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Economic Diversification in Nigeria in the Face of Dwindling Oil Revenue

Maria Chinecherem Uzonwanne
Department of Economics, Nnamdi Azikiwe University, Awka, Anambra State, Nigeria
E-mail of corresponding author:mc.uzonwanne@unizik.edu.ng

Abstract
There is no doubt that petroleum (crude oil) has contributed substantially to Nigerian revenue since its discovery in 1956 and more especially, since 1970 when its price was on the upward trend. However, it is a known fact across the globe that for a country to attain growth and development, its economy has to be diversified. Diversification does not occur in a vacuum. Mono-economy needs to give way to the productive development of various sectors of the economy. Following the supply and demand limitation of major importers from the country, which brought about the fall in the price of oil by more than 40% since June 2014 when it was $115 a barrel, which now is below $70, after five years of stability, it is a well-known fact that Nigeria's continuous large earnings or revenue from this sector will be impossible. As a matter of fact, there is an urgent need for the Nigerian government to begin looking into diversification of various sectors of the economy so as to attain solid economic growth. The Neo-Classical Growth Model, some empirical researches and secondary data collected and analyzed support our call for the diversification of Nigerian economy with an urgent need to decentralizing concentration on mono-crude oil -economy. These studies have shown that there exists a positive relationship between economic growth in Nigeria and diversification of other sectors because, when there were proper management of human resources, huge investment and concentration on agriculture, Nigerian economy was recorded to be healthy and vibrant. In those golden years, agriculture offered over 70% of Nigeria's teaming population job opportunities. Descriptive statistical method likewise was employed in this paper. This paper however, attempted to seek out how diversification of the economy will enhance stable and viable economic growth in Nigeria.
Keywords: Economic diversification, Oil Revenue, Agriculture, Human Resources Management

1. Introduction

A survey of the international scene of developing countries shows that governments of various Less Developed Countries (LDCs) have engaged in varieties of strategies and programmes in order to develop their economies and achieve sustainable growth. These programmes are referred to, in economic parlance, as ‘instruments of national policy. They include the establishment of public organizations that take different legal and organizational structures, different managerial patterns and different sets of relationships with governments to understand and to review the different means by which they can achieve sustainable development in their countries with the limited resources at their disposal. The global financial and economic crisis has revealed Africa’s vulnerability to external economic shocks because of Africa's effort to meet the millennium development goals by 2015.

Economic diversification which demands active participation in wide range of sectors, and firmly integrated into different regions, are better able to generate robust growth and great potential to increase Africa’s resilience and contribute to achieving and sustaining long economic growth and development in the continent.
A strong growing sustainable economy is the goal of every nation in the world. However, scholars agree that economic development has been very slow on the African continent. Hyden (2006) notes:

> Despite its riches, African countries have not been very successful in wooing investors to the continent. A significant bottleneck for economic development in many countries of the region is its poor physical infrastructure. Essential services such as electric power, water, roads, railways, ports, and communications have been neglected, especially in the rural areas. The most important things to reiterate about the region’s economy are that it remains undeveloped and is becoming increasingly marginalized in a competitive global economy where other developing regions are making the fastest headway. Africa continues to rely on exporting primary commodities. It cannot generate enough investment capital from within and is largely failing to attract foreign investments.

Without exaggerating, it is a well-known fact that Nigeria ranks among the most richly endowed nations of the world in terms of natural, mineral and human resources. Nigeria has a variety of both renewable and non-renewable resources, some of which have not yet been effectively tapped. Solar energy, probably the most extensive of the underutilized renewable resources, is likely to remain untapped for some time, and the vast reserves of natural gas produced with crude oil have yet to be fully utilized (Akpan, 2009 & Olumola, 2006).

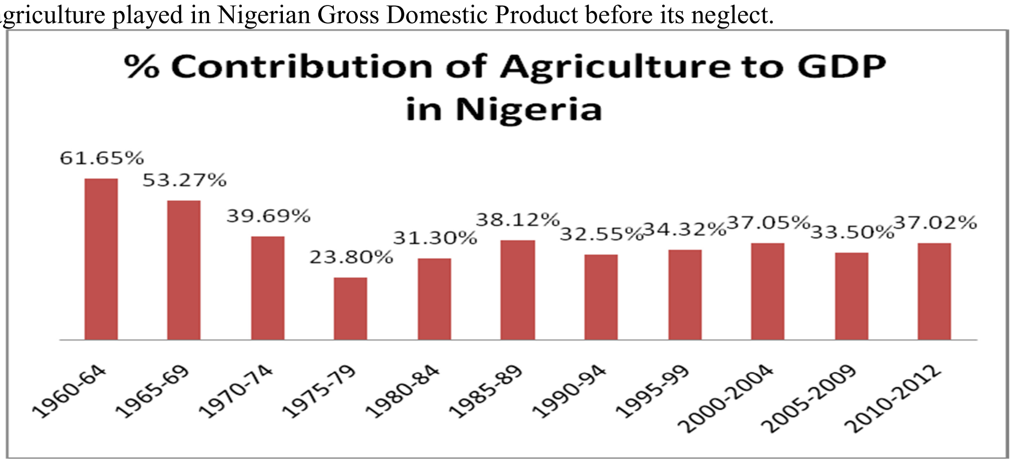
Before the discovery of oil in 1956 in Nigeria, Nigeria was famous in her agrarian economy through which cash crops like palm produce, cocoa, rubber, timber, ground nuts, were exported, thus making Nigeria a major exporter in that respect. Also, Nigeria had 19 million heads of cattle, the largest in Africa. At present, Nigeria is no longer a major producer of groundnuts (peanuts), rubber, and palm oil. Cocoa production, mostly from obsolete varieties and overage trees, has nevertheless increased from around 180,000 tons annually to 350,000 tons.

Undoubtedly, the discovery of crude oil has contributed and assisted Nigeria's economic prosperity and growth. Nevertheless, the current dwindling in oil price since June 2014, after five years of oil windfall, has immensely affected the economy of major oil exporters like Nigeria, Saudi Arabia, Iraq and Libya, etc. as was majorly aggravated by Middle East unrest and wars. Another huge blow to crude oil exporters was America's reduction in the number of barrels they import from nations. These factors have created a bad market for Nigeria and thus, her economy is presently shaking. This scenario is worsening by Nigeria's running mono-economic economy and the abandonment of agriculture.

Thus today, agriculture has suffered from long years of neglect, mismanagement, inconsistent and poorly conceived government policies, lack of government meaningful incentive to farmers, lack of basic infrastructure and a lot of bureaucratic bottlenecks in executing policies and agricultural programmes among government agencies (Ariyo, 1997). This paper however, attempts to seek out how diversification of the economy will enhance stable and viable economic growth in Nigeria.

2. Problem Statement

A careful observer notices that the oil boom which would have been an enduring blessing to Nigeria has regrettably necessitated great shift of attention to oil money, which resulted to a total neglect of agriculture. The adverse effect of this boom and euphoria led to the establishment of new urban cities that necessitated mass exodus of able-bodied men and women from the rural areas to the cities in search of white-collar jobs and quick money. This development drastically reduced interest in agriculture and agrarian economy. Agricultural sector has been the leading provider of employment in Nigeria since the sixties and seventies, when the sector provided employment for more than 70 percent of the Nigerian population. Unfortunately, in the wake of oil discovery, the attention on this sector of the economy was gradually and myopically shifted to the oil sector where employment opportunities were very low and the traditional agricultural exports have been on a progressive decline. Regrettably, the scenario has given rise to acute unemployment as oil sector could only employ limited number of the population and worse still, only experts. The graph below provides us with a lot of information on the role agriculture played in Nigerian Gross Domestic Product before its neglect.



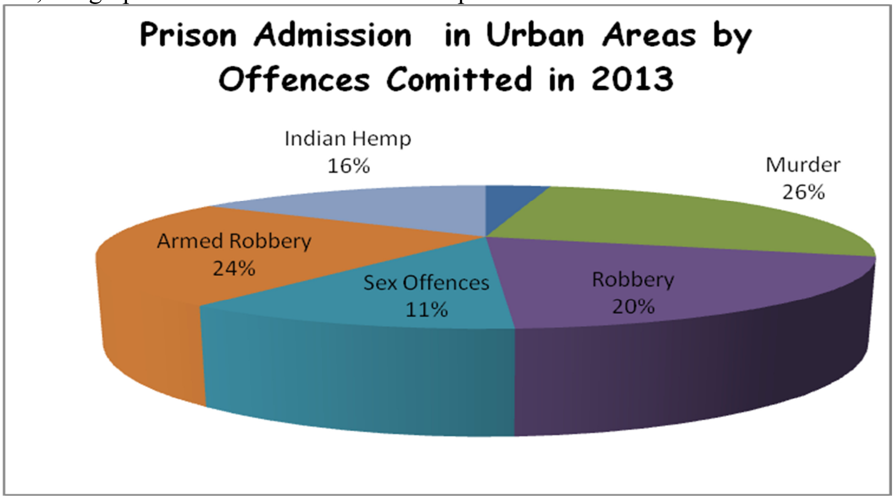
Source: CIA Fact book (2013) and NPC Annual Report (2012)

It is clear from the above graph that at the wake of the oil boom in 1970 the deterioration in the sector commenced. Looking at the presented graph, the decline perennially lingers on. A careful reader would observe from the graph that the state of agro-economy is recurrently depreciating as the histogram chart displayed a zigzag flow. The sorry nature of agriculture in Nigeria informs the clarion call for the diversification of the economy.

Apart from the progressive decline in agricultural sector, human resources management has also suffered from years of neglect as a result of the same oil boom in Nigeria. Todaro and Stephen (2006) made it plain that "in the realm of human resources and economic growth of a nation, sheer numbers of people and their skill levels are important, [so also] are cultural outlooks, attitudes towards work, access to information, willingness to innovate and desire for self improvement".

The poor management of human resources in the country has assumed an unprecedented level. The preponderance has contributed to brain drain which led to the loss of highly educated and skilled manpower and high dependency ratio among the Nigerian youth, especially among university graduates who migrate to seek better life in developed nations of Europe and America. According to Emeagwali (1997), thousands of Nigerian quality teaching staff, who could not find employment in Nigeria due to the unattractive welfare schemes for teachers, are making contributions to the United States economy.

On the other hand, the poor human resources management in Nigeria could be said to have contributed to or accounted for most of the social crimes perpetrated by youths in the today's Nigerian society. It enfeebles the present generation and imperils the future by burdening the community with multitude of helpless youths and destitute people. In other words, the society for a long time may have to bear the burden of large delinquents. To buttress this claim, the graph below shows the number of prison admissions due to social crimes.



Source: CIA Fact book (2013)

It is agonizing to note that the neglect of investment in human capital not only has contributed to social crime, the United Nations Conference on Trade and Development estimated and demonstrated in its data that each African professional between the ages of 25 and 35 contributed \$184,000 a year to the United States economy. 50,000 Nigerian-American professionals contribute \$9 billion a year to the United States' economy. At the same time, 100,000 foreign technical experts are working in Africa. These foreign experts are paid higher salaries than their African counterparts. The foreign coach of the Nigerian Super Eagles at a time was paid \$100,000 a year while well-trained Nigerian professionals have an average pay of \$600 a year (Emeagwali, 1997).

This salary discrepancy is one of the reasons why many Nigerian engineers and doctors have fled to developed countries. As Nigeria's talented workers leave the country for a better life, the country has to depend on the smaller numbers of the working population for her survival. This brain-drain has robbed Nigeria of many of her highly qualified and experienced professionals who are now working in overseas. It is therefore, no gain saying that this situation has serious economic implications as internal generated revenue and GDP are directly and indirectly affected.

It is not therefore shocking that the latest Human Development Index (HDI) value estimation ranked Nigeria 156 with the value of 0.459 among 187 countries. This value places Nigeria in the bottom, meaning that Nigeria is considered to have low level of human capital development.

Therefore, if the foregoing is the case with agricultural sector and human resources management in Nigeria, the right question then is, what is the way out? What can the Nigerian government do to bring back their talented children and to empower economic growth? This situation therefore, calls for an immediate action to change the trend.

3. Theoretical Framework and Empirical Issues

This section of the work deals with a brief review of economic growth theory and recent related studies. The review was taken in order to gain more insight into the scope of the research in the related field.

3.1 The Neo-Classical Growth Model (NGM)

To understand the neo-Classical growth Model, it will be judicious to first comprehend the meaning of economic growth. Economic growth is simply one of the four macroeconomic goals of any society. Simply defined, it refers to the increase overtime of an economy's capacity to produce those goods and services needed to improve the wellbeing of the citizen in increasing numbers and diversity. It is the steady process by which the production capacity of the economy is increased overtime to bring about rising levels of national income (Todaro and Smith 2009). Thus, this research employs the neo-classical growth model to gain more insight into the scope of the work.

The neo-classical growth mode attributed essentially to the works of Robert Solow attempted to correct a major defect of the Harrod-Domar growth model, that defect being the rigidity of the model imparted to it by the underlying Leontief type production function. This type of production is characterized by fixed capital-labour proportions. This fixity eliminates the possibility of increasing output by increasing the supply of one factor alone. In other words, the scope of factor substitution (diversification) is zero implying the impossibility of factor substitution.

It is this defect inherent in the Harrod-Domar growth model that the neo-classical growth model proceeded to redress. In doing this, the assumption of a Leontief type production function was dropped and replaced by a more realistic production function characterized by well behaved negatively sloping isoguants. This production function was considered more realistic as it recognized the possibility of factor substitution.

The elegance of this production function was its permission of a variation in the capital output ratio **k**. Thus, an inequality between **s/k** and **n** i.e. **s/k=n** could be corrected by an alteration in **k**. Hence for example, **sk > n** implies that the capital stock grows at a slower rate than the labour force. When this happens, the capital output ratio, **k** will fall thus raising **s/k** and restoring the equality of **s/k** and **n** in the process. Conversely, **s/k>n** implies that the capital stock growth rate outstrips the labour force growth rate as well as the output growth rate. The resulting rise in the capital-output ratio **k** will bring about a fall in the **s/k** ratio thus again restoring the equality between **s/k** and **n.** Therefore, the neo-classical growth model as opposed to its Harrod-Domar growth model counterpart thrives on the possibility of correcting any discrepancy between the warranted and natural growth rates through changes in capital output ratio, **k.**

Like the Harrod-Domar growth model, the neo-classical growth model implies that the part and speed of an economy's growth are endogenous policy variables that are within the ambit of policy makers and not homogenous policy. This therefore, implies that Nigerian policy makers should make every urgent effort to encourage diversification of our resources (endogenous) and not encouraging mono-economy which is (homogenous).

3.2 Empirical issues

Studies and mathematical models have shown that maintaining a well- diversified economy will yield the most cost-effective level of risk reduction and economic growth in a country.

Samuelson (1968) in describing economic diversification as an act of investing in a variety of assets, mentioned its benefit as that which reduces risk especially in the time of recession, inflation, deflation etc. Economic diversification strives to smooth out unsystematic risk events in a portfolio so that the positive performance of some investments will neutralize the negative performance of others.

An empirical example relating economic diversification to risk reduction and economic growth was a research carried out by Elton and Gruber (1977). They worked out an empirical example of the gains from economic diversification. Their approach was to consider a population of 3,290 securities available for possible inclusion in a portfolio, and to consider the average risk over all possible randomly chosen *n*-asset portfolios with equal amounts held in each included asset, for various values of *n*. Their result shows that most of the gains from diversification come for n≤30 which indicates continuous economic growth.

Number of Stocks in Portfolio	Average Standard Deviation of Annual Portfolio Returns	Ratio of Portfolio Standard Deviation to Standard Deviation of a Single Stock
1	49.24%	1.00
2	37.36	0.76
4	29.69	0.60
6	26.64	0.54
8	24.98	0.51
10	23.93	0.49
20	21.68	0.44
30	20.87	0.42
40	20.46	0.42
50	20.20	0.41
400	19.29	0.39
500	19.27	0.39
1000	19.21	0.39

Source: http://en.wikipedia.org/wiki/diversifcation_(finance)

Oliner and Sichel (2000), Jorgenson and Stiroh (2000) and Whelan (2000) used endogenous growth model to study the implication of growth rebound in the US economy. Their findings support the assertion of improving economic diversification through other means like information technology which they see as the main sources of the rebound; hence the role of technological progress in agriculture cannot be underestimated.

Other researchers like Young (1995) applied the same framework and discovered that the higher growth of output in the newly industrialized countries of East Asia than the rest of the world is almost entirely due to rising in economic diversification which increases labour force participation and empowerment in labour quality (through knowledge accumulation) and not attributable to rapid technological progress.

Adebayo (1999) noted this when he said that the neglect of agriculture and the rural economy and the concentration of economic activity in the oil sector was the cause of the current scarcity of raw materials, which has led to heavy imports of raw materials and foodstuff.

Muttaka (2015) examined the effect of Nigeria's oil dependency on economic growth. He observed that Nigeria has wasted much of its opportunities to break away from underdevelopment despite its massive natural and human resources endowment due to heavy reliance on her huge crude oil resources, regrettably mismanaged, as the major source of revenue. He identified and discussed on some key drivers of economic diversification such as investment, governance and regional dimensions of economic diversification as well as human and natural resources. He maintained that of all the other drivers, good governance remains a prerequisite in building an enabling environment for such diversification.

Onucheyo (2001) earlier predicted the fall in oil prices, when he pointed out that in the 21st century nuclear, solar, geothermal and other energy sources will be sufficiently developed to meet most of the world's energy requirements. A situation which, according to Onucheyo, raises fears for Nigeria's oil powered mono-cultural economy. Onucheyo maintained that Nigeria's position in the 21st century will not depend on its oil, but the development of its agricultural sector and related human resources.

Egunjobi (2012) assessed the impact of urban unemployment on economic growth using co-integration and the error correction mechanisms. The research was of the opinion that income, government expenditure and investment in human resources had direct impact while urban-unemployment rate had an indirect impact on economic growth. Hence, he recommended investment in human resources.

Nonetheless, this research has really filled a knowledge gap by studying two important macroeconomic variables: agriculture and human resources/capital management in Nigeria with neo-classical model of growth which concentrates on various activities that will continually raise potential output, causing a shift in the long run aggregate supply. The theory has, in addition, demonstrated that capital deepening in one sector alone cannot lead to continual shifts in the potential output in the long run. Other researches already carried out were done with variables like agriculture or human resources separately, but this study has filled a gap by combining the two variables. Hence, agriculture and human resources management is needed to compliment capital for the inducement of growth in the long run and increase in the standard of living.

4. Methodology

This paper which aimed at taking an in-depth analysis of the trend and the contribution of agricultural and human resources management sectors to the overall Gross Domestic Product (GDP) of Nigeria's economy in the face of the dwindling oil revenue used time series data on the percentage contribution of agriculture in Nigeria before its neglect. Apart from this, it also demonstrated in a graph the prison admission in urban areas by offences committed by Nigerian youths in 2013 due to poor management of human resources/capital. Lastly the paper uses the descriptive method in analyzing the secondary data collected in order to recommend the possible solutions. The data used were collected from Wikipedia..

5. Discussion of Findings

The data provided above shows that Nigeria's over dependency on oil has contributed to the poor management of human capital/resources which has led to the migration of many talented citizens of the country to other countries in search of better life. Furthermore, the data show that the neglect of agriculture has, in addition, led to the constant depreciation in GDP of the country. Hence this clarion call for urgent diversification of the Nigerian economy.

6. Recommendations

Having seen the gross problem caused by the neglects of agriculture and poor human resource management in Nigeria, which have engendered the dwindling of the Nigerian economy, it becomes therefore, necessary to offer some recommendations that will be pivotal to the change of the status quo.

1. Nigerian government, at all levels, should urgently create an enabling environment that will favour diversification of the economy that will de-emphasize mono-economy system and pay more attention to heterogeneous economy.
2. There is an urgent need to establish a working and functional bank of agriculture or any micro finance bank that will be exclusively for farmers for easy access of soft loans. Government should create a

special grant solely for genuine farmers.

3. To make agriculture attractive, government should, as a matter of concern, put in place policies that will favour subsidy for agriculture. The implication is that government should incentivize farmers and subsidize their produce.
4. Many farmers in Nigeria are still making use of crude and un-mechanized methods that favour low productivity. Therefore, there is an urgent need to introduce at all levels mechanized system of agriculture to increase productivity and to reduce strenuous human labour.
5. Federal government should revive all the agricultural research institutes, school of agriculture, and reintroduce farm settlements and other river basin authorities to encourage massive production of agricultural produce.
6. Government should endeavour to give scholarships to all those who are interested in studying agriculture to enhance human capital.
7. Government should discourage politicizing implementation of agricultural projects, especially where some politicians hijack the system against the genuine farmers by creating unnecessary bureaucratic bottlenecks.
8. Government should partner with media houses to promote agricultural programmes that will inculcate in the Nigerian youths the value and importance of agriculture.
9. Government should introduce agricultural science as an obligatory subject in secondary schools and could offer first class students scholarship to universities to boost interest in agriculture.
10. Government should endeavour to provide intermittently courses, capacity building, training and retraining in agriculture for professional development.
11. Government should package programmes in agriculture to be attractive and have the political will to pay attractive salaries to workers.

7. Conclusion

From this presentation, a careful reader would observe that any government that runs a mono-economy is announcing her economic obituary. Therefore, the only thing that will save Nigeria from her economic crunch now or in future is the diversification of her economy. Equally, government must have the political will to do the needful and develop a heterogeneous economy. The clarion call for diversification should not only be government's responsibility. Other stake holders must cooperate and collaborate with the government to make this dream come true. Lastly, if Nigeria diversifies her economy, I postulate that it will increase her GDP and IGR for sustainable development.

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