowledge management system practices reduces these costs of inefficiency by making company knowledge more available, accessible, and accurate. Knowledge management is based on the idea that an organization's most valuable resource is the knowledge of its people. Therefore, the extent to which an organizations performs well, will depend, among other things, on how effectively its people can create new knowledge, share knowledge around the organization, and use that knowledge to best effect. Knowledge management system development in an organization determines the success and or otherwise in organization and has been adjudge as superior to physical assets (Torabi, Kyani, & Falakinia, 2016). Meanwhile, Torabi et al., (2016) believe that knowledge management is managing knowledge through an organizational and systematic process to organize, stabilize, implement, and share explicit and implicit knowledge from employees, improve organizational performance, and create value.

2.1 Conceptual Framework

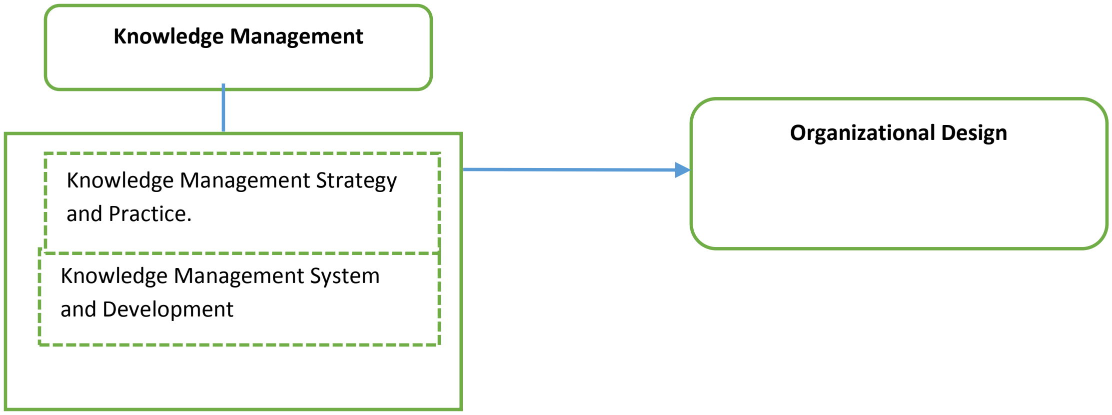

Fig 1: **Conceptual Model of the Study**

Knowledge has become 'the bloodline' of organization in this current dispensation, organizations that strives and maintain competitive advantages are those that has bank on knowledge acquisition and utilization. Maintaining relevance status, competitive advantage and attain zenith in the sector, knowledge both tacit and explicit has to be jealously managed by organizations. Ability to incorporate the strategies of controlling the pace, accessibility and or hoarding of knowledge at the disposal of organization Knowledge Management Strategies and Practices (KMSP) influences organizational design. In a bid to keep with the pace of technological and innovation advancement, specific unit of organization are saddled with the responsibility of refining and inventing knowledge in form of technical know-how and a system that will man the developed knowledge Management Strategies and Development(KMSD).

Evidently, as organizations wrestle to develop, maintain and control knowledge, the organizational design will have to align with the demand of knowledge management practices. Cumulatively, effective organizational design will enable the appropriate practices of knowledge management system which will enhance organizational performance. Knowledge management practices has direct influence on organizational performance. However, when organizational designs are fashioned in a manner to enable knowledge management system practices, organizational performance are further enhanced.

Table 1: Summarization of Reviewed Literatures

Article	**The study**	**Methodology and Hypothesis**	**Findings**
Katsuro Pension et al, 2013	Impact of Knowledge Management on Organizational Performance: A Case Study of Grain Marketing Board (GMB)	The research adopted a case study research design in which both qualitative and quantitative techniques were used. The study used a sample of 60 employees from a population of 100 employees. 6 hypotheses were raised.	All hypothesis was confirmed.
M. Hamdy Elwany and Zaki Mahrous, 2016	Investigating Knowledge Management Enablers Affecting Knowledge Management Success in Middle East and North Africa	Using questionnaire survey. Data gathered from 6 companies; 251 responses were collected. 14 hypotheses	Ten were confirmed while 4 were rejected.
Hongmei Tang, 2017	A Study of the Effect of Knowledge Management on Organizational Culture and Organizational Effectiveness in Medicine and Health Sciences.	Using questionnaire gathered from 266 randomly selected Grade III Level I hospital in Shanghai City. 4 hypotheses was raised	All hypothesis was supported.
Ardi Apriliadi and Adman, 2019	The Impact of Knowledge Management on SMEs Performance in the city of Bandung	Using questionnaire gathered from 99 respondents ,7 hypothesis	All hypothesis was confirmed
Ezinma, Ebele and Henry, 2015.	Knowledge Management and Organizational Performance in Selected Commercial Banks in Awka, Anambra State, Nigeria	Structured questionnaire, using total enumeration, 2 hypotheses	All hypothesis confirmed.
Ra'ed Masa'deh Et al, 2019	The Role of Knowledge Management Infrastructure in Enhancing Job		Some were confirmed while

	Satisfaction: A Developing Country Perspective	A total of 168 responses to a questionnaire survey were collected from the academic staff at Zarqa University in Jordan. 4 hypotheses.	others are not
Lucia F. Banta 2016	Knowledge Management in Banking Industry: A Study of Islamic Banks in Bahrain	Questionnaire, 100 respondents, 4 research questions	Three was confirmed while one was not
Bagher et al, 2017	The Effect of Knowledge Management on Organizational Innovation with the Mediating Role of Organizational Learning (Case Study: Agricultural Bank in Iran)	140 subjects were selected based on availability. Data analysis was analysis using structural equation modeling and AMOS software. Data collection tool was a standard questionnaire. 3 hypothesis	3 hypothesize, two were confirmed.
Mohajan, Haradhan 2017	The Roles of Knowledge Management for the Development of Organizations	A position paper	
Hayfaand, Abdullah and Blaqees 2018	The Impact of Knowledge Management on Organizational Performance	Extensive literature review	
Jurgita Raudeliūnienė,Vida Davidavičienė, Artūras Jakubavičius, 2018	Knowledge management process model	Theoretical model	

3. Methodology

3.1 Research Design

This study employed descriptive survey research design. A research design is a plan detailing how a research will be conducted. It guides the researcher in planning for and implementing the study (Rubin and Babbie 2011). The descriptive survey research design is a systematic empirical research in which the researcher does not have direct control over independent variables because their manifestations have already occurred, or because they are inherently not manipulated. Inferences about relations among variables are made without direct interaction with independent and dependent variables. The design is appropriate as the researchers has no intention of manipulating the variables in this study.

3.2 Population

The population of this research includes the managers and knowledge workers in the 66 branches of three selected first-generation banks in Ibadan, Oyo state Nigeria. Knowledge workers are middle managers or employees working on new innovations, research and development, IT and similar functions which develop, maintain, and use knowledge extensively, focusing on middle management as they are the real "Knowledge Engineers" of the knowledge creating companies.

3.3 Sampling Technique

The research employed a simple random sampling technique by collecting the questionnaire answers from members of the population who are randomly selected from the population. In all 114 participants were selected for the study. The sample size was arrived at using the Cooper and Schindler (2014) technique where n is the sample size, e the error term and N is the population size. An acceptable error margin of 5% was provided for and the analysis of the outcome will be done at 95% confidence level.

3.4 Data Collection

The study sample for this research is selected from two first generation banks in Nigeria, United Bank of Africa (UBA) and First bank, the selected banks are considered to be active in KM practices and strategies. The survey respondents include senior and management staff at various first-generation bank. Responses to the questionnaire were collected through online. The questionnaire was mailed to respondents and reminder messages were sent to enable the participants to responds to the questionnaire as early as possible. Approximately two months was used to collect the data. A total of 129 questionnaire responses were collected, out of which 114 were complete acceptable responses.

3.5 Instrumentation

Questionnaire was employed to gather data for analysis from the respondents. The instrument were pilot tested and Cronbach alpha of .83 was recorded. The instrument has two section; A and B. section A concerned itself with demographic information of the respondents such as age, gender, years spent in the organization while section B bothers on organizational design and knowledge management process having knowledge management and practice(KMSP) and knowledge Management System and Development(KMSD as dimensions. The scale was adapted and it has 22 items with response format ranging from strongly agree to strongly disagree.

4. Result

Research Question One: What is the Relationship Between Knowledge Management Dimension (KMSP, KMSD) and Organizational Design?

Table 2: Correlation Matrix Showing the Relationship Between Study Variables.

Variables	**Mean**	**Std.Dev**	**1**	**2**	**3**
Organizational Design	31.6579	12.09024	1.000		
KMSP	17.4825	7.96700	.731**	1.000	
KMSD	14.4825	5.62742	.845**	.720**	1.000

Table 2 revealed the relationship between dimension of knowledge management (KSMP, KSMD) with the dependent variable (organizational design); organizational design positively correlated with KMSP (r = .731, p<0.01), KSMD (r= .845, p<0.01). This implies that the higher the influence of knowledge management practices, the higher the likelihood of experiencing appropriate organizational design.

Research Question 2: What is the combine effect of knowledge management dimensions organizational design?

Table 3: Summary of Regression for the Joint Contributions of Independent Variables to the Prediction of Organizational design.

R =.863
R Square =.745
Adjusted R square =.740
Std. Error =6.16529

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	12298.462	2	6149.231	161.776	.000[b]
	Residual	4219.196	111	38.011		
	Total	16517.658	113			

Table 3 reveals significant joint contribution of the independent variables (KMSP, KMSD) to the prediction of organizational design. The result yielded a coefficient of multiple regressions R = .863 and multiple R-square = .745. This suggests that the two dimensions combined accounted for 74.0% (Adj.R^2= .740) variance in the prediction of organizational design. The other factors accounting for the remaining variance are beyond the scope of this study. The ANOVA result from the regression analysis shows that there was a significant effect of the independent variables on the organizational design, $F_{(2, 113)}$ =161.776, P<0.01. η^2= 0.539. The table further reveal that knowledge management dimensions has large effect on organizational design 53.9% (η^2= 0.539) in the variation of change of on organizational design.

Research Question 3: What is the relative contribution of the independent variables (knowledge management; KMSP, KMSD) on the dependent variables (organizational design)?

Table 4: Relative Effect of the Independent Variables to the Prediction of Organizational Design.

Model		**Unstandardized Coefficients**		**Standardized Coefficients**	**T**	**Sig.**
		B	Std. Error	Beta		
1	(Constant)	4.327	1.626		2.662	.009
	KMSP	.386	.105	.254	3.678	.000
	KMSD	1.421	.149	.662	9.572	.000

Table 4 shows that the two predictors (KMSP, KMSD) are potent predictors of organizational design. The most potent factor was KMSD (Beta = .662, t= 9.572, P<0.01), followed by KMSD (Beta = .254, t = 3.678, P<0.05). This implies that, an increased influence of KMSD will increase organizational design by 66.2%, while KMSP will increase organizational design by 25.4%.

5. Conclusion

The findings emanated from current study reveals that knowledge management practices and development significantly correlates with the organizational design. Fattahiyan et al, 2012, Ezinma, Ebele and Henry, 2015 and Ra'ed et al 2019) corroborate the findings when they reported hat that knowledge management practices has a strong relationship with organizational design especially the structural aspect of organizational design. From the regression analysis, knowledge management system practices and development significantly predicted organizational design. The findings is supported by the work of (Bagher et al 2017 who confirmed that dimension of knowledge management predicted organization design.in term of magnitude, knowledge management development predicted organizational design more, this converge with the study of (Ezinma, Ebele and Henry, 2015, Ardi and Adman, 2019) who reported that knowledge management development is key and a potent predictor of organizational performance.

6. Conclusion

Contemporarily, knowledge is considered as an essential asset in any organization. Hence, many organizations are trying to apply Knowledge management in order to improve their organizational design cum performance. Organization battles with numerous obstacles in other to maintain the zenith in highly competitive word of work, knowledge management system practices and development has been identified and supported by this study to be the key factor in maintaining effective organizational design.

7. Recommendations

Based on the findings, the following are recommended:

Organizations who crave to remain competitive in business should embed knowledge management practices and development. Organizations should strengthen their quest to acquire and utilize knowledge for greater efficiency. Organizations should develop a design framework that will accommodate knowledge management systems as new knowledge emerges.

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Media Campaign Strategies, Awareness of Breast Cancer and the Practice of Breast Self-Examination among Rural Women in Adamawa State, Nigeria

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Abstract. Breast Cancer has emerged as one of the major issues of public health all over the world. It has been identified as one of the most common cancers and a leading cause of deaths among thousands of women worldwide. The media is also assumed to be at the fore front in providing behavior change information. These, motivated this quantitative study, using descriptive survey research design. Anchored on Health Belief Model and Attitude Change theory, the study found that awareness about breast cancer and breast self-examination is high (95.7%) among rural women in Adamawa State, however, only 19.7% of the respondents indicated that they carry out breast self-examination regularly, whereas 50.5% said they do not carry out BSE regularly. This finding calls for concern as it defeats the main aim for which the media campaigns were launched in the first instance, which is to enhance the knowledge of rural women about breast cancer and breast self-examination as well as encourage them to practice breast self-examination as a cost effective and reliable method of early detection of breast cancer.

1. Introduction

The rising number of human mortality occasioned by the high incidence of cancer all over the world is disturbing. Humans face a daunting health challenge as a result of the increasing susceptibility to cancer. Incidentally, there appear to be no immediate solution in sight as the prevalence of different kinds of cancer have been linked with aging, growth of the population, unhealthy behaviours associated with lack of exercises, dieting, smoking, economic development/underdevelopment and urbanization. Professionals in the health sector across the world suggest that the afore mentioned factors result in different types of cancers, such as cancer of the stomach, lungs, liver, uterus, kidney, blood cancer known as leukemia, sinuses and breast cancer.

In recent times, breast cancer has emerged as one of the major issues of public health importance all over the world. Apart from being a major health burden both in developed and developing countries, breast cancer has been identified as one of the most common cancer and a leading cause of cancer deaths among women worldwide, (Ojewusi, Obembe, Oyedunni & Olugbayela, 2016). Patience and Faith (2018) asserted that breast cancer is by far, the most commonly diagnosed cancer among women in Nigeria and the leading cause of cancer deaths in women in their prime, resulting in about 49,190 deaths in Nigeria, in 2016.

The International Agency for Research on Cancers (2012) report showed a high incidence, prevalence and mortality rates of cancers in 184 countries and provided statistics showing that breast cancer is affecting women in 145 countries including the US, UK, Australia, Canada and Denmark who were ranked higher than Asia and Africa. In Africa, however, cases of breast cancer have been in the ascendancy, although the belief before now has been that breast cancer cases are low in the region, however, available reports point to the contrary, with an estimated cases of 20.1 per 100,000 women per year in Sub-saharan Africa. (Samuel, Collin & Richard, 2018).

The situation in Nigeria is not different. According to World Health Organization, WHO (2014) data published, breast cancer deaths in Nigeria accounted for 13,264 or 0.70% of total deaths. The age adjusted death rate of 28.11 per 100,000 of population ranks Nigeria 4th in the world. Patience and Faith (2018) in agreement with the World Health Organisation (2014) stated that breast cancer is the most common cancer in Nigeria. Reports from cancer registries across the geopolitical zones in Nigeria show that in the North-east region, cancer of the breast is second only to cancer of the cervix. In the South-west region, the cancer registry at the University College Hospital (UCH), Ibadan, recorded cancer of the breast as the leading malignancy among women (Isara & Ojedokun, 2017; Olubanji, Ikeri, Uche, & Banjo (2018). Also, in the North-central geopolitical zone, breast cancer constitutes 22.41% of new cancer cases registered in 5 years and accounts for 35.41% of all cancers in women in that area (Fidelis & Manalo, 2013).

These high statistics of reported cases apart from being a source for concern, underscores the need for government, NGOs and stakeholders to pay attention to this development in order to come up with workable steps towards preventive measures that will include taking conscious proactive actions such as breast self-examination in order to avert or detect breast cancer early. Studies have shown that early detection of breast cancer is vital to not just the treatment of the disease but also in the determination of prognosis (Olubanji, *et al,* 2018; Sagir, Jemal, & Ward, 2011). Ojewusi, Obembe, Oyedunni and Olugbayela (2016) found that some of the reasons that predict the difference in severity and survival rate are levels of awareness and attitudes or screening behaviours. In developing and low income countries such as Nigeria, breast cancer is often characterized by late clinical presentations or at advanced stages of the disease, when only chemotherapy and palliative care can be offered, with resulting high mortality (Olubanji *et al.,* 2018).

To this end, women who reside in areas with high incidence of breast cancer such as Nigeria, especially those between the ages of 16 to 65 are to imbibe the habit of breast self-examination, since according to research, it is usually within this age bracket that the risk runs higher. Ojewusi, *et al.,* (2016), noted that late diagnosis in breast cancer has been shown to impact differently on survival between affluent groups and those from socio-economically deprived backgrounds. This, they suggested, makes awareness and health seeking practices, which has been shown to be poor in many developing countries, vital.

In recent years, state governments in Nigeria in conjunction with different NGOs and other advocacy groups have intensified efforts at awareness creation about breast cancer through media sensitization and other action programmes. For example, in Adamawa state, media sensitization campaigns are ongoing on radio, television, billboards and other media channels as part of the state government’s effort to educate women about the risk of breast cancer. In addition, advocacy groups are moving around the rural areas in the state, carrying out open air campaigns and town hall seminars educating rural women about breast cancer and stressing the need for early detection through breast self-examination. On their part, the federal government had before now set up early cancer diagnostic and screening services centres to ensure that immediate steps are taken early enough to guarantee positive prognostic outcomes. That effort was seen as a step in the right direction as health professionals are of the opinion that ensuring availability of early diagnostic and screening services and taking immediate steps are the two main strategies for warranting improvement in the prognostic outcome of breast cancer (Akinwale, Omoniyi, Foster & Abeer, 2016).

According to Ojewusi, *et al* (2016), the establishment of cancer registries by Nigerian government is an attempt to curb the menace of breast cancer disease which started as far back as 1960 when the first registry was set up. These registries, serve as veritable tools for collecting accurate and complete information on cancer incidence, prevalence, and mortality in a given geographical location and such vital information can be used to conduct research, plan and implement cancer control, allocate resources for treatment and prevention, and other public health program planning. The cancer registry centers generate information that can contribute to cancer control policies and resource allocation. In addition to that, the Federal Ministry of Health set up a committee to draw a National Cancer Policy after the World Cancer Congress in 2006, titled “bridging the gap and transforming knowledge into action”. Also, in 2008, the Federal Government established a 5-Year Nigeria Cancer Control Plan (2008-2013). However, despite all these efforts, the impact of advocacy, awareness creation, cancer prevention, early detection through regular screening and cancer management are yet not felt. As earlier stated, there are various comprehensive health policies aimed at coping with health care delivery services ongoing in some states of which breast cancer awareness campaigns are among. These campaigns are usually carried out through the media with professionals in the media industry designing appropriate information dissemination strategies through which the people can be reached.

Although there is currently no clear cut national policy on cancer control in Nigeria; however, control of reproductive cancers is included in the national policy on reproductive health and strategic framework (WHO, 2014). As Okorie, (2013) observed, this absence of a national policy on cancer have made it somewhat difficult for any meaningful preventive or proactive measures targeted at curbing the menace of breast cancer in the country to be taken. This has left cancer patients basically on their own to carter for themselves. That, not withstanding, media campaigns such as radio dramas and jingles, television advertorials and newspaper publications on breast cancer have been widely carried out, not just statewide but in Nigeria and the rest of Africa.

To bring the campaign against breast cancer closer to the people, step-down workshops at state levels developed by the wives of the governors of the 36 states of the Federation were organized as follow up on the action plan by the United Nations Population Fund (UNPF) in April, 2008 at the Federal Capital Territory Abuja. Since then, the need to preserve lives and ensure a steady decrease in the level of maternal mortality resulting from breast cancer through various media campaigns has been salient. To further intensify effort in the fight against breast cancer, the pet-project of Miss University Nigeria (MUN), which was an awareness and sensitization campaign against breast cancer, is being hosted in many states across the country since 2010. Also, the MTN Foundation has established and supported breast cancer screening centers located within Teaching Hospitals, Federal Medical Centers (FMCs) and state General hospitals across Nigeria (MTN Foundation, 2011 Report).

The media plays an important role when it comes to the dissemination of health information in every society. The media are veritable sources of health information and can help shape the way people act and react towards health issues. An important aspect is that the media help to create awareness and mobilize members of the public to cooperate with health authorities in the fight against epidemic at any given time. In 2014, during the scourge of Ebola epidemic, the media played a leading role in the fight against the disease through various awareness campaigns and sensitization programmes that helped in mobilizing the general public towards proactive preventive actions. Within four months of the disease' outbreak, it was successfully cubed without overwhelming casualties thanks to the role the media played. According to Adeyemi (2014), the media provided intensive awareness and enlightenment publications during the outbreak of the virus and deserve an award for their role in the fight against Ebola. The media, is broadly classified into two – electronic or broadcast media and print media. Anyaoku and Nwosu (2017) observed that the media is explicitly involved in society's shared understanding and knowledge of health issues. Uwom and Oloyede (2014) noted that the media have the ability to effectively communicate health information and effective health information can affect individuals' awareness, attitudes and behaviour change.

In Adamawa state, government is making conscious efforts at helping women fight both breast and other types of cancers through various media such as radio, television, advocacy groups, use of bill board and pamphlets in both the city and rural areas and carrying out free examinations and surgeries to help reduce mortality rate traceable to breast and other cancers. However, despite these efforts by government and supporting orgsnisations, the frightening threat of breast cancer cases, coupled with the lack of dedicated hospitals to tame the deadly disease, has left many women in the state in permanent fear and uncertain future as the death toll arising from cancer cases is distressing. It is evident that there is low awareness and poor support for victims. This lack of proper awareness especially in the rural areas of the state is the reason why a good number of the rural dwellers assume that anyone with cancer has suddenly suffered a spiritual attack or has been charmed. To help counter this notion, free cancer screening exercises for market and rural women are organized from time to time by the office of the wife of the state governor, while massive media campaign is constantly ongoing to enlighten women about breast cancer. The increasing number of victims being detected to have been affected by breast cancer in Nigeria and particularly Adamawa state is frightening. Therefore, the need for women to examine their breasts regularly and seek prompt medical attention in case of any abnormality in order to reduce the prevalence of breast cancer has heightened, as early detection is noted to be one of the preventive measures for cancer. Akinwale, Omoniyi, Foster & Abeer, (2016), pointed out that diagnosis of breast cancer during the early stage of the disease has been positively linked to a decrease in mortality, morbidity and effective cost of management of the illness. Adamawa state government took the initiative to launch a cancer media sensitization campaign to women in the state since 2012. This was after a survey by the World Health Organisation, WHO (2012) revealed that, by 2020, there would be 10 million new cases of cancer every year in developing countries including Nigeria, out of which six million are likely to die. The campaign, which is ongoing are being carried out in both urban and rural areas, however, the problem of breast cancer has persisted, with many casualties recorded in different parts of the state. Research has shown that most patients with breast cancer in developing countries like Nigeria present for the first time at stages 2 and 3. This indicates a need for increased community awareness methods for early detection of the disease in localities of high prevalence.

Media sensitization and awareness messages about breast cancer and breast self-examination are being disseminated by Adamawa state government since 2012. In the rural areas where many women who can neither read nor write reside, advocacy groups use local dialects to conduct open air sensitization over loud speakers and organize town-hall seminars to educate rural women about breast cancer and to teach them the practice of breast self-examination in order to facilitate early detection and enhance the chances of prognosis. These exercises, which are mostly sponsored by NGOs and private organizations in collaboration with the state government has helped influence many of the rural women to present themselves for screening early and also to imbibe the habit of breast self-examination. They are also encouraged to be open and report to healthcare personnel as early as they detect any abnormal lump on or around their breasts. Radio broadcasts are also packaged in local dialects and aired at strategic times to consolidate on the effort of the groups. With these measures, Adamawa state government has successfully taken awareness messages about breast cancer and breast self-examination to the rural women in the state, however, the influence of these messages in the area of breast self-examination practice among rural women who are the recipient are yet to be ascertained. This study therefore is carried out to ascertain the influence of cancer media awareness messages on the practice of breast self-examination among rural women in Adamawa state. Since the commencement of various media campaigns on breast cancer and breast self-examination in Adamawa state, no previous research known to the authors has been done in this regard. The Health Belief Model (HBM), a social cognition model, developed by Irwin (1966) is the theoretical framework upon which this study is based. HBM is a health behaviour change and psychological model for studying and promoting medical programmes which has also been used to highlight the role knowledge and perception can play in personal responsibility. Originally, the model was designed to predict behavioural response to the treatment received by chronically ill patients, but recently it has been used to predict more general health behaviours.

2. Research Hypotheses

The following hypotheses were tested at 0.05% level of significance.

H_1: Breast cancer media campaign significantly influences awareness of breast cancer.
H_2: Breast cancer media campaign significantly influences knowledge of breast self-examination.
H_3: Awareness of breast self-examination significantly influences practice of breast self-examination.

3. Research Materials and Methodology

Structured questionnaire translated to local dialect (Hausa) and back translated to English Language was distributed to rural women in three selected local government areas (Demsa, Girie and Numan), one each from the three senatorial districts in the state where advocacy groups had visited in the past. The questionnaire was designed to elicit response from participants in the areas of awareness of breast cancer, knowledge of breast self-examination and the practice of breast self-examination among rural women in the state. A total of five hundred and ten (510) copies of questionnaire were administered on rural women with the help of three research assistants sourced from local communities to aid cordiality and enhance interpretation and understanding of questionnaire items. A response rate of 98% was recorded. The inclusion criterion was age. All women 18 years and above were eligible to participate in the study. 499 usable copies of the questionnaire were retrieved and analyzed using the Statistical Package and Product Solutions (SPSS, 22), while hypotheses were tested using multiple linear regression. In testing hypotheses, the pre-set level of significance for this study is 0.05. This implies that the hypotheses will be rejected if the P-value is less than or equal to 0.05, which is the pre-test level, (p</=0.05) and will be accepted if the P-value is greater than 0.05.

Test of Hypotheses

H_1: Breast cancer media campaign significantly influences awareness of breast cancer.

Table 1: Media campaign influence on awareness of breast cancer

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	10.966	1.413		7.759	0.000
	Breast Cancer Media Campaign	1.076	.073	.757	14.766	**0.000**

Dependent variable: **Awareness of breast cancer**
R Square = 0.531

Interpretation

Table 1 indicates that breast cancer media campaigns had a positive significant influence on awareness about breast cancer among rural women in Adamawa state ($p<0.05$, $\beta=0.757$). The regression model in the table points out that breast cancer media campaigns by Adamawa state government and other supporting agencies helped rural women in the state become more aware about the disease. This is also an indication that an increase in exposure to such media campaigns may likely result in proportionate increase in the awareness about breast cancer among Adamawa state rural women. The model could predict 53.1% of variation of influence on rural women's awareness level about breast cancer. This suggests that breast cancer media campaigns significantly enhanced participants' awareness about breast cancer, consequent upon which the hypothesis is accepted.

H_2: Breast cancer media campaign significantly influences knowledge of breast self-examination.

Table 2: Media campaign influence on knowledge of breast self-examination

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	10.966	1.413		7.759	0.000
	Breast Cancer Media Campaign	1.076	.073	.657	14.766	**0.000**

a. Dependent variable: **Breast cancer media campaigns**
R Square = 0.432

Interpretation

Regression analysis in table 2 points out that breast cancer media campaigns significantly influenced Adamawa state rural women's knowledge about breast self-examination ($p<0.05$, $\beta=0.675$). The analysis indicates that breast cancer media campaigns had a positive significant influence on increased knowledge about breast self-examination among rural women participants. The linear regression model points out that breast cancer media campaigns explain 43.2% of the variation of influence on participants' knowledge of breast self-examination. This analysis further suggests that Adamawa state rural women's knowledge about breast self-examination was influenced to a high degree through respective media campaigns. Hence, the hypothesis is accepted.

H_3: Awareness of breast self-examination significantly influences practice of breast self-examination.

Table 3: Influence of breast self-examination awareness on the Practice of BSE

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	4.935	1.681		2.936	0.000
	Breast Cancer Media Campaign	1.323	0.088	0.347	15.078	**0.000**

a. Dependent variable: **Awareness of BSE**
R Square = 0.248

Interpretation

The regression table 3 depicts awareness of breast self-examination as having a significant negative influence on the practice of breast self-examination among rural women in Adamawa state. This means that awareness of breast self-examination did not significantly influence the practice of BSE among study participants ($p<0.05$, $\beta=0.347$). This is therefore an indication that the practice of breast self-examination among rural women in Adamawa state did not increase to level of awareness recorded. The model could predict a 24.8% of variation of influence on participants' practice of breast self-examination. This analysis suggests that participants' practice of BSE is not likely influenced significantly despite improved awareness of the benefits of BSE through breast cancer media campaigns. Further implications could be deduced that for whatsoever reason, an increase in breast cancer and breast self-examination media campaigns may not likely result to a significant improvement on the practice of breast self-examination. Consequent upon this, the hypothesis is rejected.

4. Discussion of Findings

As pointed out, the main goal of public awareness is to facilitate behavioral change. Measuring awareness against itself or against knowledge and understanding gained in the process help in determining future strategies. However, a major determinant of the success or failure of public awareness efforts is in its ability to facilitate behavioral change. In the case of this research study, establishing the level to which the knowledge of rural women was enhanced regarding the practice of breast self-examination based on their awareness of breast cancer and their knowledge of breast self-examination is imperative. Therefore the establishment of respondents' awareness level regarding breast cancer and their level of knowledge about breast self-examination among other issues though germane to the whole idea behind this study was considered not enough to determine the level of success recorded by media campaign efforts. The research therefore went a step further to find out the percentage of respondents practicing breast self-examination as a result of knowledge gained from exposure to media campaigns on breast cancer and breast self-examination. Findings revealed that 63.2% of rural women studied agreed that they have been taught how to carry out breast self-examination on their own through various means. Among all, worthy of note is the 14.8% of respondents who indicated that they were taught to carry out BSE in the hospital by health professionals, as against 53.5% that disagreed with the notion. The development can imply that health workers in the rural areas are either not doing enough or that their efforts need improvement. It is important to highlight this fact because health workers are regarded as a primary source of knowledge concerning different health conditions and possible ways by which they can be prevented or cured.

Another finding that calls for immediate attention is that only 19.7% of respondents indicated as practicing breast self-examination regularly, whereas 50.5% said they do not practice BSE regularly. This could imply that the majority either practiced BSE at irregular intervals or perhaps do not practice BSE at all despite 97.8% of respondents agreeing that BSE can lead to early detection of breast cancer. On the overall, findings from this study points to the fact that respondents are aware about breast cancer and have been taught breast self-examination and its benefits in the early detection of breast cancer. However, findings suggest that many rural women participants in this study do not practice breast self-examination regularly. This calls for concern and in fact for urgent measures since awareness and knowledge about breast cancer and breast self-examination alone cannot be enough to attract the benefits to anyone unless the practice of BSE is imbibed. It remains to be established the point at which awareness and knowledge can translate to adoption of mediated ideas among study participants.

This finding corresponds with some studies done in the past by Kayode, Akande and Osagbemi (2005); Balogun and Owoaje (2005); Agboola, Oritogun, Deji-Agboola, Musa, Oyebadejo, and Ayoade, (2009) and Gwarzo, Sabitu and Idris (2009) which all showed a low level of practice of BSE among various subjects. Also, in similar studies in Brazil by Fidelis and Manalo, (2013) and in India by Doshi, Reddy, Kulkani and Karunakar, (2012), it was found that practice of BSE was generally low. The reason for this low practice as found in previous efforts was attributed to their focus on rural/market women who do not know the benefits of BSE. Whereas the finding from this study indicate a certain degree of knowledge about the benefit of BSE among rural women studied, it remains to be established why such knowledge does not automatically translate to the practice of BSE among rural women in Adamawa state.

5. Conclusion

As seen in the result from this research, awareness of breast cancer and the knowledge of breast self-examination are high. However, majority of respondents do not practice breast self-examination regularly. This means that the major aim for the campaigns has only being achieved in part. It is common knowledge among communication specialists that campaigns are intentional strategies employed by programme planners to help bring about positive behavioural change in the attitudes of a target audience. Consequently, the campaign on breast cancer and breast self-examination awareness in Adamawa state was not just to provide information about breast cancer and breast self-examination, but also to encourage women to practice breast self-examination as an effective and cheap means to early detection and successful prognosis of breast cancer. However, there are indications that the margin of rural women who practiced BSE regularly is inconsistent with the percentage of subjects that are aware of its benefits in helping to detect breast cancer early. Also, awareness and knowledge of study participants were significantly enhanced through media campaigns on breast cancer and breast self-examination, however, there are no guarantees that the practice of breast self-examination will improve with an increased exposure to breast cancer media among Adamawa state rural women. In other words, while the indication of increased awareness and knowledge about breast cancer and breast self-examination was positive, the indication of the regular practice of breast self-examination among the rural women was negative.

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Appendix l

Questionnaire

Section A: Demographic Characteristics

Please tick (√) as appropriate

D1 Age: (a) 18-27 ( ) (b) 28-37 ( ) (c) 38-47 ( ) (d) 48-57 ( ) 58-65( )

D2 Marital Status: (a) Single ( ) (b) Married ( )

D3 Academic Qual.: (a) FSLC ( ) (b) WASSC ( ) (c) NCE/OND ( )

D4 Occupation: (a) Trader ( ) (b) Farmer (c) Housewife ( ) Teaching ( )

D5 Religion: (a) Christianity ( ) (b) Islam ( ) (c) Traditional Religion ( )

Section B Media Strategies Used

SA= Strongly Agree, A = Agree, SD = Strongly Disagree, D = Disagree, U = Undecided,

		SA	A	SD	D	U
M1	Information about breast cancer is high on television					
M2	A lot of information on BSE are shared over the radio					
M3	Discussion about breast cancer on radio is rare					
M4	There are documentaries on TV about BSE					
M5	Information about breast cancer are rarely shared on TV					
M6	There are posters with messages about BSE around my area					
M7	Flyers with BSE information are share in my area often					
M8	Newspapers publish messages on breast cancer frequently					

Section C: Appropriateness of Media Messages (medium, language and timing)

SA= Strongly Agree, A = Agree, SD = Strongly Disagree, D = Disagree, U = Undecided,

		SA	A	SD	D	U
A1	There is always enough time for me to view and understand TV messages on breast cancer					
A2	Information on radio about breast cancer is aired at odd time so I hardly can listen					
A3	Radio messages are preferable by me because it is shared in the language I understand					
A4	Majority of the messages are shared in English language which I understand very well					
A5	Messages are usually aired in English which majority of the people does not understand					
A6	Both TV and radio programmes are not interactive					
A7	Messages about breast cancer creates fear in my mind					
A8	I prefer messages on radio in drama form about breast cancer					
A9	Billboard/pamphlets messages are preferable by me because of the demonstration in them.					
A10	I need someone to interpret the messages on the bill board to me because I do not know how to read.					
A11	I do not collect fliers containing BC messages because I cannot read.					

Section D Awareness about Breast Cancer

VH = Very High, H = High, VL = Very Low, L = Low, U = Undecided,

		VH	H	VL	L	U
A1	I know that breast cancer is a terminal disease					
A2	I know that breast cancer can kill					
A3	I know that dieting can lower my susceptibility to BC					
A4	I know that exercise can also lower my susceptibility to BC					
A5	I know that eating meals rich in calories and fat increases my susceptibility					
A6	I know that BC can be prevented and my action plays a vital role					
A7	I know that taking too much alcohol is not good for me					
A8	I know that BC is not a respecter of age ,color or status					
A9	I have seen poster with information about breast cancer					
A10	I heard about breast cancer on the radio					
A11	I know someone who suffered breast cancer					
A12	I heard about breast cancer in the school					
A13	My relation sister/aunty/mother/daughter suffered cancer					
A14	I heard about breast cancer over loud speakers					
A15	I don’t know anything called breast cancer					

Section E Knowledge about Breast Self-Examination (BSE)

SA = Strongly Agree, A = Agree, SA = Strongly Disagree, D = Disagree, U = Undecided,

		SA	A	SD	D	U
K1	I believe BSE is good for every female between age 16 and above					
K2	I believe that BSE is a useful tool for early detection of breast cancer?					
K3	I believe media awareness about BSE over the radio is good					
K4	I believe poster demonstrations of how BSE is done is important					

K5	I believe watching video demonstrations of how BSE is done is good					
K6	I believe more campaign on BSE should be done massively					
K7	I believe older women should teach BSE to younger ones					
K8	I believe health workers can go to schools to teach girls about BSE					
K9	I believe BSE can be taught at the hospitals					
K10	I believe more awareness about BSE can be created on television					
K11	It is not clear to me what BSE is all about					
K12	Government campaign about BSE did not get to my area					
K13	I know someone who always practiced BSE					
K14	I believe pamphlets on BSE can be shared for awareness					
K15	I have not heard about BSE before now					

Section F Practice of Breast Self-Examination (BSE)
SA = Strongly Agree, A = Agree, SA = Strongly Disagree, D = Disagree, U = Undecided,

		SA	A	SD	D	U
P1	I have been taught how to carry out BSE					
P2	My mother taught me how to carry out BSE					
P3	My friend taught me how to carry out BSE					
P4	I was taught in the hospital by health professionals					
P5	BSE is done by inspecting the breast in the mirror					
P6	During pregnancy is the best time to carry out BSE					
P7	BSE is done by feeling the breast with hands					
P8	BSE is best done monthly					
P9	BSE is done to be familiar with breast texture					
P10	I do BSE regularly					
P11	I do not see the usefulness of BSE					
P12	I prefer that someone else help me perform BSE					
P13	I rather go for clinical breast examination or mammography than to perform BSE					
P14	My religion is against practices such as BSE					
P15	BSE can lead to early detection of breast cancer					

Part Four

Teaching and Learning Skills

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Strategies for Teaching Slow learners in an Inclusive Setup

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Abstract. Every classroom contains students with varied backgrounds, interests, attitudes, and learning styles. Some of these students carry to the classroom not just textbooks and other learning tools but also a lot of personal and learning problems. These basic differences in learners often cause variations in their academic achievements and classroom behavior. Hence, there would be always some students in every class who struggle to keep pace with the rest of the class. In most situations, such slow learners are not given enough support by their teachers. How can teachers accommodate all students with different backgrounds and interests in their classroom and help them thrive and grow, academically and personally? How can they deepen their knowledge and expand the professional practice to enrich the learning experience for all students? How can they address the needs and tackle the learning difficulties of slow learners? The learning and behavioral problems of slow learners should be handled on two levels, intellectually and emotionally. In other words, teachers must deal with them using their brains and hearts. With proper methods, techniques and strategies slow learners can be motivated to produce good work and develop a positive attitude towards classroom behavior and learning.

Keywords: Inclusive setup, Slow learners,Teaching and strategies.

1. Introduction

Teaching is a challenging profession that requires a lot of patience, innovation and motivation from the teachers in order to bring about an all round development among their students. Every classroom has that one student (or perhaps more than one) that just needs “extra attention.” What joy it would be to have a classroom filled with super organized, eager-to-learn, over obedient, little angels who can't wait to get started diagramming sentences and long division, but that is not the true classroom. The true classroom is a Hodge Podge of little faces. Some eager to learn, some wanting to learn but struggling, some who find it impossible to stay seated for more than five minutes, and some just watching the clock. Hence here comes the greatest challenge for a good teacher to guide and help all these categories of learners improve in fetching good grades and come out with flying colors. A good student can always get good grades on his own merits which require very little effort on the teacher’s part. But to help a slow learner fetch a good and suitable grade is a challenge that marks the qualities of a good teacher.

2. Slow Learners: Definition

A child may be a slow learner for various reasons including: heredity, inadequate brain development due to lack of stimulation, low motivation, attention problems, behavior problems, different cultural background from that which dominates in the school, or distracting personal problems.

Proper understanding of what is slow learning and a slow learner is a major step towards coming up with a strategy to address slow learners issues in class. Muppudathi (2014) defines a slow learner as a student with the ability to acquire all necessary academic skills, at a rate and depth below that of the average student.

Slow learning is not a learning disability that can be classified as a diagnostic category. It is simply a term used to describe a student with the ability to acquire all necessary academic skills, but at a rate and depth below that of the average student. In order to grasp new concepts, a slow learner needs more time, more repetition, and often, more resources from teachers to be successful. Reasoning skills are typically delayed, which makes new concepts difficult to grasp. In today’s world, unfortunately, ‘learning’ has become a one-size-fits-all process that is not tailored to suit a person's abilities. This conformation of learning is especially true of our conventional school systems. The problem, however, is that not all children can adapt to such a rigid style of learning. Some children just cannot cope with the fast-paced and rigid approach that is characteristic of conventional teaching. Due to this, a gap forms between their true ability and their performance level and such children are then dubbed 'Slow Learners'.

Slow learners are students with borderline intelligence and they often struggle to cope with the traditional academic demands of the regular classroom. According to Lowenstein (2003), "Slow learners are students with below average cognitive abilities who are not disabled, but who struggle to cope with the traditional academic demands of the regular classroom" (p. 1). Students who take longer time than their peers to understand a new concept and need extra support to do their schoolwork are sometimes referred as to as slow learners. Mercer, (1996) defines slow learners as children who are doing poorly in school, yet not eligible for special education. Griffin (1978) defines slow learners as students who learn more slowly than their peers. At the same time, they do not have a disability requiring special education. Although slow learners may have special educational needs, they do not fit neatly into the special education system.

According to Borah (2013), students with below average cognitive abilities whom we cannot term as disabled are called slow learners. Learning is understood as a relatively permanent influence on behavior, knowledge and thinking skills that come about through experience (Santrock, 2001). While fast learners will move faster than moderate learners, a slow learner may easily be ignored in a class by the teacher as well as peers. Borah (2013) states that slow learners are normal students but the problem is that they are simply not interested in studying under traditionally accepted system of education. What teachers ought to know is that slow learners can learn all that is required in their course as long as they put an extra effort to help them. Teachers must therefore be innovative in course management to facilitate learning of slow learners as well as moderate and fast learners.

Slow learners differ from reluctant learners. A slow learner initially wants to learn, but has a problem with the process. A reluctant learner is not motivated and can also be passive, aggressive, creating more problems for teachers and parents through non-cooperation. Reluctant learners seldom have learning disabilities.

Students with below average cognitive abilities whom we cannot term as disabled are called slow learners. They struggle to cope with the traditional academic demands of the regular classroom. Actually slow learners are normal students but the problem is that they are simply not interested in studying under traditionally accepted system of education. Slow learners should not be confused with students in need of special education or reluctant learners who are non-cooperative. A student may fail to excel in some classes or in some subjects but it does not imply that he or she is a slow learner. The teachers and guardians may resort to some of the teaching aids available to special education students that may enhance interest of slow learners and help them get involved in the learning process. Every child is special. As every child is different, there is every possibility of improvement, sooner or later. The source of energy is lying within them but the only thing is to stretch the hand of confidence towards them which will solve their problem and improve their quality.

2.1 Characteristics of Slow Learners

To avoid falling into errors where students who have other learning problems are classified as slow learners, scholars have compiled specific traits of slow learners. Borah, (2013) gave five characteristics of slow learners. First, slow learners are recurrently immature in their relation with others in school and do poorly in school. Secondly, slow learners cannot do multifaceted or complex problems and work very slowly. Thirdly, slow learners lose track of time and cannot convey what they have learned from one task to another. Fourthly, slow learners do not easily master skills that are academic in nature such as the times tables or spelling rules. Lastly, slow learners exhibit an inability to have long-term goals. It ought to be noted here that each learner is unique and hence the characteristics offered by Borah above do not necessarily appear in all slow learners equally.

They have great difficulty in learning abstract concepts that are presented without proper contexts. If the lesson being taught does not have direct relevance to their day to day activities or is at least linked to previously taught information, then the instruction become ineffective (Singh, V.P. 2004). They learn better when the material is presented concretely. However, they are not usually poor in their motor skills or performing other actions such as shopping, playing ball, or any other social or mechanical activities in their day to day life.

The most obvious trait of slow learners is that they are extremely poor in word analysis skills, using context clues and abstract thinking. Other common characteristics include poor coordination, poor memory, lack of concentration, poor communication, emotional instability, restlessness etc. They also dislike the direct method of instruction. Their attention span is short, so they cannot concentrate on one topic for long. They react slowly to learning tasks than the majority of students in the class. It is also difficult for them to figure out things themselves, if the task requires multiples steps or instructions.
Their self- esteem is low and they are prone to immature interpersonal relationships. They are more likely to have behavioural issues and social skills deficits. Slow learners also have great difficulty in transferring information or applying knowledge and skills to other situations. They do have the mechanisms or techniques to apply the already learnt skill to a new situation. A good number of students are unmotivated and gradually become slow learners due to lack of attention and support given by teachers and parents. When parents do not have enough time to discuss their children's day today events in the classroom, monitor their food habits, sleeping schedule, extracurricular activities and other personal needs or difficulties, the child may feel neglected and lose interest in learning. Parental care and emotional support are crucial to the academic progress of their children.

Slow learners have limited cognitive capacity. They fail to cope with learning situations and to reason abstractly. Rational thinking becomes practically difficult. They have the capacity to succeed in rote-learning. These children show interest in learning where relationships are clearly demonstrated. With regard to retentive memories they require more practice and revision in comparison with normal children. One of the relevant characteristics of slow learners is poor memory. It occurs due to lack of concentration. It is impossible to say how much a child can learn and retain although he is motivated externally and internally. Experimental evidences reveal that very often the slow learners can recall facts about their local football team as well as its players.

Classroom situation include distraction and lack of concentration of slow learners. This typical behavior is also associated with poor motivation. Again different studies also report that when the learning materials are presented through concrete situations, the slow learners concentration and attention do not differ significantly from that of a normal child. Their ability to deal with abstract and symbolic materials i.e. Language, Numbers and concepts is very limited and their reasoning in practical situation is inferior to that of average students.

Research works reveal that the attention span of slow learners is relatively short. They are also unable to deal with relatively complex games or school assignment. They need much external stimulation and encouragement to do simple type of work. They are capable of competing in school in most areas, except in strictly academic areas in which performance is below average.

Slow learners are frequently immature in their relations with others and do poorly in school. They lose track of time and cannot transfer what they have learned from one task to another well. They do not easily master skills that are academic in nature, such as the time tables or spelling rules. Perhaps the most frustrating trait is their inability to have long-term goals. They live in the present, and so have significant problems with time management probably due to a short attention span and poor concentration skills.

2.2 How can we help a slow learner in a class?

Teachers are first required to find out the main reason behind the learner's weak performance and also to study those areas where they need to work upon in order to guide the slow learner to perform well. They need to interact with the slow learners more often so that they can keep a record of every movement of the learner and adopt ways in which the slow learner can be guided.
Slow learners are very sensitive and self conscious as they are very well aware of their weakness in comparison with the fast learners. So the first responsibility of the teacher is to build up confidence among these learners and make them believe that they are no less than others. Encouraging words and phrases may bring about a positive impact on the slow learners and will boost them to perform better.

2.3 Motivating Slow Learners

Motivating slow learners is a task that teachers cannot ignore. Muppudathi (2014) states that to help a slow learner fetch a good grade is a challenge that marks the qualities of a good teacher. Student's motivation is optimized when teachers provide them with challenging tasks in a mastery-oriented environment that includes good emotional and cognitive support, meaningful and interesting material to learn and master, and sufficient support for autonomy and initiative (Wentzel, 2008).

Muppudathi (2014) outlines responsibilities of the teacher on slow learners as; building confidence among slow learners, finding out the main reason behind the leaner's weak performance, interact with slow learner more often, pay equal attention to slow learner in class, arrangement of special learning resources, maintenance of cumulative records, maintaining a friendly relationship, repetition, arranging for peer tutoring among others. All the foresaid interventions call for constant revision of the entire course management process.

3. Interventions for slow learners using environment, assignments and assessment.

Borah (2013) on the other hand provides examples of interventions for slow learners which touched on environment, assignments, assessment, what not to do and finally what to encourage. On environment, Borah (2013) recommends the reduction of distractions and change of setting to promote attentiveness and have a peer student-teacher while allowing breaks. On assignments, Borah (2013) recommends shorter, varied, repeated in various forms and more hands-on assignments. Formative assessment, which is assessment during the course of instruction rather than after it is completed can be a good option for any teacher. Borah (2013) recommends shorter tests, oral testing, redoing tests, shorter feedback times and avoidance of competition among students. Borah (2013) discourages cooperative learning that isolates the students and places him or her in no win situation. Borah (2013) asserts that grouping a slow learner with a patient student is beneficial to a slow learner. Teachers cannot be dispensed from the task of learning the interests of their students. Such knowledge can guide how to place slow learners in charge of their learning process.

3.1 Inside the classroom

Inside the classroom the teacher must never make the slow learner feel neglected or unwanted as it might create a feeling of inferiority among these learners which might lay an effect on their grades. Teachers must pay equal attention to these learners and make them sit in the first row if possible. Special programs with the help of the audio-visual aids, graphics displays, reference books and worksheets must be created for these slow learners and also cumulative records must be maintained by the teachers in order to keep a track of the learner's progress. This cumulative record is mandatory for the teacher to maintain as she/he will know how the slow learner is responding to his/her ways of teaching. If she/he finds any area where the learner has not made much improvement then she/he can change his/her ways of teaching and try out another way that might prove comfortable for the learner.

Helping a slow learner in class attest to good teaching. According to Santrock (2001) being an effective teacher requires commitment, motivation, and caring, qualities that include having a good attitude. On the other hand, Muppudathi (2014) asserts that a slow learner needs more time, more repetition, and often, more resources from the teachers to be successful. The teacher needs to be convinced that a slow learner can learn. According to Muppudathi (2014) it is possible to draw strong academic performance from slow learners through steady application of practical strategies. Muppudathi (2014) observes that although efforts from teachers end are simple, the results make teacher and student who have overcome their weakness proud. Teachers have to select interventions that work better for their course.

3.2 Maintaining Friendly Relationship

A teacher needs to be a friend to these learners on whom they can fall back upon. These learners cannot express themselves fully to their peers or to their parents and hence needs somebody whom they can rely upon. Hence it is up to the teacher to fill up that vacuum and enhance these slow learners' all round development. Although the effort from the teacher's end is simple, yet the result at the end of the day is great enough to make a teacher feel proud of his/herself as well as his/her learners who had managed to overcome their weakness and come out with flying colors.

3.3 Extra care and practice

Extra care and practice should be given to the slow learners as compared to their peers. If need be the teacher can take extra classes or may allow the learner to come to his/her place so that he/she may work out the areas of concern along with these learners. The teacher may utilize some of his/ her time to do a good deal of research in order to find out simple ways of helping these slow learners to study in an easy and simple way. She/he might set mock tests for the learners or give them simple home assignments which are interesting and related to the lessons completed inside the classroom. Slow-learners are not averse to learning, and have no limitations for learning, but in fact have their own psychology for learning. Hence the challenge for the parents or guardians or teachers is to understand the student's areas of interests and develop a teaching plan to cover syllabus in a given time frame.

3.4 Differentiated Instruction

With this approach, teachers change and switch around what students need to learn, how they'll learn it, and how to get the material across to them. When a student struggles in one area, the teacher creates a plan that includes extra practice, step-by-step directions, and special homework.

3.5 Scaffolding

This is a method that breaks learning into chunks. The chunks follow a logical order and move toward a clear goal. Teachers form a bridge between what students already know and what they cannot do on their own. These bridges are referred to as "scaffolds." They can include charts, pictures and cue cards. Teachers often use this method by presenting a model of high-quality work before asking students to work on their own. Just as they're used when constructing buildings, scaffolds are removed when they're no longer needed.

3.6 Graphic Organization

Using this method, a teacher draws a picture to map out thoughts and ideas. Graphic organization can help younger students with activities like identifying the characters in a story they've read. This can also help them plan and organize a story they'll write. Older students can "map out" history, like the events leading up to World War II, or compare and contrast people or topics.
Mnemonics

Students use special phrases to help them remember information. Here's an example: This strategy can also help with learning vocabulary. For example, a child can learn the scientific name for the common frog, Raindae, by using rain as the keyword along with a picture of a frog sitting in the rain.
Multisensory Instruction

This method links what students see, what they hear, how they move, and what they feel. When students learn using all of their senses, they remember the material better. Drawing might help students learn new vocabulary by capturing the meaning of a word and sketching it. Each child learns differently. Teachers will use many creative methods to teach your child—and the students around him—so they can all learn.

3.7 Using Innovative Strategies

Several innovative strategies to deal with such slow learning students to learn and enhance memory like: Involve students with a practical model or case study of short time span and relaxed environment so that they can visualize or feel the situation. Proceed in steps once the students are comfortable and involved in looking for solutions. Involve them in activities discrete from routine home chorus like sports and excursions to motivate such students to learn without cramming monotonous textbooks. Provide a variety of activities for learning such as painting a picture of a reading assignment. Provide them ample opportunity for success. Fortunately nowadays resources are available in libraries as well as online to develop learning habits to create interest for slow learners.

3.8 Affective Teaching

Although the concept of affective teaching is not a new issue in education, it is not widely utilized by teachers in the regular classroom. In modern education, due to corporate interventions, there has been a shift in focus from the inculcation of basic values in life, to the development of knowledge and skills required for the current market. A close inspection of some existing instructional practices shows the disturbing extent to which we are caught in the tentacles of mechanization (Llewellyn & Cahoon, 1965). Some institutions do not give any importance to the human denominator of learning; rather they try to equate men with machines. Educational institutions must be humanizing centres for learning and all learning activities must reflect an intrinsic valuing of the learner as an individual. Hence, the use of affective strategies in teaching is important to rediscover and maintain the dignity of the individual and to restructure the learning process from automation to humanization.

Affective teaching is the democratic process of interacting with students in a caring, conscious, and committed way. In other words, it is a way of teaching on two levels; intellectually and emotionally, using both brains and hearts. An effective strategy in language education is the integration of cognition, emotion, and language in the learning process. It serves to manage emotions, attitudes, and motivation to create a positive attitude towards learning. Developing and exploiting affective strategies helps to create a positive learning atmosphere in class. It can be done by encouraging learners to identify achievable aims and work towards autonomous learning, through personalizing activities and collaborative tasks. Teachers should use some relaxation techniques to lower the anxiety level and to create interest in learning. But today, most curricula overemphasize intellectual and cognitive tasks by pouring energies and resources for the sake of cultivating a crop of scientists and technicians. As a result, affective elements are not given any significance in the classroom leaving the slow learners and other marginally disabled students unattended.

Slow learners, who have low self esteem and no motivation, need an affective stimulation to foster interest in studies. By activating the affective domain, teachers can awaken their curiosity and interest in learning. In most classrooms, the majority of teacher's efforts typically go into the cognitive aspects of teaching and learning and all the activities are designed for cognitive outcomes. When a purely cognitive approach is used in class, the low proficiency learners may face some affective roadblocks which are neither recognized nor solved. Therefore, there is significant value in realizing this potential to improve student learning by tapping into the affective domain. In the words of Smith and Ragan (1999), " any cognitive or psychomotor objective has some affective component to it, if at no deeper level than a willingness to sufficiently interact with learning resources to achieve the learning" (p.250). According to Krathwohl et al (2002), the affective domain describes the learning objectives that emphasize a feeling tone, an emotion, or a degree of acceptance or rejection. Affective objectives vary from simple attention to selected phenomena to complex but internally consistent qualities of character and conscience.

An important aspect of affective teaching is respecting students. Teachers with traditional concepts might frown at the idea of respecting students. It means to value and accept their different socio cultural backgrounds and religious beliefs, listen to them, sincerely ask for their opinions and learning preferences, and truly value their previous knowledge. Teachers should allow students to express themselves in class and accept the fact that all are capable of learning. When the uniqueness and dignity of each student is recognized, it frees the growth forces within the individual for self fulfilling pursuits. It also raises the motivation level and creates in them a positive attitude towards learning. As Edwards and Porter (1972) argue, "a student's attitude toward a given course or subject area can be a contributing factor to his achievement" (p.107). Thus, teachers should direct their focus on the individual development of students. When the learning has personal significance, they can see use for it and will try to search for new realms of knowledge.

The proponents of affective teaching argue that teachers should listen to their students to have a smooth interaction in class because affective education is concerned with the beliefs, feelings and attitudes of students. When they listen to students, they will be able to understand their expectations, anxieties and worries, dreams and passions, and learning preferences and difficulties. When students and teachers share their feelings and thoughts in an atmosphere of mutual trust, their behavior becomes spontaneous, authentic, and flexible. This will help teachers to understand their students better and make necessary changes in the planning of future lessons. Although the cognitive and affective domains interact significantly in instruction and learning, any behavior that has an emotional component lies within the affective domain (Martin & Briggs, 1986). So it is important to promote emotional literacy and self esteem to enable slow learners to open the line of communication with their teachers and peers.

Affective teaching requires an open and free communication with students to facilitate authentic interpersonal relationships. When teachers interact with students in an atmosphere of openness, the emotional base of students is honoured and accepted without any prejudice. A lot of students may have various problems that prevent them from focusing on their studies. So teachers need to have a concern towards such students and provide adequate guidance and support. Teachers must act like their mentors and their guidance should be open minded and friendly enough for students to approach them at any time without any hesitation. It is also important to promote a healthy interpersonal relationship among peers because social skills are necessary for a person to function well in life. When a student has a healthy relationship with peers, s/he develops a sense of belongingness that helps to eliminate social awkwardness and antagonistic behaviour towards other students. A positive peer relation helps students to respect other students' ideas and interests and participate well in collaborative activities that facilitate good communication and language learning.

Affective elements can be expressed not only through words, but also through the tone of voice, volume, and body language. Teachers can use positive signs of patience, acceptance, partnership, and faith to create an impression in class that they are receptive to all students' needs. Affective elements are necessary for effective student learning because language learning is not just limited to the accumulation of factual information. In the words of Llewellyn and Cahoon (1965): Learning is more encompassing; it includes not only factual content but the pupil's positive feelings about what is learned. It seems, moreover, that the affective element, such as the learner's delight with what he is doing; actually establish the basis for meaningful and autonomous learning. (p.471).

The emotional impact of teachers' behaviour can influence learning because it helps to instill in students a love for the subject they teach. When the teacher provides warmth, acceptance and empathy, the learners feel free to regard their emotions and personal meanings as legitimate content in learning. But when language is used in an alienated way, without any emotional and personal significance, students lose their motivation to learn because it is dissociated from their lives. An easy way to make learning more affective is to foster curiosity in class. It makes learning more interesting and funny. Curiosity can be enhanced by introducing novelty and variety in instructional techniques.

Involving students in decision making or sharing power in the classroom is also a way of fostering affective teaching and learning. When the teacher makes decisions with the students about the content, assignments, deadlines, class tests, and future learning, they feel empowered and it makes the whole process more democratic. It helps in making their attitude towards their teacher and learning more positive. It dispels the wrong notion that a teacher is just an authoritarian, whose job is to make students do things, allow or prevent actions, and make judgments in class. On the other hand, they begin to feel that the teacher is a facilitator, who is receptive to their problems and who takes great interest in their learning.

4. Conclusion

Teachers need to be aware of the specific learning and personal problems that can cause a child to become an underachiever or a slow leaner. It is up to the teachers and parents to provide the help needed for slow learners to progress. As there are no special services available for slow learners, teachers need to take a leading role and keep the lines of communications open with parents to effectively meet the learning needs of such students. The ultimate aim of helping slow learners is not to get them perform at grade level, but to make them do at their level best.

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Covid-19 and Beyond: Repositioning Adult and Non-Formal Education for the Achievement of Sustainable Development Goals in Nigeria

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Abstract. The COVID-19 pandemic resulted in total lockdown of all social and economic activities posing a major challenge to socio-economic development of all countries and a major threat to the 2030 target for achievement of the Sustainable Development Goals (SDGs), as set by all United Nations member states in 2015. The pandemic is also potentially one of the greatest threats to global education and as of March 2020, had caused more than 1.6 billion children and youth, which is close to 80% of the world's enrolled students, to be out of school in 161 countries. The adults are mostly affected in Nigeria. However, ignorance and illiteracy are impediments of socio-economic and political development of nations and with Adult and Non-Formal Education (ANFE) been pushed further to the margins during the pandemic in Nigeria, its potential contribution to the creation of healthier, happier and more inclusive societies has never been clearer. This paper examines the impact of COVID-19 pandemic on adult and non-formal education provision and delivery in Nigeria, the challenges, and way forward to better equip the various programmes participants to benefit maximally in the present global village using Information and Communication Technology (ICT). It also highlights the need to reposition ANFE during the COVID-19 pandemic and beyond for the achievement of the SDGs target in Nigeria by 2030.

Keywords: COVID-19, Adult Education, Non-Formal Education, Sustainable Development, Sustainable Development Goals.

1. Introduction

The COVID-19 pandemic is much more than a health crisis resulting in total lockdown of all social and economic activities and also posing a major challenge to socio-economic development of all countries of which Nigeria is not left out. The pandemic has posed a threat to the 2030 target for achievement of the Sustainable Development Goals (SDGs) as set by all United Nations member states in 2015 as a universal call to action to end poverty, protect the planet and ensure that all people enjoy peace and prosperity. Sustainable Development Goals (SDGs) consist of 17 goals and 169 targets to be achieved by the year 2030. The 17 goals to be implemented basically is to ensure; zero hunger, good health and well-being, quality education, gender equality, clean water and sanitation, affordable and clean energy, decent work and economic growth, industry innovation and infrastructure, reduction of inequalities, urgent action to combat climate change and its impacts, promoting peaceful and inclusive societies for sustainable development amongst others. . These goals capture the essence of development in any nation and have as its slogan to "Leave no one behind" (sdgs, 2020).

According to Asiyai (2015), obtaining a quality education is the foundation to improving people's lives and sustainable development as it is only quality education that can sharpen the minds of the individual and help transform the society economically, socially and politically. However, World Economic Forum (WEF, 2020) posits that due to the pandemic, the topic of innovation in education has never been so crucial, noting that while most developed countries moved their classes online with ease, many developing countries have been found wanting, due to a lack of infrastructure and the high cost of data. According to WEF (2020), the technological revolution sweeping the world is beginning to have a profound impact on the continent, presenting an opportunity to hit the reset button and reimagine the education landscape by addressing the challenge of exclusion, to achieve quality education for all.

Adult and Non-formal education (ANFE) is one of the fields of academic endeavour that is saddled with the responsibility of solving socio-economic, cultural, political and environmental problems. Umar, Eshak, Bichi, & Aujara (2010) cited in Hussain (2013) confirm the positive association between adult education programmes and increased levels of self-esteem and high levels of knowledge and skills which thereby encourage positive and active engagement of people in their own development. According to Omolewa (2019), the duty of adult education is to break the barriers to learning for every individual and provide access to education. The author noted further that before and during the colonial rule, when there was no provision for university education in Nigeria, adult education filled the gap by helping to provide the education that was required for social change and under those circumstances, adult education became the last hope of the ordinary people, helping them to realise their full potentials and capabilities, to explore their possibilities and giving them the encouragement never to give up their dreams and visions for a better and improved future for themselves, their families and communities.

Aliogo (2019) notes that Nigeria developed a transition strategy from MDGs to SDGs in 2015 as follows: build on existing foundation between 2016 and 2020; scale up SDG implementation between 2021 and 2025; and between 2026 and 2030 arrive at a place where no Nigerian is left behind. The author further states that to integrate SGD into National Development Plan the federal government integrated the three dimensions of the SGDs which are economic, social and environmental into the Economic Recovery and Growth Plan (ERGP) 2017-2020, maintaining that core areas such as food security, agriculture, energy, infrastructural development, industry, macroeconomic stability and inclusive growth were given special attention.

The coronavirus pandemic of 2020 affected all aspects of the social, economic and political lives and activities globally. Mostly affected are the adults and with the 2030 Agenda in its fifth year, there is a need to reposition Adult and Non-Formal education (ANFE) provision, access and delivery efforts in Nigeria to ensure the attainment of the Sustainable Development Goals (SDGs) by year 2030. Therefore, the need for all hands to be on deck cannot also be over emphasized as it is quality adult and non-formal education that can sharpen the minds of the adults, out of school youths, the disadvantaged, and the vulnerable groups so that they can in turn help transform the society economically, socially and politically.

This paper examines need for repositioning of ANFE provision and delivery in the covid-19 period and beyond in Nigeria for the achievement of the SDGs by 2030.

2. Historical Development of Adult and Non-Formal Education in Nigeria

In Nigeria, the historical development of adult and non–formal education has been interwoven with the history of formal schooling. From the early decades of the colonial period, the British government in Nigeria paid little or no attention to the provision of adult education. It was not until pressure and criticisms came from the Phelps-Stokes Commission report that the British colonial government made some feeble and half-hearted efforts to improve educational provisions in the British West African colonies (NMEC, 2008).

There appears to have been some conceptual problems surrounding the meaning and scope of adult education and these problems tended to have affected its historical development. Though, it is recognized that informal learning forms part of the educational pattern by which adults traditionally gain knowledge and understanding, adult and non–formal education is generally used to connote organized activities and programmes concerned with the education of adults outside the formal school system. Certainly, the social milieu and circumstances of a given society strongly influence the pace and pattern of adult education development (NMEC, 2008).
Adult and Non-Formal education programmes constitute useful tools for achieving Universal

Basic Education (UBE), promotion of gender equality and women empowerment, and improving the health status of Nigerians. According to NMEC (2008), between 1997 and 2008, the percentage allocation of funds to Adult Learning and Education ranged between 0.65% - 8.94% of the total allocation of funds available to education. This result shows that less than 10% of the total amount of money available to the education sector goes into adult education in Nigeria. NMEC (2008) further states that:
The total allocation of funds to adult education from Local Government Areas (LGAs) was the highest. This was followed by the contributions from other Ministries and Community Based Organisations (CBOs) while the contributions from the LGAs are very substantial to literacy activities.

UNICEF made the largest financial allocation to adult and non-formal education in Nigeria followed by the UNDP and the World Bank. UNESCO came fourth followed by the DFID.

In the area of the quality of adult learning and education provision, participation and achievement, it was reported that between 1997 and 2008, there were more women in basic literacy classes than men. In addition, many States did not attach much prominence to the participation of the girl-child in non-formal education.

Many participants drop out of Adult and Non-Formal Education programmes due to some shortcomings in the management of some of the programmes which could depend on the specific needs of the learners too.

The private sector is not sufficiently involved in the funding of adult learning and education programmes.

Adult and Non-Formal Education (ANFE) in Nigeria.

The concept adult education has for a long time suffered from conflicting definitions due largely to its varied connotations, emergence, goals and implications across cultures. Whatever the variations and considerations that are made, adult education denotes the entire body of organized educational processes which employ different methods and contents for various levels of clientele in the community. This involves acquisition of knowledge, skills and attitudes for the benefit of the individual and the larger society. Thus, adult education broadly speaking is a comprehensive and diverse mode of learning for all adults irrespective of their previous educational attainments. It is indeed an integral part of life-long learning or continuing education (Federal Republic of Nigeria (FRN) &Association for the Development of Education in Africa (ADEA), 2011).

The Hamburg Declaration of 1997 cited in FRN & ADEA (2011) indicates that:

Adult Education denotes the entire body of ongoing learning processes, formal or otherwise, whereby people regarded as adults by the society to which they belong develop their abilities, enrich their knowledge and improve their technical or professional qualifications or turn them in a new direction to meet their own needs and those of their society. Adult learning encompasses formal and continuing education, Non-Formal learning and the spectrum of informal and incidental learning available in a multicultural learning society where theory and practice-based approaches are recognized

Adult education therefore covers the entire spectrum of learning from basic education to professional development occurring outside the formal school system. In fact, all forms of higher education by all the teachers and learners are adult education (Barikor, 2005 cited in FRN & ADEA, 2011).

Non-formal education (NFE) refers to an organized educational process given to adults as well as children outside formal schooling. Being an out-of-school activity, its scope is wide ranging and is often used interchangeably with adult education. While some scholars see the two terms to mean the same thing, others have attempted to draw some distinctions between them. For instance, it is argued that while adult education focuses mainly on adults, Non-Formal education extends to the youth and children. These children could be those in nursery schools, drop-outs, apprentices, the girl-child, children of nomads, children of migrant fishermen, the traditional Quranic school children and youth (almajirai) including those who have not been to school at all (FRN & ADEA, 2011).

Accordingly, FRN & ADEA (2011) identifies Non-Formal education (NFE) as practiced in Nigeria, as any intentional and systematic educational enterprise outside the traditional settings in which content is adapted to the unique needs and situation of the learner to maximize learning and minimize the other elements which often occupy the formal system like roll calls, enforcing discipline and close supervision. It is more learner-centred and result-oriented. In NFE, the learner is the one to decide on who to learn from, when to learn, where to learn, how to learn, why he/she learns and what to learn. Thus, NFE is quite broad, flexible and elastic. Thus, in NFE, learners can leave at any time if they feel that they have achieved their goals or if their objectives are not being met.

FRN & ADEA (2011) identifies 6 different types of adult education programs being run across the country. These are Basic and Functional literacy; Vocational Skills Acquisition; Post-literacy; Remedial, Extra-mural and Continuing Education, and Nomadic Education. According to ADEA (2011), Adult and Non-formal Education is beset with formidable challenges, such as the dearth of facilities in learning centers, limited support services, inadequate and unqualified facilitators or instructors, ill-motivated teachers and a weak monitoring system.

3. Covid-19 Pandemic

The COVID-19 pandemic is the defining global health crisis and the greatest challenge since World War II reaching the tragic milestone of one million deaths, and the human family is suffering under an almost intolerable burden of loss. The pandemic is much more than a health crisis but also an unprecedented socio-economic crisis, stressing every one of the countries it touches with the potential to create devastating social, economic and political effects that will leave deep and longstanding scars (UNDP, 2020b). UNDP (2020b) therefore posits that every country needs to act immediately to prepare, respond, and recover.

The Federal Ministry of Health confirmed a coronavirus disease (COVID-19) case in Lagos State, Nigeria on the 27th of February 2020, which was the first case to be reported in Nigeria since the beginning of the outbreak in China in January, 2020 (Adepoju, 2020). As the spread of the coronavirus intensifies, Nigeria started dealing with enormous social and economic impacts exacerbating existing inequalities and creating new inequalities, which are hitting the most vulnerable people the hardest. In a country that is overwhelmingly tied to the informal sector, the COVID-19 pandemic affected livelihood and spending patterns, which in turn could have a negative impact on the economy and wellbeing of the people (UNDP, 2020a).

According to Saavedra (2020), the world is living amidst what is potentially one of the greatest threats to global education, a gigantic educational crisis because as of March 28, 2020, the COVID-19 pandemic had caused more than 1.6 billion children and youth to be out of school in 161 countries. This is close to 80% of the world's enrolled students. Stanistreet (2020) posits that the long-term impact of the COVID-19 pandemic on education and learning remains to be seen but it is clear, however, that across the world, formal systems of education have not been able to reach every learner in this crisis. Underlying structural issues in terms of priorities, roles and delivery models for education systems and services have been exposed by the crisis. In some parts of the world, learning from home through online and distance learning became the new norm during lockdown, as teaching and learning activity in physical classrooms became impossible to maintain. This shift in provision has opened up the possibility of further development and investment in alternative, non-formal and family-based learning pathways such that the solutions adopted during the pandemic can be integrated into education systems to ensure learners have greater opportunities to learn through multiple pathways (Stanistreet, 2020). Razzaq cited in Stanistreet (2020) argues that while adult education has been pushed further to the margins during the pandemic, its potential contribution to the creation of healthier, happier and more inclusive societies has never been clearer.

Repositioning adult education for the achievement of sustainable development goals in the new normal Nigeria

As of March 28, 2020, the COVID-19 pandemic had caused more than 1.6 billion children and youth which is close to 80% of the world's enrolled students to be out of school in 161 countries. The above assertion by Saavedra (2020) has therefore deemed it necessary for every country to act immediately to prepare, respond, and recover from the devastating effects of the COVID-19 pandemic on education. This is because the children and youths that would be out of school as a result of the pandemic will grow up to be adults who lack the necessary quality education to contribute to their self-development and development of the society and country to which they belong. This is in addition to the already existing population of illiterate adults globally before the pandemic.

In some parts of the world especially Europe and some other technologically advanced countries, learning from home through online and distance learning became the new norm during lockdown, as teaching and learning activity in physical classrooms became impossible to maintain. World Economic Forum (2020) notes that the technological revolution sweeping the world is beginning to have a profound impact on the continent, presenting an opportunity to hit the reset button and reimagine the education landscape by addressing the challenge of exclusion, to achieve quality education for all. Razzaq cited in Stanistreet (2020) argues that while adult education has been pushed further to the margins during the pandemic, its potential contribution to the creation of healthier, happier and more inclusive societies has never been clearer. The author's argument can be seen from what was experienced by some school children and youths who could not benefit from the online learning organized by some schools and states government in Nigeria because of some circumstances like poor or no power supply, poverty, illiteracy and low level of education of their parents or guardians. With such experiences it may become difficult to achieve the sustainable development goals target of 2030 as not only education will be adversely affected but other goals and targets as set by the United Nations member states in 2015.

Adult education should be repositioned in the new normal Nigeria following the great negative impact of the covid-19 pandemic on education not only in

Nigeria but across the globe. The negative impact is more felt in Nigeria and other African countries where information technology and online learning have not been fully taken advantage of at all levels of education. However, for the above to be achieved all categories of adults (irrespective of past educational achievements), out of school children, the disadvantaged groups, teachers, facilitators, etc., must be exposed to the use of ICT in information dissemination especially in the teaching/ learning processes. Provision of sound education for all will go a long way to enable the citizens contribute meaningfully to socio-economic growth of Nigeria. This is because the more educated a country is the more productive it becomes.

4. Recommendations

To reposition adult and non-formal education in the new normal Nigeria the following are recommended:

- Adult and non-formal education should be viewed as an investment in human capital and high government priority unlike what is obtainable presently where government budgetary allocation to education is very low with adult and non-formal education funding pushed to the background and not given priority.
- Government should strive towards ensuring power supply to all nooks and crannies of the country so that the rural dwellers in rural areas where the country has majority of illiterates, drop-outs and vulnerable groups can also benefit from adult and non-formal education provision and delivery through the use of ICT.
- Nigerian government should promote, make provisions for, and fund more online education for the adults (especially the illiterates), out of school children, the educationally disadvantaged and the vulnerable groups.
- Computer literacy should be rigorously funded and invested in especially for the adults and the vulnerable groups in Nigeria. This will go a long way to help in the achievement of the SDGs when people can seek for information and learn on their own taking advantage of the world as a global village.
- Information and communication technology should be recognized and used in the delivery process for adult and non-formal education programme for beneficiaries to be able to fit into the world of work and to cope with globilisation and the attendant benefits. This is very important because presently most adult and non-formal education programmes are not employing ICT in the delivery process.
- All those involved in the planning, implementation and evaluation of adult and non-formal education programmes should be exposed to training and retraining in ICT utilization and use because what they do not have they cannot give.
- Innovation in education has become a major priority due to COVID-19. There should be training and retraining of instructors, facilitators, and tutors involved so as to keep abreast of new developments in provision and delivery of adult and non-formal education across the globe.

5. Conclusion

This paper concludes that for Nigeria to achieve the SDG goals by year 2030 considering the devastating impacts of the coronavirus pandemic on education, adult and non-formal education should be given upmost priority. Repositioning adult and non-formal education provision and delivery through the use of ICT to capture all citizens thereby changing their lives positively and giving room for independent or self-directed learning and further education will allow for better connection between homes and schools. This will enable the adults to contribute meaningfully to the education of the children at home through online learning in the new normal Nigeria.

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Assessment of the Implementation of Economics Curriculum and Students' Learning Achievement in Public High Schools in Osun State, Nigeria

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Abstract. This paper assessed the implementation of Economics curriculum and students' learning achievement in public high schools in Osun State, Nigeria. The study adopted two theories: constructivism learning theory and Context, Input, Process and Product (CIPP) theory. Four research questions were raised in the study; and four research hypotheses guided the study. Descriptive research design was adopted and the population for the study was all high schools in Osun State. The sample size for this study was one hundred and sixty (160) participants comprising forty (40) Economics teachers, and one hundred and twenty (120) students selected randomly from eighty-four high schools in the State. The research instruments used for data collection in this study were researcher-designed questionnaires, and Economics Students' Achievement Test. Simple percentage, mean and standard deviation were used to analyse the research questions, while the research hypotheses were tested using Pearson Product Moment Correlation Coefficient and One-Way ANOVA at 0.05 level of significance. The findings revealed that the teaching methods mostly used by the Economics teachers for the implementation of Economics curriculum contents in High Schools include: discussion method, question and answer method, problem solving method, project method, role play method, and demonstration method. Economics teachers utilize teaching resources for the implementation of Economics curriculum in High Schools to a medium extent. Students' perception on the objectives of Senior Secondary School Economics curriculum was good. There is significant relationship between students' perception of Economics curriculum objectives and learning achievement in Economics; and implementation of Economics curriculum has significant effect on students' learning achievement in High Schools in Osun State, Nigeria. Based on these findings, recommendations were made among others that teachers should utilize the available resources for the implementation of Economics curriculum; principals in all senior secondary schools should embark on regular supervision of delivery of Economics instructions in the classroom to ensure that the appropriate methods and materials are used by the teachers; and Economics teachers should always utilize students-centred methods for the implementation of Economics Curriculum.

Keywords: Curriculum Implementation, Economics Curriculum, Implementation, Students' Learning Achievement, Teaching Facilities/Resources

1. Introduction

Curriculum is a tool of education which is used for preparing individuals to become productive citizens and useful for themselves and the society at large. It is used at levels of education from kindergarten, primary, secondary, tertiary and all other forms of education. According to Ahmadi and Lukman (2015), secondary school curriculum (including Economics curriculum) is designed to encourage all learners to achieve their spiritual, intellectual and social potential as well as to understand the relevance of learning in their daily lives.

Economics is one of the elective subjects offered at the Senior Secondary School (SSS) level as prescribed by the National Policy of Education (Federal Republic of Nigeria, 2014). It is a social science subject. It is mainly concerned with man and the social system by which he makes arrangements for the satisfaction of his basic material needs such as food, shelter, clothing and other non-material wants such as education, knowledge and beauty. Economics is part of mandatory requirement for admission into social and management science courses in tertiary institutions in the country. It has to be passed at credit level. It also enables the three economic agents (individual, firm and government) to make rational decisions and to effectively utilized their limited resources to satisfy numerous human wants. This shows the relevance of the subject in Nigeria educational system.

The percentage of senior secondary school leavers that are not eligible for admission into tertiary institutions each year because of failure in Economics at the senior school certificate examination is very high. Supporting this statement, the WAEC examiners' reports (2015, 2016, & 2017) on Economics showed that there was a slight drop in candidates' performance for these years when compared to those of the previous years. The reports attributed the causes of this failure to students' poor graphical analysis, use of wrong terminologies and failure to expatiate points. Based on these reports, students were blamed solely for their poor performance in Economics; whereas, poor performance of students could be as a result of poor implementation of Economics curriculum by the teachers. This failure indicates that there is problem or weakness in the implementation of the Economics curriculum. However, effective implementation of the curriculum may be hampered by factors such as inadequate qualified Economics teachers in schools, absence of relevant instructional materials, poor instructional strategies and poor evaluation of students.

The quality of education at all levels in any country is directly related to her educational curriculum, the implementation of such curriculum and the quality of instructions in the classroom. The curriculum must be implemented for the designers and developers to ascertain whether it achieves its purpose or not. Curriculum implementation is concerned with the new ideas or materials which are put in practice and how those ideas and practices are being maintained (Igwe, 2011). It is a process of putting all that have been planned as a curriculum document into practice in the classroom through the combined efforts of teachers, learners, school administrators, parents as well as interaction with physical facilities, instructional materials, psychological and social environments (Onyeachu, 2008). The attainment of any curriculum objectives in senior secondary schools in Nigeria is in no doubt largely depends on its implementation. This implies that the actualization of the goals and objectives of designing Economics curriculum for the high school schools in Osun State, Nigeria depends on the process of its implementation.

The attainment or otherwise of educational objectives are determined by students' learning achievement. Students' learning achievement is a fundamental criterion through which all teaching and learning activities (such as implementation of Economics curriculum) are measured. According to Ernest-Ehibudu and Opurum (2013), students' learning achievement or level of academic achievement is measured through achievement tests/examinations and observations. Alaka and Obadara (2013) asserted that students' achievement is the most important education indicator that stakeholders are interested in. This explains why virtually all stakeholders in education place high value on students' achievement. However, students' learning/academic achievement depends on the quality of teaching and learning in schools.

The issues of poor academic performance of students and level of students' learning achievements in Economics are influenced by factors that are related to Economics curriculum contents and the level of its' implementation. This implies that poor implementation of Economics curriculum contents may lead to students' poor achievement in Economics and can make them to develop negative attitudes towards the learning of the subject (Economics). Therefore, there is a need for a research that focuses on the assessment of the implementation of Economics curriculum and students' learning achievement for improvement in instructional practices and for the actualization of the Economics curriculum objectives in secondary school. It is against this background that this study assessed the implementation of Economics curriculum and students' learning achievement in senior secondary schools in Osun State, Nigeria.

1.1 Statement of the Problem

The achievement of objectives of any level of education depends largely on effective implementation of its planned curriculum. Onyeachu (2008) observed that no matter how well the curriculum of any subject (including Economics) is planned, designed and documented, implementation is important. Available literature (such as Onyeachu, 2008; Offor, 2013; Ahmadi and Lukman, 2015) shows that many researches have been conducted on curriculum implementation in Nigeria. However, most of these researches were done on general education and other subjects related to Economics. The general consensus of findings on most of the studies is that most programmes encounter problems at the implementation stage. This implies that implementation of Economics curriculum can enhance or mar students' learning achievement. However, it is noted that few or no empirical studies have been carried out on the assessment of the implementation of Economics curriculum in relation to students' learning achievement in senior secondary schools in Nigeria. Therefore, it becomes necessary for this study to assess the implementation of senior secondary schools Economics curriculum and students' learning achievement in Osun State, Nigeria.

1.2 Objectives of the Study

The objectives of this paper are to:

- Examine the teaching methods used by the Economics teachers for the implementation of Economics curriculum contents in High Schools in Osun State, Nigeria.
- Ascertain the level of teachers' utilization of teaching resources for the implementation of Economics curriculum in High Schools in Osun State, Nigeria.
- Examine students' perception on the objectives of Senior Secondary School Economics curriculum in High Schools in Osun State, Nigeria.
- Examine the effect of the implementation of Economics curriculum on students' learning achievement in High Schools in Osun State, Nigeria.

1.3 Research Questions

- What are the teaching methods used by the Economics teachers for the implementation of Economics curriculum contents in High Schools in Osun State, Nigeria?
- To what extent do teachers utilize teaching resources for the implementation of Economics curriculum in High Schools in Osun State, Nigeria?
- How do students perceive the objectives of Senior Secondary School Economics curriculum in High Schools in Osun State, Nigeria?
- What effect does implementation of Economics curriculum has on students' learning achievement in High Schools in Osun State, Nigeria?

1.4 Research Hypotheses

$H_0$1: There is no significant relationship between teaching methods used by Economics teachers for the implementation of Economics curriculum contents and students' learning achievement in High Schools in Osun State, Nigeria.

$H_0$2: There is no significant relationship between extent of teachers' utilization of teaching resources for the implementation of Economics curriculum and students' learning achievement in High Schools in Osun State, Nigeria.

$H_0$3: There is no significant relationship between students' perception of Economics curriculum objectives and learning achievement in Economics in High Schools in Osun State, Nigeria.

$H_0$4: Implementation of Economics curriculum has no significant effect on students' learning achievement in High Schools in Osun State, Nigeria.

2. Literature Review

2.1 Concept of Curriculum/Curriculum Implementation

The "Curriculum" and "Curriculum implementation" have been defined by various authors and scholars. Curriculum simply refers to how the officially designed package is translated by the teacher into syllabus, scheme of work and lessons that are delivered to students in schools. According to Pratt (1994), curriculum can be defined as a written document which describes systematically the goals planned, objectives, contents, learning activities, evaluation technique, among others. Similarly, Igwe (2011) defined curriculum as continuous chain of activities necessary for translating educational goals into concrete activities, materials and observable behavioral change.

Curriculum implementation according to Chikumbi and Makamure (2005), involves putting into practice the officially prescribed courses of study, syllabus and subjects. Also, Mkpa (2007) viewed curriculum implementation as the task of translating the curriculum document into the operating curriculum by the combined efforts of the teachers, students, and others concerned. Similarly, Onyeachu (2008) defined curriculum implementation as a process of putting all that have been planned as a curriculum document into practice in the classroom through the combined efforts of teachers, learners, school administrators, parents as well as interaction with physical facilities, instructional materials, psychological and social environments. In the view of Igwe (2011), curriculum implementation is concerned with the new ideas or materials which are put in practice and how those ideas and practice are being maintained.

It can be seen from the above definitions that curriculum implementation involves all activities engaged in by the implementer (teacher) in the process of putting the official document called "curriculum" into practice. Also, it is important to know that the curriculum must be implemented for the designers and developers to ascertain whether it achieves its purpose or not.

2.2 Students' Learning Achievement

Every form of education has a set of goals and objectives it meant to achieve. The attainment or otherwise of these educational goals and objectives are ascertained through students' learning achievement. Learning achievement could be seen as learning outcomes, academic achievement and academic performance. It involves how the teachers and students are able to accomplish the purpose for which the educational goals and objectives are established. Students' learning achievement generally shows the failure or otherwise of an academic endeavour. It also shows the level of students' creativity and efficiency in the present time and can be used to predict their successes in the future. Supporting this view, Aremu (2001) stressed that the fundamental criterion for measuring all teaching-learning activities is academic achievement. According to Ewumi (2009) argued that students' academic achievement at the secondary school level is both a pointer to the effectiveness or otherwise of schools, and serves as main determinant of the future of a nation and her youths.

Students' learning achievement depends on the quality of teaching and learning in schools. This implies that students' learning achievement is used to determine the level of teaching effectiveness in schools. Bossaert, Doumen, Buysea and Verschueren (2011) stated that students' learning achievement is commonly measured by examination and continuous assessment; while Ernest-Ehibudu and Opurum (2013) reported that achievement tests/examinations and observations are used for assessing students' level of academic achievement. Thus, students' learning achievement as used in this paper means students' acquisition of economic knowledge, skills and attitudes as well as ability to apply them in problem-solving situations. It may be measured by test given to students at the end of each lesson, at the middle of the term, and examination given to students at the end of the term or session.

3. Theoretical Framework

Constructivism theory, and Context, Input, Process and Product (CIPP) Model/Theory formed the bases for this study. Each of these theories is briefly discussed below:

3.1 Constructivism Theory (John Dewey, 1933)

The philosophical founder of constructivism theory was John Dewey (1933). Constructivism is a theory which deals with the way people make meaning of the world through a chain of individual constructs. This theory involves a learning process that allows learners to acquire experience from the environment and provides learners with reliable knowledge. According to this theory, new knowledge is acquired and tested through learners acting upon their environment. This implies that the theory helps each student to develop his/her own knowledge internally through interaction with the environment and mental activity. Also, in constructivism, knowledge is actively and not passively received. The main tenets of constructivism include that most learning is presumed to be context-dependent; case-based learning of the theory result in better and more meaningful learning experiences among learners; and social negotiation of knowledge which is a means through which learners form and test their constructs while dialoging with other individuals (such as Economics teachers) in the society at large. According to constructivism, learning activities are usually designed to encourage students' engagement in "learning by doing" through problem solving and critical analysis.

The principles of constructivist approaches are radical departure from the traditional approaches where the teachers are powerful and dominate the teaching and learning processes and the learners are passive (not actively involved in the teaching-learning processes in the classroom).

The advantages of constructivism approaches to teaching-learning processes include that learners are motivated, learning becomes real, retention effective and achievements higher. In view of this, the constructivist theory can help in the objective assessment of the implementation of Economics curriculum and students' learning achievement which involves evaluation of objectives, contents, activities (teaching-learning), learner, teacher, evaluation strategies, teaching and learning processes; and instructional materials. Hence, constructivist learning theory is selected in this study due to its relevance to the actualization of the objectives of this study.

3.2 Context, Input, Process and Product (CIPP) Model/Theory (Daniel Stufflebeam, 1966)

Context, Input, Process and Product (CIPP) model was developed by Daniel Stufflebeam in 1966. CIPP is an evaluation model that requires the evaluation of context, input, process and product in judging a programme's value. CIPP is a decision-focused approach to evaluation and emphasis the systematic provision of information for programme management and operation. CIPP aims to provide an analytic and rational basis for programme decision-making, based on a cycle of planning, structuring, implementing and reviewing and revising decisions, each examined through a different aspect of evaluation –context, input, process and product evaluation. The CIPP model is an attempt to make assessment directly relevant to the needs of decision-makers during the phases and activities of a programme (such as implementation of Economics curriculum).

The CIPP model is unique as an assessment guide as it allows one to assess the programmme at different stages, especially at the end of the programme to ascertain whether or not the programme had an effect. Therefore, an assessment of this nature will help bring about a clearer understanding of the extent to which teachers' implementation of Economics curriculum mar or enhance students' learning achievement. Hence, the adoption of CIPP model in this study.

4. Methodology

A descriptive survey research design was used for this study. Twenty (20) high schools were randomly selected among the eighty-four (84) high schools in Osun State, Nigeria. In each of the high schools selected, two (2) Economics teachers, and six (6) SS2 Economics students in intact classes were randomly selected. Two Economics teachers were selected in each of the high schools because the number of Economics teachers found in most of the high schools ranges from two to four. Thus, the sample size for this study was one hundred and sixty (160) participants comprising forty (40) Economics teachers, and one hundred and twenty (120) Economics students in the State. Simple random sampling technique was used in the study to ensure that each of the members of the population has equal chance of being included in the sample. The research instrument used for data collection in this study were two researcher-designed questionnaires (one for teachers and one for students), and Students' Achievement Test. The Students' Achievement Test contained twenty items adopted from West African Examination Council Senior Secondary School Economics past questions based on the topics taught by the schools' teachers during the four weeks of visitation by the researcher to each of the schools. Table of Specification was used to determine the number of items tested on each of the four topics taught. The reliabilities of the three research instruments (Teachers' Questionnaire, Students' Questionnaire and Students' Achievement Test) were carried out using the Cronbach Alpha and they yielded the following reliability coefficients 0.799, 0.871 and 0.896 respectively. Frequency counts, percentage, mean and standard deviation were used to analyse and answer the research questions, while the research hypotheses were tested using Pearson Product Moment Correlation Coefficient and One-Way ANOVA at 0.05 level of significance.

5. Results

Research Question One: What are the teaching methods used by Economics teachers for the implementation of Economics curriculum contents in High Schools in Osun State, Nigeria?

Table 1: Descriptive Statistics of Frequency Counts and Percentage of the Teaching methods used by the Economics teachers for the implementation of Economics curriculum contents

S/N	Items	Always	Seldom	Rarely	Never	Total	Remarks
1	Field trips	6 15.0%	12 30.0%	16 40.0%	6 15.0%	40 100%	Rarely
2	Discussion method	36 90.0%	0 0.0%	4 10.0%	0 0.0%	40 100%	Always
3	Lecture method	4 10.0%	8 20.0%	10 25.0%	18 45.0%	40 100%	Never
4	Question and answer method	28 70.0%	10 25.0%	2 5.0%	0 0.0%	40 100%	Always
5	Concept mapping	6 15.0%	20 50.0%	10 25.0%	4 10.0%	40 100%	Seldom
6	Cooperative learning strategies	8 20.0%	12 30.0%	16 40.0%	4 10.0%	40 100%	Rarely
7	Futures wheel technique	2 5.0%	4 10.0%	8 20.0%	26 65.0%	40 100%	Never

8	Problem solving method	26 65.0%	8 20.0%	6 15.0%	0 0.0%	40 100%	Always
9	Project method	26 65.0%	4 10.0%	6 15.0%	4 10.0%	40 100%	Always
10	Role play method	28 70.0%	2 5.0%	8 20.0%	2 5.0%	40 100%	Always
11	Demonstration Method	22 55.0%	14 35.0%	4 10.0%	0 0.0%	40 100%	Always
12	Process Oriented Guided Inquiry Learning	4 10.0%	16 40.0%	8 20.0%	12 30.0%	40 100%	Seldom
13	Entre education Approach	8 20.0%	4 10.0%	8 20.0%	20 50.0%	40 100%	Never
14	Scaffolding	6 15.0%	2 5.0%	22 55.0%	10 25.0%	40 100%	Rarely
15	Chalk and Chew Method	12 30.0%	14 35.0%	14 35.0%	0 0.0%	40 100%	Seldom
16	Others	0 0.0%	2 5.0%	4 10.0%	34 85.0%	40 100%	Never

***Source**: Field Survey, 2020*

In Table 1, analysis of items 1-16 revealed that the teaching methods always used by the Economics teachers for the implementation of Economics curriculum contents in High Schools include: discussion method [36(90.0%)], question and answer method[28(70.0%)], problem solving method [26(65.0%)], project method[26(65.0%)], role play method[28(70.0%)], and demonstration method[22(55.0%)]; while teaching methods like concept mapping[20(50.0%)], chalk and chew method[14(35.0%)], and process oriented guided inquiry learning[22(55.0%)] are seldomly used; field trips[16(40.0%)], cooperative learning strategies[16(40.0%)] and scaffolding[22(55.0%)] are rarely used; and teaching methods like lecture method[18(45.0%)], futures wheel technique[26(65.0%)], and entre education approach[20(50.0%)] are never used.

Based on the above analysis, the answer to research question one is that the teaching methods mostly used by the Economics teachers for the implementation of Economics curriculum contents in High Schools include: discussion method, question and answer method, problem solving method, project method, role play method, and demonstration method.

Research Question Two: To what extent do teachers utilize teaching resources for the implementation of Economics curriculum in High Schools in Osun State, Nigeria?

Table 2: Descriptive Statistics of Mean and Standard Deviation of the Extent of Teachers' utilization of teaching resources for the implementation of Economics curriculum in Senior Secondary Schools

S/N	Items	High	Medium	Low	Not at all	Mean	Standard Deviation	Remarks
1	Computer system (Desktop/Laptop)	2 5.0%	12 30.0%	18 45.0%	8 20.0%	2.20	0.83	M
2	Films/DVDs/VCDs on Economics	0 0%	8 20.0%	16 40.0%	16 40.0%	1.80	0.77	L
3	Charts/Graphs and Pictures	32 80.0%	4 10.0%	4 10.0%	0 0%	3.70	0.66	H
4	Economics Textbooks	36 90.0%	2 5.0%	2 5.0%	0 0%	3.85	0.49	H
5	Projectors	12 30.0%	16 40.0%	6 15.0%	6 15.0%	2.85	1.04	M
6	Internet resources (e.g E-books on Economics, Electronic mail)	2 5.0%	18 45.0%	14 35.0%	6 15.0%	2.40	0.82	M
7	DVD/VCD players	0 0%	20 50.0%	12 30.0%	8 20.0%	2.30	0.80	M
8	Interactive White Board	6 15.0%	4 10.00%	2 5.0%	28 70.0%	1.70	1.17	L
9	Economics resource centre	0	10	14	16			L

		0%	25.0%	35.0%	40.0%	1.85	0.81	
10	Colour Television	0 0%	10 25.0%	14 35.0%	16 40.0%	1.85	0.81	L
11	Others	2 3.0%	4 10.0%	6 15.0%	28 70.0%	0.50	0.89	NA
	Average	92(20.9%)	108(24.5%)	108(24.5%)	132(30%)	2.27	0.75	M

Source*: Field Survey, 2020*
Keys: **H**= High; **M** = Medium; **L**= Low; **NA**= Not At All
Standard mean = 2.5; $0 < NA \leq 1$; $1 < L \leq 2$; $2 < M \leq 3$; $3 < H \leq 4$

Table 2 presents data on the extent of utilization of teaching resources for the implementation of Economics curriculum in High Schools. The mean cut- off score is 2.5. The mean ratings of the eleven items shown in the table revealed that teachers utilize: Charts/Graphs and Pictures [$(\bar{x})$ = 3.70, S.D= 0.32] and Economics Textbooks [$(\bar{x})$ = 3.85, S.D= 0.49] to a high extent; computer system (Desktop/Laptop) [$(\bar{x})$ = 2.20, S.D= 0.83], projectors [$(\bar{x})$ = 2.85, S.D= 1.04], Internet resources (e.g E-books on Economics, Electronic mail) [$(\bar{x})$ = 2.40, S.D= 0.82], and DVD/VCD players [$(\bar{x})$ = 2.30, S.D= 0.80] to a medium extent; films/DVDs/VCDs on Economics [$(\bar{x})$ = 1.80, S.D= 0.77], Interactive White Board [$(\bar{x})$ = 1.70, S.D= 1.17], Economics resource centre [$(\bar{x})$ = 1.85, S.D= 0.81] and colour television [$(\bar{x})$ = 2.10, S.D= 0.32] to a low extent; and most Economics teachers do not utilize other teaching resources[$(\bar{x})$ = 0.50, S.D= 0.89] apart from those listed in Table 2 above.
Based on the above analysis, the answer to research question two is that most Economics teachers utilize teaching resources for the implementation of Economics curriculum in High Schools to a medium extent.

Research Question Three: How do students perceive the objectives of Senior Secondary School Economics curriculum in Osun State, Nigeria?

Table 3: Descriptive Statistics of Frequency Counts and Percentage of the Students' perception on the objectives of Senior Secondary School Economics curriculum

S/N	Items	Very Good	Good	Fair	Poor	Total (N=120)	Remarks
1	Economics curriculum enables students to understand basic economic principles and concepts.	82 68.3%	36 30.0%	0 0%	2 17%	120 100%	Very Good
2	The Economics curriculum enables students to understand basic tools for sound economic analysis.	58 48.3%	58 48.3%	4 3.3%	0 0.0%	120 100%	Good
3	It enables students to contribute intelligently to discourse on economic reforms and development as they affect or would affect the generality of Nigerians.	58 48.3%	48 40.0%	12 10.0%	2 1.7%	120 100%	Very Good
4	Economics curriculum enables students to understand the structure and functioning of economic institutions.	66 55.0%	46 38.3%	6 5.0%	2 1.7%	120 100%	Very Good
5	It enables students to appreciate the role of public policies on national economy.	58 48.3%	42 35.0%	18 15.0%	2 1.7%	120 100%	Very Good
6	Economics curriculum enables students to develop the skills and also appreciate the basis for rational economic decisions.	74 61.7%	38 31.7%	6 5.0%	2 1.7%	120 100%	Very Good
7	It enables students to become sensitized to participate actively in national economic advancement through entrepreneurship, capital market and so on.	80 66.7%	30 25.0%	6 5.0%	4 3.3%	120 100%	Very Good
8	Economics curriculum enables students to understand the role and status of Nigerian in international economic relationships.	58 48.3%	42 35.0%	18 15.0%	2 1.7%	120 100%	Very Good
9	The Economics curriculum enables students to understand the role and status of other African countries in international economic relationships.	50 41.7%	50 41.7%	12 10.0%	8 6.7%	120 100%	Good
10	It enables students to appreciate the problems encountered by developing countries in their effort towards economic advancement.	50 41.7%	48 40.0%	18 15.0%	4 3.3%	120 100%	Very Good

Source*: Field Survey, 2020*

In Table 3, analysis of items 1-10 revealed that most of the students have very good perception on the objectives which state that "Economics curriculum enables students to understand basic economic principles and concepts" [82(68.3%)], "Economics enables students to contribute intelligently to discourse on economic reforms and development as they affect or would affect the generality of Nigerians"[58(48.3%)], "Economics curriculum enables students to understand the structure and functioning of economic institutions"[66(55.0%)], "Economics enables students to appreciate the role of public policies on national economy"[58(48.3%)], "Economics curriculum enables students to develop the skills and also appreciate the basis for rational economic decisions"[74(61.7%)], "Economics enables students to become sensitized to participate actively in national economic advancement through entrepreneurship, capital market and so on" [80(66.7%)], "Economics curriculum enables students to understand the role and status of Nigerian in international economic relationships"[58(48.3%)], and "Economics enables students to appreciate the problems encountered by developing countries in their effort towards economic advancement[50(41.7%)]; while some of the students have good perception on the objectives which state that "Economics curriculum enables students to understand basic tools for sound economic analysis"[58(48.3%)], and "Economics curriculum enables students to understand the role and status of other African countries in international economic relationships"[50(41.7%)].
Based on this analysis, the answer to question four is that the students perceived the objectives of Senior Secondary School Economics curriculum to be very good.

Testing of Research Hypotheses

Research Hypothesis One: There is no significant relationship between teaching methods used by Economics teachers for the implementation of Economics curriculum contents and students' learning achievement in High Schools in Osun State, Nigeria.

Table 4: Correlation Analysis between teaching methods used by Economics teachers for the implementation of Economics curriculum contents and students' learning achievement

		Teaching Methods Used by Economics Teachers	Students' Learning Achievement
Teaching Methods Used by Economics Teachers	Pearson Correlation	1	0.653*
	Sig. (2-tailed)		0.002
	N	40	40
Students' Learning Achievement	Pearson Correlation	0.653*	1
	Sig. (2-tailed)	0.002	
	N	40	120

*. Correlation is significant at the 0.05 level (2-tailed).

Table 4 shows that the r-cal is 0.643, signifying a strong positive significant relationship between teaching methods used by Economics teachers for the implementation of Economics curriculum contents and students' learning achievement. Also, it is observed that the returned p-value of $0.002 < 0.05$, the criterion level of significance. Hence, the null hypothesis which states that; "There is no significant relationship between teaching methods used by Economics teachers for the implementation of Economics curriculum contents and students' learning achievement in High Schools in Osun State, Nigeria" is rejected. Consequently, the alternate hypothesis is accepted. That is, there is significant relationship between teaching methods used by Economics teachers for the implementation of Economics curriculum contents and students' learning achievement in High Schools in Osun State, Nigeria.

Research Hypothesis Two: There is no significant relationship between extent of teachers' utilization of teaching resources for the implementation of Economics curriculum and students' learning achievement in High Schools in Osun State, Nigeria.

Table 5: Correlation Analysis between extent of teachers' utilization of teaching resources for the implementation of Economics curriculum and students' learning achievement

		Extent of Teachers' Utilisation of Teaching Resources	Students' Learning Achievement
Extent of Teachers' Utilisation of Teaching Resources	Pearson Correlation	1	0.685*
	Sig. (2-tailed)		0.004
	N	40	40

Students' Learning Achievement	Pearson Correlation	0.685*	1
	Sig. (2-tailed)	0.004	
	N	40	120

*. Correlation is significant at the 0.05 level (2-tailed).

Table 5 shows that the r-cal is 0.685, indicating a strong positive significant relationship between extent of teachers' utilization of teaching resources for the implementation of Economics curriculum and students' learning achievement. In addition, it is observed that the returned p-value of 0.004 is less than 0.05, the criterion level of significance. Consequently, the null hypothesis which states that; "There is no significant relationship between extent of teachers' utilization of teaching resources for the implementation of Economics curriculum and students' learning achievement in High Schools in Osun State, Nigeria" is rejected. Thus, the alternate hypothesis is accepted. Hence, significant relationship existed between extent of teachers' utilisation of teaching resources for the implementation of Economics curriculum and students' learning achievement in High Schools in Osun State, Nigeria.

Research Hypothesis Three: There is no significant relationship between students' perception of Economics curriculum objectives and learning achievement in Economics in High Schools in Osun State, Nigeria.

Table 6: Correlation Analysis between Students' perception of Economics curriculum objectives and learning achievement in Economics

Variables		Students' Learning Achievement	Students' Perception of Economics Curriculum Objectives
Students' Learning Achievement	Pearson Correlation	1	0.453*
	Sig. (2-tailed)		0.027
	N	120	120
Students' Perception of Economics Curriculum Objectives	Pearson Correlation	0.453*	1
	Sig. (2-tailed)	0.027	
	N	120	120

*. Correlation is significant at the 0.05 level (2-tailed).

Table 6 shows that the r-cal is 0.453, indicating a positive significant relationship between students' perception of Economics curriculum objectives and learning achievement in Economics. Also, it is observed that the returned p-value = 0.027 < 0.05, the criterion level of significance. Hence, the null hypothesis which states that; "There is no significant relationship between students' perception of Economics curriculum objectives and learning achievement in Economics in High Schools in Osun State, Nigeria" is rejected. Thus, the alternate hypothesis is accepted. That is, there is significant relationship between students' perception of Economics curriculum objectives and learning achievement in Economics in High Schools in Osun State, Nigeria.

Research Hypothesis Four: Implementation of Economics curriculum has no significant effect on students' learning achievement in High Schools in Osun State, Nigeria.

Research Hypothesis Four: What is the influence of the implementation of Economics curriculum on students' learning achievement in High Schools in Osun State, Nigeria?
Results in the Table 7 below are used to answer the research question four and to test the research hypothesis four in this study.

Table 7: One Way ANOVA on Implementation of Economics curriculum and students' learning achievement
Students' Learning Achievement

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	219.4	3	73.133	3.655	0.013
Within Groups	702.4	36	20.011		
Total	939.8	39			

Analysis in Table 7 above shows that the calculated value of F (3.655) has a significant value of 0.013. Since the p-value (0.023) is less than 0.05, the null hypothesis which states that "Implementation of Economics curriculum has no significant effect on students' learning achievement in High Schools in Osun State, Nigeria" is rejected. Hence, the alternate hypothesis is accepted. This implies that implementation of Economics curriculum has significant effect on students' learning achievement in High Schools in Osun State, Nigeria. Therefore, the answer to research question four is that effective implementation of Economics curriculum has significant influence on students' learning achievement in High Schools in Osun State, Nigeria.

6. Discussion

This study found that the teaching methods mostly used by the Economics teachers for the implementation of Economics curriculum contents in High Schools include: discussion method, question and answer method, problem solving method, project method, role play method, and demonstration method. Also, significant relationship was found to exist between teaching methods used by Economics teachers for the implementation of Economics curriculum contents and students' learning achievement in High Schools in Osun State, Nigeria. Supporting the findings of this study, Olayiwola (2001) and Sivakumar (2018) reported that methods for the implementation of Economics curriculum in Senior Secondary Schools included discussion, cooperative learning, role play, questions and answer, textbook, observation, assignment, projects, problem-solving and simulation. Still in line with the finding of this study, Emaikwu (2012) reported that reduction in standard of students' performance at secondary school level is caused by pedagogical approaches adopted by their teachers. Also, Olatoye and Adekoya (2010) discovered that conventional methods such as lecture and recitation are not reasonably effective for improving students' critical thinking and ability to master and retain essential concepts. This study revealed that Economics teachers utilize teaching resources for the implementation of Economics curriculum in Senior Secondary Schools to a medium extent. Also, there is significant relationship between extent of teachers' utilization of teaching resources for the implementation of Economics curriculum and students' learning achievement in High Schools in Osun State, Nigeria. Corroborating the finding of this study, Abolade (2009) found that consistent use of teaching resources for the implementation of curriculum enhances learners' interest and encourages learners to pay proper attention to their teachers in the classroom. However, Abdu-Raheem (2014) reported that despite the importance of teaching resources for making learning practical and improving students' knowledge, resources are not readily available in Nigerian secondary schools leading to low level of students' learning achievement in public examinations.

There is significant relationship between students' perception of Economics curriculum objectives and learning achievement in Economics in High Schools in Osun State, Nigeria. This means that students' perception of Economics curriculum objectives is positively related to their learning achievement in Economics in High Schools. This finding is corroborated by the report of Meiriza (2015) who examined the perceptions of students on the prospect of the Economics Education Programme found that students were pleased with the curriculum planning in Economics Education programme, and Economics curriculum has a quality assurance from the center of the curriculum; and the students have good perception about economics curriculum. In addition, the study reported that the development programme of Economics Education have been good in education and learning, produce qualified graduates, superior, intelligent and highly competitive, capable of producing innovations in the field of Economics education and implement service activities to the community and the development of science and technology. Similarly, Ahmad, Azizan, Rahim, Jaya, Shaipullah and Siaw (2017) on their study on the relationship between students' perception toward the teaching and learning methods of mathematics' lecturer and their achievement in pre-university studies found no significant difference between the average scores of male and female students' perceptions of the effectiveness of teaching and learning of the Mathematics lecturer. Also, relationship existed between students' perception on their lecturer's teaching methods and their achievement in pre-university studies.

This study found that implementation of Economics curriculum has significant effect on students' learning achievement in High Schools in Osun State, Nigeria. As observed by Idris and Rajuddin (2012), standing of teachers before the chalkboard and delivers the lesson through verbal instruction to leaners, while the learners remain passive listeners, but take notes from the chalkboard is a usual practice in Nigerian secondary schools. Also, Alaka and Obadara (2013) reported in his study that senior secondary school Economics students' poor achievement is caused by utilization of inappropriate teaching approaches. Supporting the finding of this study, Okpala (2004) found significant difference between the performance of the students taught with and those without instructional materials; and that the use of instructional materials enhances students' learning and achievements in Economics. This finding is also supported by that of Nwachukwu (2014) who found that teachers made use of available resources and most of the available Economics resources were not adequate for use by the teachers for the implementation of Economics curriculum; and most Economics teachers lack the knowledge required for effective selection and utilization of the available resources.

7. Conclusion

Implementation of curriculum has become a very vital issue in the educational sector in Nigeria today. Effective implementation of Economics curriculum is key to achieving desired students' learning achievement. Thus, the stated objectives of secondary school Economics curriculum can be realized only when the content of the curriculum are implemented effectively. This is based on the fact that the use of appropriate instructional practices are fundamental to students' learning and achievement in any school subject. Hence, it can be concluded based on the findings of this study that the implementation of Economics curriculum has significant effect on students' learning achievement in public high schools in Osun State, Nigeria.

8. Recommendations

Based on the findings of this study, the following recommendations are hereby suggested:

- Teachers should utilize the available resources for the implementation of Economics Curriculum. This should include regular use of audio-visual devices by the Economics teachers for the delivery of Economics instructions.
- Economics teachers should always utilize students-centred methods of teaching for the implementation of Economics Curriculum.
- Regular workshop and training should be organised for Economics teachers to update their knowledge and to be conversant with latest development in their area of specialization. This will bring about effective delivery of Economics instructions in schools and actualization of the objectives of the implementation of Economics curriculum in senior secondary schools.
- Principals in all senior secondary schools should embark on regular supervision of delivery of Economics instructions in the classroom to ensure that the appropriate methods and materials are used by the teachers.
- Ministry of Education should send school inspectors to various schools to ensure that appropriate instructional materials are used in teaching and learning.

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Effects of Acceptance-Commitment Therapy and Social Skills Training on Depression of Adolescent Students from Father-Absent Families in Lagos State

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Abstract. The home provides the initial training for the child and the parents act as models for their children since the process of socialization depends on both parents playing complementary roles in bringing up the child. However, some socialization difficulties are encountered where these models are missing due to death, divorce, separation or abandonment. Adolescents from father absent households manifest a number of internalizing and externalizing problem behaviour, including sadness, depression, delinquency, anxiety, interpersonal difficulties and low self-esteem. Thus, this study investigated the effects of Acceptance-Commitment Therapy (ACT) and Social Skills Training (SST) on depression of adolescent students from father-absent families. The research work was hinged on Relational frame theory (RFT) and Social Learning theory. Quasi-experimental pre-test/ post-test group design was used for the study. The population of the study comprised all Senior Secondary two (SS11) students in Lagos state. Simple random sampling was used to select a sample size of 157 Senior Secondary two students comprising of eighty two (82) males and seventy five (75) females. The instruments used to obtain relevant data for the study were Kessler Psychological Distress Scale (K10), Father-Absence Questionnaire (FAQ) and The depression, anxiety and stress scale (DASS). Two research questions were raised and two research hypotheses were generated to guide the study. The pre-test and post test scores were analysed using Analysis of Covariance (ANCOVA) at 0.05 level of significance. The study revealed that Acceptance-Commitment Therapy and Social Skills Training significantly reduced depression among adolescents from father-absent families. It was also revealed that gender did not have any significant impact on depression of the participants in the experimental groups. In the light of the study`s results, the researchers presented a number of recommendations and proposals the most important of which are: There should be awareness and enlightenment workshops and campaigns for parents on the effects of father absence on the increasing risk of depression resulting to escalating rate of suicide among adolescents in secondary schools. The Ministry of education and other stakeholders should provide counselling centers equipped with materials for Acceptance-Commitment Therapy and other psychological therapies used in the treatment of depression as an integral and functional part of primary health care centres.

Keywords: Acceptance-Commitment Therapy, depression, Social Skills Training, Adolescent students, father-absent family, gender.

1. Introduction

1.1 Background to the Study

Traditional definition of a nuclear family is a family unit that includes two married parents of opposite genders and their biological children living in the same residence. Each component part has a unique role to play especially in the overall development of their offspring. The family functions as a system in which each component part acts on the others. Family environments constitute the basic ecology where children’s behaviour is manifested, learned, encouraged and suppressed (Dishion & Patterson, 2006). In the words of Osarenren (2002), the manifestation and enhancement of traits and dispositions a child is born with, hinge on the kind of environment the child grows in. Omoegun (2004) posited that a child is first of all the product of his immediate environment, which is the family.
However, Almond (2006) believed that the family is fragmenting. She argued that there has been a shift

away from concern with the family as a biological institution based upon the rearing of children, towards the family as an institution which emphasizes two people in emotional need or desire for one another. There is an increased emphasis on the needs of individuals and less emphasis on society's need for the rearing of children in stable relationships. This traditional structure of the family is facing challenges as evidenced by low marriage rates, high divorce rates, same-sex marriages, polygamy and migration to the cities for better job opportunities and life (Mabusela, 2014). This is a threat to the marriage, which is the bedrock of a stable and civilized society and of all nations (Makinde, 2004). Families are among the strongest socializing forces in life (Wright & Wright, 1994). They teach children to control unacceptable behaviours, to delay gratification and to respect the rights of others. Conversely, the families can teach children aggressive, anti-social, violent behaviours and other forms (Wright & Wright, 1994). This statement alone could explain how the juvenile may end up becoming a delinquent. When the emotional climate at home is questionable, the children's emotional development will be fixated and distorted which can lead to cases of delinquency (Makinde, 2004). The home provides the initial training for the child and the parents act as models for their children since the process of socialization depends on both parents playing complementary roles in bringing up the child (Azuka-Obieke, 2013).

Moreover, socialization difficulties are encountered where these models are missing due to death, divorce, separation or abandonment. Some families now consist of more than one adult of blood relation, with or without children, mothers or children head other families as the father becomes the absent parent or family member (Mabusela, 2014). Families are now defined by relations and not by their constituency. There is no satisfying substitute for a mother or a father because it is often argued that troubled homes are more likely to produce troubled children. These alterations (such as father absence among others) in our society have weakened the ability of families to successfully raise children. Fathers are absent in nearly a third of the household in most of the African countries and from more than half of all households in Namibia and South Africa (Mabusela, 2014). It is evident that there is significant number of absent fathers and the number is not static, it is steadily increasing not only nationally but internationally. In developing societies including Africa, adolescents from father-absent homes tend to be stubborn, depressed, angry and violent in behaviour. Sometimes they show impulsive –control disorders with mixed disturbance of emotions and conduct or other conditions that may be a focus for clinical attention (Ogbuja, 2008).

A recent research indicates that fathers play a unique and integral role in children's socialization (Lam, McHale & Crouter, 2012). For instance, in a study carried out in the US on parental involvement during the transition from childhood to adolescence found that the social time (time with parents in the presence of others) that teenagers spent with fathers was significantly associated with increased social competence (e.g social skills, effective social interactions) but the same effect was not observed for mothers (Lam, McHale & Crouter, 2012). A father is a sub-set of the family and emerges from the family. Men become fathers, not simply by virtue of their gender or by procreating, but because of their involvement in bringing up their children (Richter & Morrell, 2006). The Longman's dictionary (2018) defines absence as "a state or condition in which someone is missing or not at the place where they are expected to be". Father-absence relates to physical or emotional absence of the father or both to his children. Not all men accept the role of fatherhood, and may avoid it through abandonment, flight, and denial (Morrell, Posel & Devey, 2003).

Adolescence is a time of learning and exploring during which healthy attitudes and behaviour are established for life (Olusakin & Makinde, 2008), with the help of parental guidance. This is the transitory stage from childhood to adulthood characterized by emotional turbulence. The transition through puberty and into adolescence is a challenging time for many young people, with heightened risk of mental health issues. During this period, the father-child relationship can be a significant protective factor. For example, youths who spend more one-on-one time with their fathers have been found to have higher general self-worth than those spending less time with their fathers (Lam, McHale & Crouter, 2012). Fathers are also important to their teenage's health seeking behaviours, with a study demonstrating adolescents were more likely to seek treatment for depression when their fathers demonstrated warmth and supportiveness (Reeb & Conger, 2011). One issue that is usually critical for adolescents, who are already undergoing multiple changes, is parents' divorce which can add to an already stressful situation. Adolescents from father absent households manifest a number of internalizing and externalizing problem behaviour, including depression, sex role difficulties, early initiation of sexual activities and teen pregnancy, as well as poor social and adaptive functioning.

Adolescents begin building their own self-concept through observing the reactions directed toward them by vital individuals in their lives (Gibson & Jefferson, 2006). Personal experiences that evolve from the parent-adolescent relationship are the initial source that sets in motion adolescents' psychological wellbeing. Father absence in early childhood is a risk factor for the development of adolescent depressive symptoms, particularly in girls (Culpin, Heron, Araya, Melotti, & Joinson, 2013).

Depression a common mental disorder that manifest in depressed mood, loss of interest or pleasure, decreased energy, feelings of guilt or low self-worth, disturbed sleep or appetite, and poor concentration. It also leads to impairment of an individuals' ability to function and carry out everyday tasks and responsibilities, and could lead to suicide (WHO, 2012). Globally, 322 million people in the world are suffering from depression (WHO, 2017). Over 7 million Nigerians are currently suffering from depression (WHO, 2017). Studies conducted among different populations have alluded to fact that depression is prevalent among young adults in Nigeria (Peltzer, Pengpid, Olowu, & Olasupo, 2013; Gureje, Kola, & Afolabi, 2007). Although depression is a common mental disorder globally, there exists a disparity prevalence among genders. The burden of depression is 50% higher in females than in males (WHO, 2012). While 5.95% of females suffer from depression, compared to 4.9% among males in Africa (WHO, 2012). Studies in Nigeria have also reported that being female is a significant risk factor of depression (Obadeji, Ogunlesi, & Adebowale, 2014). The literature review showed the varieties of negative outcomes of adolescents students from father-absent families, which include depression, interpersonal difficulties among others. There are however, few available studies on how to help these adolescents from father-absent families.

Acceptance-Commitment Therapy (ACT) and Social Skills Training (SST) are used to address depression of adolescent students from father-absent families. The choice of these two treatments is based on the premise that they can effectively be used to manage the psychological problems of adolescents from father-absent families. The Acceptance-Commitment Therapy (ACT) is a metacognitive psychotherapeutic approach that stems from behavioural and cognitive methods and emerged as the third wave of behavioral therapy (Saedy & Judi, 2012). From an ACT perspective, a major problem of adolescents lies in their limited and inflexible sources of the behaviour. The clients devote most of their time and energy to flee from personal and annoying experiences. This keeps them from being engaged in life activities. Willingness to experience unpleasant emotions and not avoiding them is a key process in ACT. ACT is an intervention that helps individuals to accept difficult experiences and commit to behaviour that is consistent with their values. Recently, ACT has been used for a wide range of psychological problems including depression, anxiety disorders, substance abuse disorders, psychosis, chronic diseases, eating disorders, and work-related problems, among others (Hayes, Masuda & De Mey, 2003). Social Skills Training (SST) is a form of behaviour therapy to help persons who have difficulties relating to other people to enable them to compensate or eliminate the environmental and interpersonal barriers as well as the functional deficits created by their challenges of life.

Burckhardt, Manicavasagar, Batterham, Hadzi-Pavlovic and Shand (2017) studied Acceptance and commitment therapy universal prevention programme for adolescents: A feasibility study. Their sample comprised 48 year 10 high school students who were randomly selected from the students population of private high school located in sydney, Australia. Their instrument comprised the depression anxiety and stress scale (DASS-21) and flourishing scale (FS). The data was subjected to statistical analysis with the use of mixed model with repeated Measures (MMRM), independent samples t-tests and Chi-Square test. The result indicated that the intervention was acceptable to students and feasible to administer in a school setting. They concluded that ACT-based prevention programme delivered in school setting led to moderate to large effect size differences between the conditions at the 5-month follow-up and that the programme was feasible and acceptable to participants. This study suggested that an ACT-Based programme should be examined further in a larger and more representative sample. Ataie Moghanloo, Ataie Moghanloo & Moazezi (2015) studied the effectiveness of Acceptance and commitment therapy for depression, psychological wellbeing and feeling of guilt in 7-15 years old Diabetic children. They concluded that the use of Acceptance-Commitment Therapy was effective in reducing depression and feeling of guilt and increasing the psychological wellbeing of diabetic children.

In the study titled "The effectiveness of social skill training program on self-esteem, depression and interpersonal difficulties among schizophrenic patients by El Malky, Atia and Alam (2016). Quasi-experimental design (one group pretest posttest design) was used to achieve the aim of the study. A convince sample of 50 hospitalized patients who had psychotic disorders were selected from the Psychiatric Hospital in Tanta and the Psychiatric Hospital in Mit-Khalf at Menoufyia, Egypt. Their instrument comprised a semi-structured interviewing questionnaire, the depression, anxiety and stress scale (DASS), Self-Esteem Inventory Scale and Relationship Scales Questionnaire. The data were statistically analyzed by SPSS version 16 (SPSS Chicago.Inc). Student's t-test, one a way ANOVA (F test), t test and paired t tests were used for parametric data. Kruskal-Wallis, Mann-Whitney and Wilcox in signed rank tests were used for non-parametric data. Pearson's Correlation analysis was used to show strength and direction of association between two quantitative variables. P value < 0.05 is considered significant. They concluded that social skills training program had a positive effect on interpersonal difficulties, depressive symptoms and self-esteem of the schizophrenic patients after receiving social skill training program.

1.2 Statement of the Problem

Adolescents from father-absent families seem to have a risk factor more than that of fathered adolescents for a wide range of negative outcomes including depression, low self-esteem and becoming delinquent juveniles. This massive erosion of fatherhood contributes mightily to many of the major psychological and social problems of adolescents of our time especially depression.

Adolescents from father-absent families may seem to be at a greater risk of becoming involved in drug and alcohol abuse, mental illness, suicide, poor educational performance, teenage pregnancy and poverty. Thus, mental, social and behavioural correlates of health problems seem to have resulted in lowered quality of life and becoming misfits in the society. Adolescents today tend to encounter difficulties and more life challenges than previous generations which results into depression and ultimately affect their quality of life and relationships.

This has been a source of concern to families, government, non-governmental organizations and society at large. It is therefore necessary to interrupt the ugly trend of suicide, poor quality of life and personal relationships among adolescent students from father absent families by treating their depression which has been observed to be a major deterrent of their general well-being. Therefore, this study sets out to find out the effects of Acceptance-Commitment Therapy and Social Skills Training on depression of Adolescent students from father-absent families in Lagos State.

1.3 Purpose of the Study

The main purpose of this study is to determine the effects of Acceptance-Commitment Therapy and Social Skills Training on psychological distress of Adolescent students from father-absent families in Lagos State.

The specific objectives of the study are to:

- Determine the difference in the post- test mean scores on depression among adolescents from father-absent families exposed to Acceptance-Commitment Therapy, Social Skills Training and the control group.
- Examine if there would be significant gender difference in the post-test mean scores on depression among adolescents from father-absent families across the treatment and the control groups.

1.4 Research Hypotheses

The following research hypotheses were tested based on the research questions at 0.05 level of significance.

There is no significant difference in the post- test mean scores on depression among adolescents from father-absent families exposed to Acceptance-Commitment Therapy, Social Skills Training and the control group.

There is no significant gender difference in the post-test mean scores on depression among adolescents from father-absent families across the treatment and the control groups.

2. Methodology

This section focused on the research methodology used under the following sub- headings: research design, area of study, population for the study, sample and sampling techniques, research instruments, reliability and validity of instruments, administration of instruments and method of data analysis.

2.1 Research Design

The research design for this study was quasi-experimental, pre- test, post- test control group design. Three experimental groups were used for the study. There were two treatment groups and one control group. One group was exposed to Acceptance-Commitment Therapy (ACT) while the second group was exposed to Social Skills Training (SST). The control group was not exposed to any treatment.

2.2 Population of the Study, Sample and Sampling Procedure

The target population for this study comprised all adolescent students from father-absent families in the public Senior Secondary Schools in Lagos metropolis, Nigeria. The SS 2 students were used for this study because they were the most stable class for this research and were considered to be free from the pressure of the Senior Secondary School Certificate Examination.

Multi-stage sampling process was used to select Senior Secondary School Two (SS2) students for the study. The first stage of the multi- stage sampling process was the selection of three Education districts in Lagos State out of six Education districts using hat and draw method. The three Education districts are: Education district II, Education district III and Education district IV. The second stage involved the selection of three zones from each of the selected Education districts using hat and draw method. The three zones are: Kosofe zone from Education district II, Lagos Island zone from Education district III and Mainland zone from Education district IV. The third stage involved the selection of one Senior Secondary School from each of the three zones using simple random sampling technique. One Senior Secondary School was selected from fourteen senior secondary schools in Kosofe zone, one Senior Secondary School from eleven senior secondary schools in Lagos Island zone and Senior Secondary School from nine senior secondary schools in Mainland zone. The fourth stage involved the identification of adolescents from father-absent families from the Senior Secondary School Two (SS2) students from the selected Senior Secondary Schools using Father-Absence Questionnaire (FAQ). A total number of two hundred and twenty-one (221) students were identified as adolescents from father-absent families from one thousand and sixty three (1063) Senior Secondary School Two (SS11) students who participated. The Kessler's Psychological Distress Scale (K10) was administered to the adolescents that were identified as adolescents from father-absent families. A total number of 157 students scored above 25 which indicated those that are psychologically depressed. The three selected senior secondary schools were randomly assigned to the three treatments. Fifty six (56) participants which comprised twenty (20) males and thirty six (36) females belonged to Group A were given Acceptance-Commitment Therapy, fifty five (55) participants, forty one (41) males and fourteen (14) females were in Social Skills Training Group B while forty six (46) participants, twenty one (21) males and twenty five (25) females were in Group C, the control group were not given any treatment during the study but were given the treatment that worked better after the study to enable them benefit from the treatment.

Table 1: Distribution of sample in pre-assessment selection for baseline data.

SCHOOL	**TOTAL**	**PRE-ASSESSMENT SCORES**	
		LOW SCORE	HIGH SCORE
A	83	27	56
B	75	20	55
C	63	17	46
TOTAL	221	65	157

The table above showed the students that have low and high scores from the test assessment conducted by the researcher so as to identify the students that will participate in the study using Father-Absence Questionnaire (FAQ). The sample of 221 students were administered Kessler's Psychological Distress Scale (K10) and only 157 students were identified as having high scores, that is they are psychologically distressed. These 157 students formed the participants that were administered the depression, anxiety and stress scale (DASS).

Table 2: Number of students who participated in the study and their training group

School	**Type of Intervention**	**Type of group**	**Male**	**Female**	**Total number of participants**
A	Social Acceptance-Commitment Therapy	Training I	20	36	56
B	Social Skills Training	Training II	41	14	55
C	Control Group	Control group	21	25	46
	Total		82	75	157

Here in table 2, selected male participants were 20, 41 and 21 respectively for school A, B and C making a total of 82 male participants and 36, 14 and 25 female participants were randomly selected from school A, B and C respectively making a total of 75 female participants. 157 participated in the study.

2.3 Research Instruments

The following research instruments were used to obtain relevant data for the study:

- Kessler Psychological Distress Scale (K10) by Kessler et al., 2002
- Father-Absence Questionnaire (FAQ)
- The depression, anxiety and stress scale (DASS) by Lovibond & Lovibond, 1995

All the instruments were revalidated through a pilot study carried out on secondary school students in public Senior Secondary School in Lagos State (this was not part of the sample).

2.3.1 Kessler's Psychological Distress Scale (K10)

The scale was developed by Kessler. Psychological distress was measured using the 10-item screening scale K10, as used in national and state-wide surveys in Australia (Kessler et al., 2002). The items are based on the level of anxiety and depressive symptoms experienced in the most recent four-week period, for example: "how often did you feel nervous" and "how often did you feel hopeless". Subjects report the frequency of each experience on a five-point scale ranging from 'all of the time' to 'none of the time'. The scoring system used is based on the method developed by the Clinical Research Unit for Anxiety and Depression at the University of New South Wales (Kessler et al., 2002). In this method, each item is scored from one 'none of the time' to five 'all of the time'. Scores of the 10 items are then summed, yielding a minimum score of 10 and a maximum score of 50. Low scores indicate low levels of depressive symptoms and high scores indicate high levels of depressive symptoms. This results in individual's K10 scores being restricted to a range of 10–50. 10 - 19 Likely to be well, 20 - 24 likely to have a mild disorder, 25 - 29 likely to have a moderate disorder while 30 - 50 Likely to have a severe disorder.

2.3.2 Father-Absence Questionnaire (FAQ)

The instrument which contains 25-items split into two sections was designed by the researcher. Section A focuses on personal data of the participant's demographic information such as age, gender, name of school, Biological father presence or absence and Reason for Absence. Section B contains 20-items designed on a two-point scale to identify adolescents from father-absent families. The content validity was determined by the researcher's supervisors and experts from Measurement and Evaluation. The responses were Yes and No. Yes=2 and No=1. The maximum scores was 40 while the minimum scores was 20.

2.3.3 The depression, anxiety and stress scale (DASS)

The depression, anxiety and stress scale (DASS) by (Lovibond &Lovibond, 1995) is a 42- questionnaire which includes three self-report sub-scales designed to measure the negative emotional states of depression, anxiety and stress. The DASS is available in a 21-item short form with seven items in each of the subscales, which was used in this study. In this study the researcher used the depression subscale only which consists of 7 items of the 21-item DASS. There are 21 items in this scale with four response options: 0 "Did not apply to me at all–Never", 1 "Applied to me to some degree, or some of the time–Sometimes", 2 "Applied to me to a considerable degree, or a good part of time–Often" to 3 "Applied to me very much, or most of the time–Almost always". Scores for depression was calculated by summing the scores for the relevant items. The total score ranges from 14-56. The higher score indicates negative emotional status. During the pilot study, the instrument obtained a test retest reliability coefficient of 0.88 for depression within four weeks interval.

3. Pilot Study: Validation and Reliability of Test Instruments

Copies of the questionnaire were given to the researcher's supervisors, who are experts in Guidance and Counselling for content validity. The instruments were vetted and adjudged suitable for the study, A pilot study was carried out by the researcher in a senior secondary school outside the study area using a sample of 20 senior secondary school two students consisting of 10 males and 10 females randomly selected to participate in the study to determine the reliability of the instruments. The instruments were administered to the participants and after four weeks it was re-administered to the same set of participants. The results of the two tests were analyzed using Pearson Product Moment Correlation statistics to determine the test- retest reliability coefficient.

Table 3: Test – Retest Reliability Coefficient of the Research Instruments (N=20).

Instrument	No. of Items	Variable	N	Test Position	Mean	SD	r_n
DASS	7	Depression	20	1st 2nd	6.105 5.947	3.619 3.440	0.88

Table 3 show that the test-retest reliability index of The depression, anxiety and stress scale (DASS) was 0.88 for depression. The values of the instrument was adjudged to be high; hence were suitable and reliable for the study.

4. Administration of Research Instruments

A preliminary investigation was done by sorting out students who scored above average on father absence and above average on psychological distress to justify their eligibility and satisfy the criteria for randomization. The administrations of the research instruments were in three phases and were administered to the participants by the researcher and the research assistants. The phases are as follows:

Phase 1: Pre-treatment Assessment:

The researcher with the help of the research assistants administered all the research instruments to the participants as pre- test a week before the treatment session.

Phase 2: Treatment Phase:

There were two treatment groups and one control group. The selected schools were randomly assigned to treatment and control groups. Group one was exposed to Acceptance and Commitment Therapy (ACT), Group two was exposed to Social Skills Training (SST), while Group three, the control group did not receive any intervention. The treatment groups met once a week for eight weeks.

Phase 3: Post –test Assessment:

At the end of the treatment which lasted for eight weeks, all the research instruments were re-administered as posttest to the same treatment and control groups.

Control of Extraneous Variables

The researcher controlled some extraneous variables that could affect the outcome of the experiments. The researcher ensured that randomization was used in selecting the participants for the study. Other unidentified extraneous variables will be taken care of through the adoption of Analysis of Covariance (ANCOVA) and repeated measures.

Method of data analysis

Data collected for this study were analyzed using descriptive and inferential statistics. All the hypotheses were analyzed using Analysis of Covariance (ANCOVA) statistics. The hypotheses were analyzed at 0.05 level of significance using Statistical Product for Service and Solution (SPSS) version 24.

Control Group

Students in this group received the baseline assessment after which they were left without treatment. The control group was not given any treatment during the study but was given the treatment that worked better after the study to enable them benefit from the study. No special cognitive enhancement technique was administered to them throughout the eight weeks. Eight weeks after, a post-test was administered.

5. Results

The data collected from the various instruments were analyzed using both descriptive and inferential statistics appropriate for each hypothesis. The means and standard deviations for pre and post-tests assessment measures were computed while Analysis of covariance was used to test the hypotheses. All hypotheses were tested at 0.05 level of significance.

Hypothesis One: There is no significant difference in the post- test mean scores on depression among adolescents from father-absent families exposed to Acceptance-Commitment Therapy, Social Skills Training and the control group.

The results of the analysis are presented on Tables 4 and 5

Table 4: Descriptive Data on Pre and Post – test mean scores of the participants' depression in the Experimental Groups.

Experimental Group	N	Pre-test Mean	S.D	Post-test Mean	S.D	Mean Differences
Acceptance-Commitment Therapy	56	12.57	2.76	7.59	2.18	-4.98
Social Skills Training	55	11.84	2.97	6.56	2.32	-5.28
Control	46	10.87	4.42	10.65	4.31	-0.22
Total	157	11.82	3.44	8.13	3.43	3.49

The results presented on Table 4 shows the pre-test mean scores for depression of the participants exposed to Acceptance-Commitment Therapy is 12.57, Social Skills Training is 11.84 and the control group 10.87. After the treatment, the mean depression score of the participants were 7.59 with the use of Acceptance-Commitment Therapy, 6.56 for the use of Social Skills Training and 10.65 with the control group. Mean difference of -4.98, -5.28 and -0.22 was recorded on the depression score of the participants in Acceptance-Commitment Therapy group, Social Skills Training group and the control group respectively. To determine whether significant difference exists in depression of among secondary school students due to training conditions, Analysis of covariance statistics (ANCOVA) was done and the result presented in Table 5 below.

Table 5: Analysis of Covariance on the Difference in Participants' Depression across the experimental group and the control

Sources	Sum of Square	Degree of Freedom	Mean of Square	F	Sig
Corrected Model	1419.353[a]	3	473.118	175.654	.000*
Intercept	2.502	1	2.502	.929	.337
Covariate (Pre_Depression)	975.416	1	975.416	362.142	.000*
Experimental Condition	664.500	2	332.250	123.354	.000*
Within Group	412.100	153	2.693		
Total	1831.452	156			

*Significant, $P < 0.05$; F-critical at 0.05 (2, 153) = 3.06 < 123.354

Table 5 shows that a calculated F-value of 123.354 resulted as the difference among the three experimental groups. This is statistically significant since it is greater than the critical value of 3.06 given 2 and 153 degrees of freedom at 0.05 level of significance. Hence, the null hypothesis was rejected because the interventions were effective in reducing anxiety of the participants. Based on the significant F, value obtained above, further analysis of data was carried out with the use of the least significant difference (LSD) test where in a pair wise comparison of group means was carried out to determine the trend of the difference among the three experimental groups in their depression. The result of the analysis is presented in Table 6.

Table 6: LSD Pairwise Comparison of Students' Depression based on experimental groups

(I) Depression	(J) Depression	Mean Difference (I-J)	Sig.[b]
Social Skills Training	Acceptance-Commitment Therapy	-.480	.127
	Control	-4.806*	.000
Acceptance-Commitment Therapy	Social Skills Training	.480	.127
	Control	-4.326*	.000

Control	Social Skills Training	4.806*	.000
	Acceptance-Commitment Therapy	4.326*	.000

Table 6 indicates that participants exposed to Acceptance-Commitment Therapy do not significantly differ in depression from those exposed to the social skills training (Mean difference = -0.480, $p > 0.05$). Participants exposed to social skills training significantly manifested a decrease in depression than those in the control group (Mean difference = 4.806*, $p < 0.05$). similarly, participants exposed to Acceptance-Commitment Therapy significantly manifested a decrease in depression than the control group (Mean difference = 4.326*, $p < 0.05$). Other comparisons were not significant. It was observed that Acceptance-Commitment Therapy and Social Skills Training were effective in decreasing depression among participants.

Hypothesis Two: There is no significant gender difference in the post-test mean scores on depression among adolescents from father-absent families across the treatment and the control groups.

Table 7: Descriptive Data on Pre and Post – test mean scores of the participants' depression in the Experimental Groups based on gender

Gender	Experimental Group	N	Pre-test		Post-test		Mean Differences
			Mean	S.D	Mean	S.D	
Male	Acceptance-Commitment Therapy	20	12.40	3.56	7.85	2.56	-4.55
	Social Skills Training	41	12.05	3.22	6.76	2.53	-5.29
	Control	21	9.90	4.06	9.86	4.25	-0.04
	Total	82	11.45	3.61	8.16	3.11	-3.29
Female	Acceptance-Commitment Therapy	36	12.67	2.24	7.44	1.96	-5.23
	Social Skills Training	14	11.21	2.05	6.00	1.47	-5.21
	Control	25	11.68	4.62	11.32	4.34	-0.36
	Total	75	11.85	2.97	8.25	2.59	-3.60

The result of the descriptive data presented in Table 7 indicates that the pre-test mean value of level of depression for male participants were 12.40 for acceptance-commitment therapy, 12.05 for social skills training and 9.90 for the control group. Likewise, the pre-test mean score value for female participants were 12.67 for acceptance-commitment therapy, 11.21 for Social Skills training and 11.68 for the control group.

Also, at post-test male participants in acceptance-commitment therapy, social skills training and control group had mean score of 7.85, 6.76 and 9.86 respectively. Their female counterpart in acceptance-commitment therapy, social skills training and control group had mean score of 7.44, 6.00 and 11.32 respectively.

The table further indicates that the male secondary school students from ACT group (7.85) and from SST group (6.76) reduced in their rate of depression with the average mean difference of 4.55 and 5.29 respectively while the female secondary school students from ACT group (7.44) and from SST group (6.00) reduced in their rate of depression with the average mean difference of 5.23 and 5.21 respectively. The table further indicates that under ACT, depression of females (5.23) reduced than the male (4.55). However, in SST, the depression for male (5.29) slightly reduced than the female (5.21). However, in the control group both male and female participants had the lowest mean difference when compared with other groups with 0.04 and 0.36 respectively. It can therefore, be concluded that the females' depression in acceptance-commitment therapy decreased than that of the males. However, social skills training has more impact on the males in decreasing their depression than the females. To determine whether significant difference exists in depression among the participants due to gender, Analysis of covariance (ANCOVA) statistics was computed and the result of the analysis is presented in Table 8 below.

Table 8: Analysis of Covariance on effects of Experimental Conditions and Gender on Post-test Participants' Depression.

Source	Sum of Squares	df	Mean Square	F	Sig
Corrected Model	1424.47[a]	6	237.412	87.503	.000*
Intercept	2.157	1	2.157	.795	.374

Covariates (Pre_Depression)	948.032	1	948.032	349.416	.000*
Experimental Conditions	612.558	2	306.279	112.885	.000*
Sex	1.344	1	1.344	.495	.483 N.S
Experimental Group * Sex	3.481	2	1.741	.642	.528 N.S
Within Group	406.979	150	2.713		
Corrected Total	1831.452	156			

*=Significant, $p < 0.05$; NS = Not Significant; F-critical at 0.05 (2, 150) =3.06 < 112.885; F-critical at 0.05 (2, 150) =3.06 >0.642

Table 8 shows that a calculated F-value of 112.885 resulted as the difference in depression among participants in the three experimental groups. The F-calculated value of 112.885 is statistically significant since it is greater than the critical F- value 3.06 given 2 and 150 degree of freedom at 0.05 level of significant. This shows that the experimental condition significantly decrease depression among participants. The result also shows that a calculated F-value of 0.642 result as the influence of gender and experimental conditions on depression. This calculated F- Value is not significant since it is less than the critical F-value of 3.06 given 2 and 150 degree of freedom at 0.05 level of significance. Hence, hypothesis five was accepted. Therefore, there is no significant difference in the post-test mean scores of participants' depression due to their gender.

6. Discussion of findings

The findings revealed that there is significant differences in post- test mean scores on depression among adolescent students from father-absent families exposed to Acceptance-Commitment Therapy, Social Skills Training and the control group. The reason for the impact of Acceptance-Commitment Therapy could be attributed to the contents of the intervention package that entailed teaching the participants the importance of mindfulness skills with the express purpose of facilitating valued action: to help people live by their values. Also, psychological flexibility which is the ability to accept our thought and feelings and be in the present moment with full awareness and openness, to our experience, and to take action guided by our values. Put more simply, it's the ability to "be present, open up, and do what matters.

These findings were supported by Ataie Moghanloo, Ataie Moghanloo & Moazezi (2015) who found out that the use of Acceptance-Commitment Therapy was effective in reducing depression and feeling of guilt and increasing the psychological wellbeing of diabetic children. These findings are also in agreement with a study conducted by Burckhardt, Manicavasagar, Batterham, Hadzi-Pavlovic and Shand (2017) on a high school students. They concluded that ACT-based prevention programme delivered in school setting led to moderate to large effect size differences between the conditions at the 5-month follow-up and that the programme was feasible and acceptable to participants. Result indicated that participants receiving ACT had reduction in depression. The impact of Social Skills Training in reducing depression was supported by El Malky, Atia &Alam (2016) in a study titled "the effectiveness of Social Skills Training on depressive symptoms, self-esteem and interpersonal difficulties among schizophrenic patients. They concluded that social skills training program had a positive effect on depressive symptoms.

Furthermore, the findings also revealed that there is no significant gender difference in the post-test mean scores on depression among adolescent students from father-absent families across the treatment and the control groups. The finding of the analysis indicated that there were no significant differences in the post test mean scores of depression among adolescents from father-absent families due to their gender. This finding is further corroborated by Monteiro, Matos & Oliveira (2015) in the study that involved 319 adolescents aged between 13 and 15 years old. It was reported that female gender had higher level of depressive symptoms. This finding is corroborated by the finding of El Malky, Atia &Alam (2016) who examined the effectiveness of social skill training program on self-esteem, depression and interpersonal difficulties among schizophrenic patients. The result indicated there was no statistical significant difference in the post test scores of depression among participants based on male and female participants.

7. Conclusion

According to the findings of this study, Acceptance-Commitment Therapy (ACT) and Social Skills Training (SST) are effective, simple and practical methods for reducing depression among adolescents from father-absent families.

8. Recommendations

The following recommendations are put forward based on the findings of this study:

- There is a need for the implementation of Acceptance-Commitment Therapy (ACT) and Social Skills Training (SST) for adolescents from father-absent families especially in public secondary schools by the Ministry of Education. This could be done through the counsellors in various schools. In this way, depression problems of the adolescents will be determined and reduced ultimately reducing the alarming rate of suicide among adolescent students in recent times.
- There should also be awareness and enlightenment workshops and campaigns for parents on the effects of father absence on the increasing risk of depression resulting to escalating rate of suicide among adolescents in secondary schools. Moreover, the Ministry of education and other stakeholders should provide counselling centres equipped with materials for Acceptance-Commitment Therapy, Social Skills Training and other psychological therapies used in the treatment of depression as an integral and functional part of primary health care centres, to ensure universal access in different Local Government Areas in order to solve the depression problem of the adolescents from father-absent families.

There is also a need for more professional counsellors in the country in order to meet the needs of the ever growing number of adolescents in secondary schools at the risk of depression who will need to be treated. Professional counsellors need to be properly and regularly sensitized about depression. There is also a dearth of data on depression, emphasizing the need for more research in this area, especially in the community, as data is needed for timely and appropriate intervention.

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