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Transforming the Nigerian Agricultural Sector into an Agribusiness Model – the Role of Government, Business, and Society

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Abstract. This paper proposes that the transformation of the agric sector into an agribusiness model will contribute to repositioning Nigerian economy from its backwater position in the world's economy. This proposition was investigated with the help of a review of literature and analysis of secondary time series data from the period of 2005–2014, which represented the contributions of the agricultural, manufacturing, oil and gas, and service sectors in Nigeria. One hypothesis was formulated and investigated with the *t*-test, correlation, and regression tests. The test results were positive and statistically significant at .05 alpha level, and they showed that agriculture has the potential to consistently have a significant effect in contributing to the growth of the Nigerian GDP both in the short and long run. These results justify the clarion call within the government and business sectors to diversify the economy and return to agriculture as the country's bedrock for economic stability, especially as global economy becomes more volatile, uncertain, turbulent, and ambiguous. To this end, six strategies and twelve policy recommendations are suggested towards the implementation of a Structural Adjustment for Agribusiness Promotion (SAFAP) in Nigeria, and this is to be implemented as an action plan for pursuing a nationwide agricultural revolution. The paper concludes that, in view of its Vision

20:2020 to be among the top twenty economies in the world, Nigeria can become positioned to be a major player in global economy by diversifying from an oil-dependent economy into agribusiness and agric trade.

Keywords: agriculture, transformation, economic development, government, business, society
JEL Classification: Q11, O11, O13

1. Introduction

"Today's Nigeria has transitioned from being a self-sufficient country in food production and supply to being a net importer, spending $11 Billion (USD) on the importation of rice, fish and sugar. It just makes no sense to me at all." These were the words of Nigeria's erstwhile Minister of Agriculture and rural development in the first quarter of 2015. It hides no rhetoric but affirms the potential of the Nigerian State to become not only a self-sufficient producer of both food and cash crops, but also a leading producer of food and fiber products for global export. Sadly, with the discovery of oil, Nigeria has largely become dependent on the importation of food to feed its growing population. The fact that the Nigerian agricultural sector is moribund cannot be overemphasized. This is not, however, to say that it contributes little or nothing to the nation's Gross Domestic Product (GDP). But it must be said that the sector suffers from gross underutilization of capacity and low productivity output. However, amidst these facts are challenges which, if addressed from a strategic management and market-driven point of view, would translate to opportunities that could reposition Nigeria as a leader in the food and fibre global chain.

Considering these possibilities, the paper proposes a central thesis that the Nigerian agricultural system has the potential to replace the oil and gas sector owing to the fact that it is a major employer of skilled and unskilled labor and as a major contributor to Nigeria's per capita income and economic growth by reducing poverty and adjusting balance of payments deficits if and only if the agricultural sector can be transformed into an agribusiness system. The aim of this paper is therefore to build a business case for and how the transformation of the Nigerian agricultural sector to an agribusiness system can be attained. Beyond this purpose, the paper intends to identify probable and reality-centered programs and strategies which will culminate in the way interventions and interactions of government, businesses, and society can result in a blueprint of strategic policies, which would aid the agric sector transformation as proposed in this paper. This transformation is imperative owing to the past and present macroeconomic advocacy by successive government administrations regarding the need to diversify the revenue base of the economy from a mono-product (oil and gas) export economy to a multi-product export economy.

Among other objectives, this paper will attempt to establish the multiplier effect that a transformed agricultural sector would have on the Nigerian economic and business landscape and will also give recommendations for the adoption or adaptation of the agribusiness model as a plan for returning the country to the path of sustainable national competitive and comparative advantage. The paper's analytical framework is guided by an attempt to respond to the following questions: *How can the prospects and benefits of transforming from an agricultural sector based on extraction, subsistence consumption, and produce export to an agribusiness system based on extraction, processing, and commercial export be harnessed in contemporary Nigeria?* The second question is connected to the first one: *What interventions of government, businesses, and society must be articulated and appropriated for an effective and efficient transformation from the present agricultural sector management to agribusiness?*

This paper is divided into ten sections. Sector one introduces the main incentive, argument, objectives, and questions the paper addresses. Section two provides an overview of the agribusiness concept and the conceptual framework that establishes the central thesis and propositions presented in this paper. Section three examines in synopsis the trajectory of agricultural development in Nigeria, while section four focuses on the historical role of agriculture in promoting economic growth and development across the global landscape of both developing and developed countries. Section five comprises the presentation of a competitive and quantitative analysis of time series data over a ten-year period. This analysis also entailed the test of hypothesis connected to the central thesis of this paper. Section six examines some of the prospects that accompany agricultural transformation in Nigeria benchmarked upon the agribusiness model as well as the possible problems that ensue, while section seven discusses the roles of government, business, and society in Nigeria's agribusiness consolidation. The discussion in this section is also assisted by the presentation of a schematic diagram. Section eight highlights a total of six suggested strategies, which align with the strategic management and market-orientation approaches for improving the outcomes of integrated agribusiness models across Nigeria's agro-based and agro-allied firms. Finally, section nine includes policy recommendations for agribusiness system efficiency in Nigeria in view of the year 2020, while the concluding section summarizes the entire paper and ends with a strong position statement.

2. Overview of the Agribusiness Concept

The concept of "agribusiness" is credited to have been first introduced by John H. Davis and Ray A. Goldberg in 1957. They defined the term agribusiness as "The sum total of all operations involved in the manufacture and distribution

of farm supplies, production operations on the farm; and the storage, processing and distribution of farm commodities and items made from them" (Davis & Goldberg, 1957: 2). Commenting on the definition and the publication of the authors which heralded the agribusiness concept, King, Boehleje, Cook, and Sonka (2010) affirmed that "The key insight articulated by Davis and Goldberg was that the food system needs to be viewed as an integrated system" (King et al., 2010: 554). They stressed further that "Management strategies and public policy initiatives designed to address problems in the food system would be doomed to failure if they focused on only one portion of that integrated system" (Ibid.). Still on Davis and Goldberg's work, King et al. (2010) opined further that "Their [Davis and Goldberg's] work stimulated new interest in the linkages between segments of the food system, in coordination across segments, in system-wide performance, and in strategy formulation in a context of interdependence" (Ibid.). The linkages highlighted here by King et al. (2010) form as it were the nucleus of the propositions in this paper as it concerns the Nigerian agricultural sector.

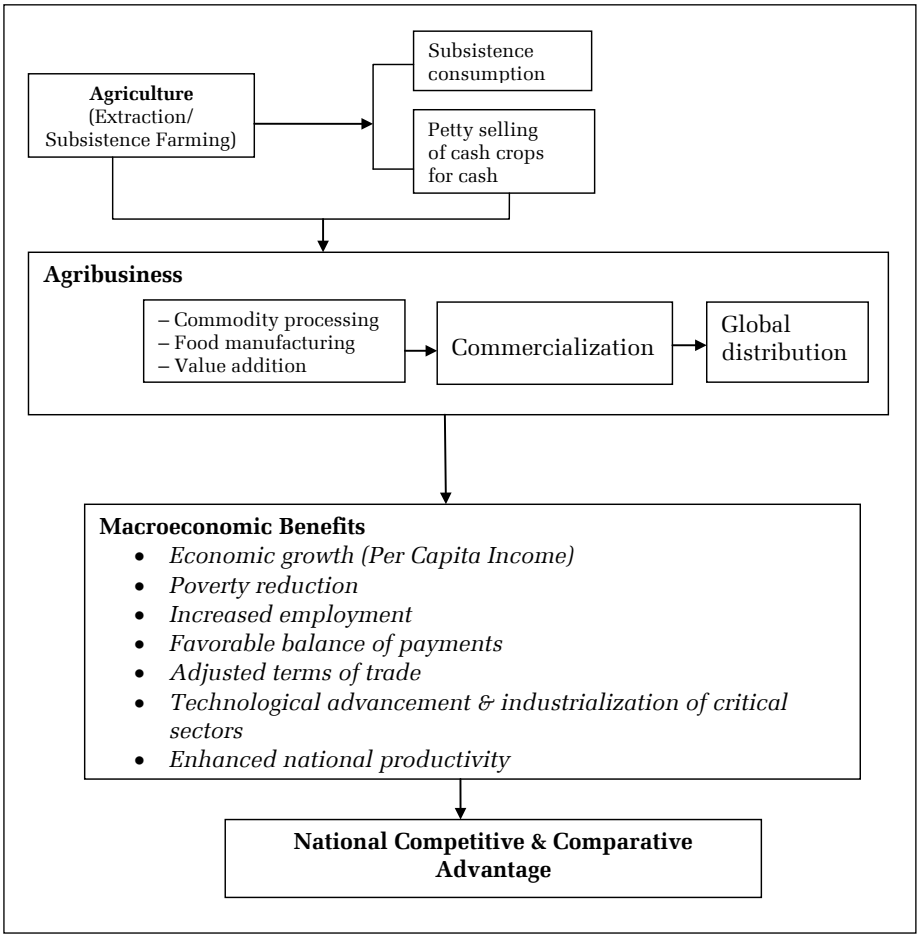
Bairwa, Kalia, Meena, Lakra, and Kushwaha (2014) refer to agribusiness as the business of agricultural production. According to them, "It includes crop production, seed supply, agrochemicals, farm machinery, distribution, processing, marketing and retailing of agricultural produce to ultimate consumers" (Bairwa et al., 2014: 1). In an attempt to justify their clarification of the concept, Bairwa et al. (2014) further maintained that "Agribusiness has evolved from agriculture and has become a vast and complex system that reaches far beyond the farm to include all those who are involved in bringing food and *fiber* to consumers" (Ibid.). Elsewhere, Ng and Siebert (2009) observe that since the seminal definition of agribusiness given by Davis and Goldberg (1957) agribusiness has subsequently been defined in various ways such as agro-industrialization (Boehlje, 1999; Cook & Chaddad, 2000), value, net chains (Lazzarini, Chaddad, Cook, 2001), or agriceuticals (Goldberg, 1999). Ng and Siebert (2009) stress that "These different definitions share a common emphasis for the 'interdependence' of various sectors of the agri-food supply chain that work towards the production, manufacturing, distribution, and retailing of food products and services" (Id.: 124). Agribusiness brings an expanded view to the practice of agriculture and to the concept of the food distribution chain. As such, Bell, Goldberg, Ning, and Weisser (2008) contend that the study of agribusiness, especially at Harvard Business School, gave birth to the notion of the "value-added food chain". They emphasized further that during the decades over which the study and practice of agribusiness has evolved significantly, agribusiness has come to be seen not just as economically important but as a critical part of society.

Sonka and Hudson (1989) observe that the nature of agribusiness creates a sector-/system-related multiplier effect. By this, they mean that agribusiness is characterized by and can be described with three interdependent sectors in

a global food chain which represents a three-part system made up of: (i) the agricultural input sector, (ii) the production sector, and (iii) the processing manufacturing sector (Bairwa et al., 2014). Cook (1992) broadens this discourse by referring directly to Sonka and Hudson (1989) as suggesting that the food and agribusiness sector might be thought of as a sequence of interrelated subsectors made up of: (1) genetics and seed-stock firms, (2) input suppliers, (3) agricultural producers, (4) merchandizers or first handlers, (5) processors, (6) retailers, and (7) consumers. Cook (1992) stresses further that "Agribusiness is a complex system of the input sector, production sector, process-manufacturing sector, transport and marketing sector" (Id.: 2).

The conceptual clarification of agribusiness brings to the fore the strategic issues which are pertinent to what the transformation of the agricultural sector of a developing country or emerging market economy to an agribusiness sector/system portends. These issues lead to the development of a hypothetico-deductive model, which conveys the central thesis and propositions of this paper. Supporting this thesis, Bairwa et al. (2014), for example, categorically state that "Agribusiness is very important for developing countries….to capitalize on the benefits of globalization and face new challenges to enhance their economic growth" (Id.: 2). To further support the paper's thesis, Goldberg (1991a) is reputed to have estimated that "…the food and agribusiness system is the largest economic system in the world representing 50 percent of the global labour force, 50 percent of global assets, and 50 percent of global consumer expenditures" (as cited in Cook, 1992: 11). Thus, presented below is the conceptual framework that establishes the central thesis and propositions promoted in this paper.

Agriculture, as presently practised in Nigeria, is largely dominated by subsistence and low-scale farming both of which are both pervaded with traditional forms and methods of farming. Suffice to mention that the extent to which the agribusiness model in a country is dominated by market-oriented family farms/firms or market-oriented corporate farms/firms or both is a function of the level of economic development in that country and the enabling operational environment for agribusiness to thrive. Nigeria being a developing country, its gradual integration has witnessed the adaptation by few market-oriented corporate farms/firms, as family-owned farms rarely exist in Nigeria, thus leaving a larger part of the sector to be dominated by subsistence and traditional farming in the rural areas. The resultant effect of this has been a sector characterized by low productivity, which in turn has made it impossible for Nigeria to appropriate a sector in which it has more comparative advantage in terms of factors and costs of production than other countries in Africa and beyond. This problem with its many attendant consequences creates not only an income gap for the country but also continues to have a negative effect on other macroeconomic variables. It has also promoted



Source: *the authors (2016)*

Figure 1*: Agribusiness Transformation Model*

a high rate of capital flight and it has in turn made Nigeria a dumping ground of processed agricultural products among other consequences.

One strategic macroeconomic variable and benefit of critical importance highlighted in *Figure 1* above is increased employment. At present, irrespective of the fact that the Nigerian agric sector is mostly dominated by subsistence farming and traditional farming techniques and approaches to produce preservation and distribution, the sector still accounts for nearly seventy percent of the total employment and productive occupations in Nigeria, even though for the most part those most engaged in agric-related endeavors live in the rural areas, and observations indicate that most agric-related trade is dominated within the cycles

of the informal economy. This statistic is suggestive of the fact that the sector is still besieged by high levels of unemployment and underemployment of both labor and other factors of production. This problem can be ameliorated by the transformation of the traditional agricultural sector into an agribusiness model, as such transformation is very much likely to improve value and supply chain activities, which will in turn necessitate the employment of more individuals, involvement of more firms, and consequently increased employment of other factors of production. Overall, this will have a multiplier effect on the economy by reducing the unemployment and underemployment rates of both labor and other factors of production.

Despite the above stated problems and challenges, some strategic contradictions are very much apparent. This is so given the fact that the agricultural sector – as it would be later discovered and elucidated upon in subsequent sections of this paper – has contributed positively and significantly to the Gross Domestic Product (GDP) of Nigeria in the last couple of decades. Such a contradiction seems to be at variance with the problems and challenges highlighted hitherto. But it should be categorically stated that instead of perceiving this quantitative observation as a contradiction, it should be seen as a pointer to the untapped potential of the sector. Hence, the argument in the paper is anchored on the need to transform the sector into a system benchmarked upon the agribusiness model for the purpose of better positioning it as a critical economic sector whose positive impact will adjust the fiscal shortages and collateral damages that have resulted from over-dependence on the oil and gas sector as Nigeria's major source of income, economic growth, and development. Therefore, we propose that agribusiness is a systematic model which would serve as a correcting factor to mitigate the forces that have made it impossible for Nigeria to pursue, gain, and sustain comparative and competitive advantage in the global agric trade.

3. Agricultural Development in Nigeria – History and the Present State of the Art

Nigeria is a West African country situated in the Gulf of Guinea. In 1960, political independence was gained from Britain. As the most populous country in Africa, with an estimated population of above 170 million as at 2014, it currently has the biggest economy in Africa with a rebased GDP size in the excess of USD 500 Billion (National Bureau of Statistics [NBS], 2014). Nigeria has a land mass territory of 923,768 km^2, 78% of which is land available for agricultural use, 37% of which is arable (CIA, World Fact Book, 2014). The country's agricultural base comprises a blend of food crops for local/subsistence consumption and cash crops

such as cocoa, peanuts, cotton, palm oil, corn, rice, sorghum, millet, cassava, yams, rubber, as well as livestock sich as sheep, goats, pigs, fish, etc. As at 2014, it had a low Human Development Index (HDI) of 0.504, which is an increase from 0.471 in 2013. Its Multidimensional Poverty Index (MPI) for 2014 was 0.239, with a total of 43% of Nigerians estimated to be living in multidimensional poverty and 68% living below $1.25 a day. As such, Nigeria is ranked 152 out of a total number of 185 countries on Human Development Indicators (UNDP, 2014).

Nigeria's agricultural sector has a rich history of development from mere subsistence farming to large-scale farming, for the extraction and production of cash and food crops for mass export and foreign exchange earnings in the late 1950s, up through the period of political independence from Britain, and until the discovery of crude oil in large exportable quantities. This discovery of oil turned out to be the curse that cast a dark spell on a once critical foreign exchange earning sector, the agric sector. Owing to what has come to be described as the "Dutch Disease", the agricultural sector has remained stagnant, and investment into modern mechanized farming techniques was almost abandoned at the opportunity cost of crude oil exploration. The sector remains full of potential and this is attested to in the NBS (2014) report on the sector, which documents the considerable regional and crop diversity that characterizes the sector. However, the report was also quick to pinpoint that the analysis of the sector is fraught with serious data problems. The NBS (2014) report states that the available statistics only provides a broad overview of development in agriculture, upon which some generalizations about the role of the sector in Nigeria's economic development and structural change can be made. This paper will hopefully contribute to bridging this gap.

Regardless of this admission of data adequacy problems, clearly documented in the NBS (2014) report is the fact that the agricultural sector in the 1960s was an important contributor to the country's GDP, foreign exchange earnings, general employment level, favorable terms of trade, balance of payments, and overall economic stability. With these in place, the sector facilitated in great leaps and bounds the required economic growth and the increase in per capita income needed for economic development. Abandoning the sector led to a substantial variation and long-term decline in the share of the sector's contribution to the national GDP from 60% in the 1960s to 48% in the 1970s and 22% in the 1980s (NBS, 2014). Ekerete (2000) records that as at 1974 the sector's share in the GDP had declined to 34%, while Olagbaju and Falola (1996) stated that as at 1996 the sector accounted for less than 5% of Nigeria's GDP. Currently, the sector accounts for approximately 20% of the Nigerian GDP (CIA, World Factbook, 2014).

However, the declining oil revenues, in addition to mismanagement and misappropriation of revenues accruing from the oil sector over the last three

decades, have led to a clarion call for the diversification of the Nigerian economy and a return to agriculture as the mainstay of the economy. Chigbu (2005) supports this call by reiterating that agriculture is the "engine house of world economies". Chigbu (2015) stresses that "As a protagonist of agricultural development….Nigeria's economic development can only be realistic through the total resuscitation of our agricultural sector" (Id.: 4). Chigbu (2005) is of the strong view that such resuscitation will propel the sector to produce food and fiber to feed the teeming millions of Nigerians. He maintains further that with such production the ensuing benefits will grow faster than the birth rate and will consequently reduce the death rate.

The present state of the art in the Nigerian agricultural sector appears to have maintained the same level of currency over the last three decades. But some significant and meaningful observable dimensions of growth are obvious, especially as the sector has been able to attract meaningful Foreign Direct Investments (FDI) and Foreign Portfolio Investments (FPI) in the last one and a half decades. Omole (1985) sounded the alarm about thirty years ago, emphasizing that the Nigerian economy as at the time of his publication had neither a firm agricultural nor a firm industrial base. He stressed further that "The power pump of the economy in the oil sector is threatened by excess supply in the world market and orchestrated by decline in prices" (Omole, 1985: 15). While Omole may have been considered back then as a lone voice crying from a self-imposed economic wilderness, his warnings have crystallized today in the global economy. Presently, the Nigerian government and people are coming to terms with the economic realities that accompany an unsustainable dependence on oil revenues.

The present state of the Nigerian agricultural sector shows that agricultural engagement is still predominantly domiciled in the rural areas, highly populated with small-scale farms; low penetration of mechanized farming practices; poor adaptation of modern technology to enhance produce and livestock output; inadequate agric capital and loans to encourage vertical integration; and, the most devastating of all, the sector has been plagued by high level of government policy summersaults and regulatory inconsistencies. Suffice it to say that the renewed emphasis to diversify the Nigerian economy and return to agriculture as its bedrock of growth and sustainable development necessitates that government, businesses, and the Nigerian society come together to confront the nearly insurmountable challenges and consumption patterns that have left the agric sector moribund. The leading challenge is the preference of Nigerians for foreign agricultural finished products. This is responsible in no small way for high import invoices, which in turn encourage capital flight, unfavorable terms of trade and consequently inhibit the export potential of the Nigerian agric sector.

For example, according to data obtained from the Nigerian Bureau of Statistics in 2015, by the end of the first quarter in 2015, a total of ₦738 billion (approximately $3.69 billion USD) worth of agricultural products were imported into Nigeria, compared to a total value of agricultural exports within the same period from Nigeria worth 99.5 billion (approximately $495 million USD). All of this amounted to agric trade deficits in the excess of ₦600 billion ($3.2 billion USD). It is also important to reconcile the extent to which the agric sector has been impacted by Foreign Direct Investments (FDI).

In an empirical study, aimed at analyzing FDI in Nigeria, Ogbanje, Okwu, and Saror (2010) discovered upon analyzing the available secondary data that in the period of 1970–2007 the net flow of FDI to Nigeria discriminated against the agric sector notwithstanding the strategic position of the sector in the economy. On the other hand, the manufacturing and processing sector for the period under review was the most highly favored by net flow of FDI. This finding aligns with similar results reported by Fabayo (2003).

The findings reported by Ogbanje et al. (2010) contradict their stated *a priori* expectations, which assert that "The agricultural sector, owing to its strategic relevance to the Nigerian economy and its potential to attract foreign direct investment ought to have the highest mean net investment" (Id.: 18). To investigate this assumption, Ogbanje et al. (2010) hypothesized that the application of foreign investment available to the agricultural sector should have a significant relationship with the growth of the sector. This hypothesis is supported by Obansa and Madueke (2013), who reported in their study on agricultural financing and economic growth in Nigeria that there is a bidirectional causality between economic growth and agricultural financing. These statements align with the central thesis and argument proposed in this paper.

The discussion on FDI inflows to Nigeria as well as to other emerging market economies in Africa begs a question that is very important for Sub-Saharan African scholars to address, especially within the discourse on externally driven economic growth and development. For Nigeria in particular, the question must be asked: *How much FDI directed to Nigeria is actually genuine FDI?* It is obvious that a lot of distortions are apparent in the global FDI statistics. From the receiving end, it is important to appropriately classify genuine foreign investments and differentiate them from investments with clandestine interests. A position that stands to be corrected is that most foreign investment inflows to Nigeria fall under the classifications of Foreign Portfolio Investments (FPI), whose destinations are meant for Special Purpose Entities (SPEs). The OECD (2014) report on FDI corroborates this position. According to Kothe, Carly, and Gestrin (2014), the authors of the report "[SPEs] are typically holding companies [who] used to channel capital through countries without generating any real significant economic activity or employment" (Id.: 5).

Likewise, statistics from the World Bank does not suggest any position contrary to the one being advanced here. For instance, the World Bank record shows that FDI inflows as a percentage of Nigeria's GDP between 2010 and 2013 were 1.6, 2.1, 1.5, and 1.1 percent respectively. And net FDI outflows from Nigeria were 0.2, 0.2, and 0.3 percent respectively. The 2013 figure is not available. Thus, the variance between Nigeria's FDI inflow and outflow has only been arithmetic and not geometric in progression.

On the whole, despite the fact that statistical records from provisional data show that the contribution of the agricultural sector to Nigeria's GDP increased between 1996 and 2014 from 5% to approximately 20%, the sector is besieged at present with many problems and challenges. Many stakeholders agree that these collective problems are responsible for the below optimal productivity of the sector. The position in this paper is that although these problems and challenges hinder the productivity output of the sector, the introduction of an agribusiness model would contribute a great deal to confronting these bottlenecks and consequently to improving productivity output in the agric sector.

4. The Role of Agriculture in Economic Growth and Development

Does the agricultural sector positively impact the economic growth and development of a developing country and in Nigeria's case a Less Developed Country (LDC)? Providing answers to this question requires a critical examination of extensive theoretical and contemporary empirical literature. In addition, historical evaluations of the economic gains and mileage that some developed countries have attained will be highlighted. Put together, the outcomes of these reviews would further lend credence to the argument proposed in this paper which focuses on the need to invest more in Nigeria's agricultural sector and in so doing employs an agribusiness model for improving the sector's productivity, global participation, and relevance in the 21st-century business landscape.

Before proceeding on this brief overview of literature, it is important to clarify the conceptual ambiguities, usually associated with the terms of economic growth and economic development. Economic growth has been defined as "The increased productive capabilities of an economy" (Arnold, 2005: 40). Elsewhere, McEachern (2006) defined it as "An expansion in an economy's production possibilities" (Id.: 6). Simply put, when per capita income and GDP increases in developing/less developed countries, economic growth is said to occur or to be occurring. Similarly, when per capita income and GDP increase in developed countries, such increase is described with the concept of economic development.

However, in the latter, fundamental positive and incremental modifications, transformation, and change are made, while in the structure of the economy and society an increase follows in per capita income. However, the position taken in this paper is that economic growth precedes economic development. Both terms will nonetheless be used interchangeably.

Harbinson and Myers (1959) identified four stages of economic development, which, according to them, represent the universal and inevitable process through which various human societies progress in a linear direction. This direction is from an agrarian to a traditional society onward to an industrialized society and finally to a democratic society. While the assumption of linear progress has been the major criticism of their theory, their proposition that all societies commence from the agrarian stage of development is not lacking in merit.

Rostow (1960) proposed a theory, highlighting five stages of economic growth, namely: (1) the traditional society, (2) the pre-conditions for take-off, (3) the take-off, (4) the drive to maturity, and (5) the age of high mass consumption. Of particular importance in his treatise is the first stage, that is the traditional society, which Rostow (1960) defined as "One whose structure is developed within limited production functions based on pre-Newtonian science and technology and as pre-Newtonian attitudes towards the physical world" (as cited in Jhingan, 2005: 123). According to Raj, Murherjee, Murkherjee, Ghose, and Nag (2007: 65), the traditional society is characterized by a large agricultural sector and hierarchical social structure, and its defined essence is that "it possesses a low ceiling of attainable output per head because of the backward nature of its technology". Still, on the traditional society, Jhinghan (2005) strongly commented that "Political power was concentrated in the regions, in the hands of landed aristocracy supported by a large retinue of soldiers and civil servants. More than 75 per cent of the working population is engaged in agriculture" (Id.: 123). These descriptions are characteristic to a large extent of the present-day Nigeria, even though it may be argued that some advancement in industrialization has been made in the country. Thus, with respect to the models of Harbinson and Myers (1959) and Rostow (1960), the underlying thread in both models is that economic growth and consequently development is founded upon agrarian beginnings.

Reynold (1975), for example, is of the strong view that agricultural development can promote economic development of underdeveloped countries in the following distinct ways: (1) by witnessing the supply of food available for domestic consumption and referring the labor needed for industrial development, (2) by enlarging the site of domestic market for the manufacturing sector, (3) by increasing the supply of domestic savings, and (4) by providing the foreign exchange earned by agricultural exports (as cited in Umaru & Zubairu, 2012). Jhingan (2005: 334) highlighted six ways in which agriculture contributes to economic development: (1) providing more food to a rapidly increasing population, (2) increasing the

demand for industrial products and thus necessitating the expansion of the secondary and tertiary sectors, (3) providing additional foreign exchange earnings for the import of capital goods for development through increased agricultural exports, (4) increasing rural income to be mobilized by the state, (5) providing productive employment, and (6) improving the welfare of the rural people. Johnson (1966), on the other hand, provided a set of primary criteria for appraising the contributions of agriculture to a nation's economy. These are: (1) the proportion of the population engaged in agriculture, (2) the share of agriculture in the Gross Domestic Product, (3) the proportion of the nation's responses devoted or employed in agricultural production, and (4) the contribution of the agricultural sector to foreign trade (as cited in Umaru & Zubairu, 2012).

Considering all the items and elements so far discussed, points alluded to in a section before this one on agricultural development in Nigeria, and which highlighted the past, and present roles that agriculture had and continues to play in Nigeria's economic growth and development are justified. Ogen (2003) maintains that the Nigerian economy could be described as an agrarian economy during the first decade after her independence from Britain and even before independence simply because agriculture served as the engine growth of the overall economy. Ogen (2003) further reckoned that "During this period, Nigeria was the largest producer of cocoa, largest exporter of kernel, and largest producer and exporter of palm oil" (as cited in Itodo, Apeh, and Adesina, 2012: 7). Ekerete (2000) considered this period as one in which the country was virtually self-sufficient in the production of food crops to feed the populace and to provide raw materials for industries and cash crops for export. Abayomi (1997) supports these viewpoints, stressing that the economic contributions of agriculture overshadowed all other economic sectors within this period, that is the first post-colonial decade.

Similarly, Itodo et al. (2012) reckoned that "From the standpoint of occupational distribution and contribution to GDP, agriculture was the leading sector in the early 60s as the contribution from the sector accounted for about 70% of Nigeria's GDP" (Id.: 7). Lawal (1997) commenting on the same period stated that "Despite the reliance of Nigerian peasant farmers on traditional tools and indigenous farming methods, these farmers produced 70% of Nigerian exports and 96% of its food needs" (as cited in Itodo et al., 2012). And even up till the present dispensation the agricultural sector is said to employ close to two-thirds of the Nigerian population in both formal and informal (i.e. organized and unorganized) networks of the sector (Oloyede, 2014). While there is a noticeable decline in agriculture's share of Nigeria's GDP since the 1970s and down to the 1980s, Ekpo and Umoh (2003) have stressed that this decline is not due to the increase in the industrial sector's contribution to the GDP but rather is due to the neglect of the agric sector (as cited in Umaru & Zubairu, 2012).

The economic trajectory that justified the claim of agriculture as a predictor of economic growth and development is further supported by postulations from two seminal authors whose works Obansa and Maduekwe (2013) make reference to – these are the works of Mody (1981) and Kuznet (1961). Mody (1981) was of the view that agricultural surplus is important for structural transformation accompanying economic growth. A pattern which is premised on the view credited to Kuznet (1961), who maintained that the agricultural sector should transfer to the non-agricultural sector the "surpluses of investible resources" generated in agriculture (as cited in Obansa and Maduekwe, 2013: 173). Omole (1985) gives an example of two countries as emphasis for a case study that attests to this pattern. According to Omole (1985), "The United Kingdom took over a century of agricultural and industrial revolution to develop itself into an industrial power by the nineteenth century, while the United States rapidly moved from the ravages of a civil war through an agricultural and industrial revolution within about three decades of the nineteenth century" (Id.: 118). While citing other countries, such as Brazil and South Korea, who have followed this pattern, Omole advocates that "The challenges of our economic development planning and implementation in Africa is to compress the gestation period of our agrarian and industrial revolution" (Omole, 1985: 119).

Commenting on this development pattern, Obansa and Maduekwe (2013) are of the view that the pattern suggests (implicitly and explicitly) that developing countries must extract resources from agriculture for a successful industrial development. Hence, Obansa and Maduekwe (2013) posit that "Agriculture financing not only removes financial constraints but also promotes investment and adoption of technology necessary to spur desired economic growth" (Id.: 173). These positions and advocated pattern align with the central proposition of this paper.

In rounding up the discussion on the role of agriculture in economic growth, it is necessary to examine a few empirical studies that have sought to establish the relationship between both variables and where possible ascertain the nature of casualty of this relationship. In a study which covered the time frame between 1980 and 2010, Gbaiye, Ogundipe, and Osabuohien (2013) investigated the impact of agricultural export on economic growth in Nigeria. They discovered that a long-run equilibrium relationship existed between agricultural exports and economic growth, and the relationship was elastic in nature. This led to the conclusion that a unit increase in agricultural exports would bring a more than proportionate increase in real GDP in Nigeria (Gbaiye et al., 2013). Umaru and Zabairu (2012) in their study, which covered the period of 1960–2010, examined the contributions of the agricultural and petroleum sectors to the growth and development of the Nigerian economy with the aid of some quantitative techniques. The results from their study revealed that while both sectors had a positive impact on economic growth and development of the economy, the agricultural sector contributed higher than the petroleum sector.

Suleiman and Aminu (2010) conducted a similar study, which examined the agricultural, petroleum, and manufacturing sectors. Results from their study indicated that the agricultural sector was contributing higher to the growth of the Nigerian economy than the petroleum and manufacturing sectors. Finally, as previously cited, Obansa and Maduekwe (2013), using some econometric techniques, discovered that there is a bidirectional causality between economic growth and agricultural financing and also between economic growth and agricultural growth. All these empirical results support the central proposition of this paper.

5. Competitive and Quantitative Analysis of the Nigerian Agricultural Sector

Is the Nigerian agricultural sector competitive? Does the sector guarantee consistent incremental returns on investments? Can it create a diversified revenue base that would translate into inclusive economic growth? Is there an enabling environment to support agribusiness demands, growth, and consequently development? Does the past output and contributions of the sector to the Nigerian economy justify a present and future "accelerator model of investment" in the sector? Is the sector the promise of the country's future? These economic and market-value-creation-, addition-, and extraction-related questions are critical in building premises to support the business case for the transformation of the Nigerian agricultural sector into an agribusiness sector.

One major objective to be achieved in this section is to establish with the aid of quantitative analyses the extent to which Nigeria as a nation can possibly reinvent and appropriate absolute or comparative advantages in the agricultural sector. The discussion here commences with a presentation and analyses of secondary time series data. Correlation and regression inferential test statistics will be used to establish the relationship between the agriculture, manufacturing, oil, and the service sectors and their impact on the GDP for the time frame from 2005 to 2014.

Indicated in *Table 1* below are data on the four critical sectors. The extent to which each sector affects the country's GDP as well as the strength of relationship between the nation's GDP performance is to be established with the Pearson correlation coefficient and simple linear regression tests in *Table 2* below. Pearson's correlation and simple regression tests were administered to identify relationships and effects that are predictive and which give credence to the central thesis and proposition of the paper. The correlation and regression tests were done sector by sector but presented in an abridged form to facilitate and amplify ease of interpretation.

Table 1. *Data on GDP of agriculture, oil, manufacturing and service sectors (current basic price from 2005 to 2014)*

Year	GDP Current Basic Price (=N=Millions)	Agricultural Sector Current Basic Price (=N=Millions)	Oil Sector Current Basic Price (=N=Millions)	Manufacturing Sector Current Basic Price (=N=Millions)	Service Sector Current Basic Price (=N=Millions)
2005	14,572,239.12	4,773,198.38	5,664,883.21	412,706.60	1,620,112.00
2006	18,564,594.73	5,940,236.97	6,982,935.44	478,524.10	2,143,487.40
2007	20,657,317.67	6,757,867.73	7,533,042.60	520,883.00	2,502,832.00
2008	24,296,329.29	7,981,397.32	9,097,750.70	585,573.00	2,785,654.80
2009	24,794,238.66	9,186,306.05	7,319,262.70	612,614.10	3,106,821.20
2010	54,204,795.12	10,310,655.63	9,747,355.20	647,822.79	3,430,111.69
2011	63,258,579.00	11,593,434.13	15,515,548.93	694,784.72	3,846,593.40
2012	71,186,534.89	13,413,842.45	15,004,619.95	761,467.00	4,388,876.70
2013	80,222,128.32	14,709,104.92	10,296,327.22	7,233,322.42	28,648,636.24
2014	83,543,715.26	17,968,212.88	9,616,489.52	8,685,430.03	33,107,869.23

Source: Central Bank of Nigeria Statistical Bulletins. National Bureau of Statistics (NBS).

Table 2 above presents an abridged correlation and regression results. (Only important statistical coefficients were depicted in the table). The data used in this paper for the purpose of comparing the performance of the agriculture, manufacturing, oil, and service sectors vis-à-vis GDP are time series data which covered the period of ten years. Secondary data were obtained from the Central Bank of Nigeria (CBN) statistical bulletins and from the National Bureau of Statistics (NBS) archives. Results from the analysis statistically validate the central proposition in this paper. This position can be best appreciated by first converting the proposition into hypothetical statements. Therefore, the hypothesis below can be examined:

H_1: *The agricultural sector will have a positive significant effect in contributing to the growth of the Nigerian Gross Domestic Product in the short run and long run and consequently outperform other critical sectors in the Nigerian economy.*

The t-statistic as well as the regression coefficient/means would be used to examine (H_1). The obtained t-test for agriculture ($t_{obt} = 9.073$, $p < .05$) is larger than the table t-test value for (n-1) = df = 9 observations, which is (t_{tab} (9) = 2.262, $p <$ .05, 2-tailed). Going by the decision rule, the null hypothesis should be rejected and the alternative hypothesis (H_1) stated above is to be accepted. Similarly, at 1% level of significance (t_{tab} (9) = 3.250, $p < .01$, 2-tailed), the null hypothesis will still be rejected. As such, a statistically significant basis for the diversification of the Nigerian economy with agriculture as the focal sector is justified.

Table 2. *Correlation and regression analysis*

SUMMARY OUTPUT						
Regression Statistics						
Multiple R Correlation						
Agriculture	0.9546					
Oil	0.7003					
Mfg	0.7127					
Service	0.7363					
R Square						
Agriculture	0.9114					
Oil	0.4905					
Mfg	0.5079					
Service	0.5421					
Adjusted R						
Agriculture	0.9003					
Oil	0.4268					
Mfg	0.4464					
Service	0.4849					
ANOVA						
	df	SS	MS	F	Significance F	
Regression						
Agriculture	1			82.3279	0.0000	
Oil	1			7.7027	0.0240	
Mfg	1			8.2954	0.0207	
Service	1			9.4742	0.1516	
	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*
Intercept						
Agriculture	-19070266.66	7635980.48	-2.4974	0.0370	-36678869.21	-1461664
Oil	-12000000	21638623	0.5382	0.6650	-62000000	38252651
Mfg	32529969	7923660	4.1054	0.0034	14257977	50801961
Service	30810332.3	7889852	3.9050	0.0045	12616300	49004364

SUMMARY OUTPUT						
Independent Variables						
Agriculture	6.2942	0.6936	9.0734	0.0000	4.6945	7.8938
Oil	5.9079	2.1286	2.7753	0.0240	0.9991	10.8167
Mfg	6.3005	2.1923	2.8739	0.0207	1.2450	11.3561
Service	1.7199	0.5587	3.0780	0.0151	0.4313	3.00855

Note: dependent variable (Gross Domestic Product), independent variables (Agriculture, Oil, Manufacturing and Service sectors), confidence interval = 95%, level of significance = 5%

The regression results also reinforce the above finding with regard to (H_1). This is in view of the fact that, considering the number of years under review (2005–2014), the agricultural sector explained over 90% of the variations in Nigeria's GDP. The effect of agriculture in explaining over 90% of Nigeria's GDP was shown to be statistically significant ($r^2 = 0.911$, $p < .05$; sig. $f < .05$). In the same vein, the correlation between agriculture as an independent variable and GDP as the dependent variable was positive, statistically significant, and very high ($r = .954$, $p < .05$). Furthermore, by converting the *r*-statistic to Cohen's *d* to ascertain the effect size of the agric sector on the country's GDP within the time frame under review, the following will be obtained: $r = .954$, $d = 6.346$. This effect size ($d = 6.346$) exceeds Cohen's (1988) threshold for a large effect size, that is d = .80. Therefore, it can be concluded that agriculture has quite a large effect on the GDP of the country.

Further analysis of the results indicated that the agric sector had the strongest correlation with GDP when compared to the other critical sectors examined in the study. Consequently, it has the largest effect on the country's GDP and explained more variability in GDP than the oil, manufacturing, and service sectors. With the analyses so far discussed, (H_1) is to be accepted as it clearly points to the multiplier effects and benefits that would emanate from transforming the agricultural sector into an agribusiness sector. Also the results justify diversifying the economy and investing more in the agric sector with a view to making it the mainstay of the Nigerian economy.

A few more statistical analyses would be needed to further justify the above position. It is important, for example, to examine the extent to which all four independent variables were statistically significant. The *f*-statistic, which measured the individual and joint significance of the four independent variables (agriculture, oil, manufacturing, and service sectors), was found to be statistically significant for all the four independent variables at 5% level of significance. But at 1% level of significance, the oil, manufacturing, and service sectors are not statistically significant in explaining variability in the GDP.

This observation further justifies the call to invest more in the transformation of the agricultural sector into an agribusiness sector, thereby positioning it as a major contributor in the long run to Nigeria's economic growth and consequently economic development. Additionally, this transformation would prove critical and practical in achieving macroeconomic stability. This finding confirms the theoretical expectations as posited by Omole (1985), Mody, (1981), and Kuznet (1961), all of which align with the central proposition of this paper.

The entire results indicated that, on the average, 56% of the variability of the Nigerian GDP was explained by the four sectors within the ten years' period under review. The agricultural sector, however, showed superior performance, as it explained 95% of the variability of the Nigerian GDP for the period. This superior performance is evinced by the fact that the individual regression output of the three sectors in each of the cases fell below the 56% average output. This finding corroborates findings from other studies. For example, Suleiman and Aminu (2010) examined the empirical contributions of the agriculture, manufacturing, and petroleum sectors to the Nigerian economy and discovered that the agricultural sector contributed higher than both the petroleum and manufacturing sectors to the Nigerian economy. In a similar study undertaken by Umaru and Zabairu (2012), which covered a period of fifty-one years' time series data from 1960 to 2010, the results and conclusion revealed that agriculture contributed higher than petroleum to the GDP over the fifty-one (51) years under review despite the neglect of the agricultural sector since the advent of oil in the early 1970s. Ahungwa, Haruna, and Abdusalam (2014), in a study on time series data between 1960 and 2002, discovered that agriculture contributed more than other sectors to the GDP of Nigeria. Their regression analysis showed that for every percentage increase in the contribution of agriculture the GDP increased by 64.4%. Put differently, given the period under review, agriculture explained 66.4% of the variability in the Nigerian GDP – higher than other sectors. The result was positive and statistically significant. The results are corroborated by this present study despite the analysis of a shorter time frame, which is from 2005 to 2014.

6. Transforming from Agricultural Sector into Agribusiness Sector – Prospects and Problems

Transformation and global alignment is the key to developing new markets and industries. A focus on transformation is also critical to providing the structure and infrastructure for positioning firms, economic sectors, and countries for vertical integration, maximum output, and competitive advantage respectively. One major extrapolation that can be made from the central proposition of this paper

is that transforming the Nigerian agricultural sector into an agribusiness model presents an avalanche of opportunities to improve the economic performance of the country. This section examines the prospects and the dimensions within which this extrapolation translates to reality. Four dimensions have been identified as areas to discuss the prospects for this transformation. These are: (i) self-sufficiency, (ii) macroeconomic stability, (iii) attraction of foreign direct investment (FDI), and (iv) technological acquisition, diffusion, and development. These are discussed in brief below.

6.1 Self-Sufficiency

In the last two decades, Nigeria has become a net importer of food. This situation has extended into the importation of both food crops and processed food products into the country to supplement local production and consumption. This trend brings two economic anomalies to the fore. First, Nigeria now imports agricultural products and farm outputs, which in the early 1960s and 1970s had comparative and competitive advantage in producing and processing, for example, palm oil and grains such as corn and wheat. Second, Nigeria imports finished products that have been processed from the farm outputs hitherto exported from Nigeria to other countries. While it may seem contradictory that a sector which has contributed the most in explaining variability in the country's GDP needs to be supplemented with imports from abroad, these contradictions can be best appreciated when three variables are factored into the discourse. These are: (i) the geometric increase in the population of Nigeria since 1970, (ii) the increase in average income resulting from oil and gas exports since 1970, and (iii) the high income elasticity of demand for food owing to population explosion and increase in income from oil and gas exports.

Presently, Nigeria is no longer a self-sufficient producer of food for its teeming population of over 170 million. A good number of this population are people who have also come to develop an appetite and preference for imported farm produce and finished agricultural products. The challenge of reconciling the high demand for food and the increased appetite for foreign agricultural products has seeds of opportunity embedded in it and hence provides the platform for shifting from an extract- and export-bound agric sector to an extract–process–export-based agribusiness sector. A shift to an agribusiness model is capable of benefiting the agric sector with the necessary systematic tools, mechanisms, interventions, and global pool of resources needed to reinvent the present structure of the Nigerian agricultural sector.

It is this very structure that has contributed to the low output of the sector and consequently a *status quo* which has rendered the country incapable of single-handedly catering for the food needs, requirements, and demands of the growing

population. Akpan and Atan (2015) attempted to explain how the structure of the Nigerian agricultural sector contributes to low output. In an empirical study which investigated the impact of globalization on selected sectors in the Nigerian economy, namely agriculture, manufacturing, and international trade, Akpan and Atan (2005) discovered that the increase of credit facilities, such as agricultural loans between 1970 and 2011 to the agric sector, had a negative impact on agricultural output. According to Akpan and Atan (2015), "A possible explanation could be that the production process in the sector is mostly labour intensive. This is reflective of the dual structure of the Nigerian agricultural sector" (Id.: 152). Akpan and Atan stated further that "While the modernized sub-sector, which employs modern technologies, accounts for about 5% of Nigeria's total agricultural output, the traditional production sub-sector, relying mostly on manual labour with crude and less productive technologies, accounts for the remaining 95%" (Akpan & Atan, 2015: 152).

From the above, it is glaring that transforming the sector is very critical owing to the data that describe its dual nature. As such, appropriating best global practices benchmarked against an agribusiness model would be very much critical to transforming the sector into a more modernized structure that will be based on agricultural practices with the attendant benefits of increased agricultural output, capable of meeting local demands for subsistence and global demands for export. Another benefit accruing from this transformation is cost saving, which will result from reduced importation of agricultural commodities with scarce foreign exchange resources, which, when saved, could be put to alternative use, especially those geared towards development.

What is more, the agribusiness model will position the sector to achieve high levels of what Weisser (2008) referred to as production efficiency, trade efficiency, and logistical efficiency (as cited in Bell, Goldberg, Ning, and Weisser, 2008). This efficiency troika will contribute to Nigerian agribusiness and agro-allied firms to successfully expand into new markets, establish new global alliances, and finally attain sector-related global strategic flexibility.

6.2 Macroeconomic Stability

According to Edward Shapiro, "Macroeconomics deals with the functions of the economy as a whole, including how the economy's total output of goods and services and its total employment of resources are determined and what causes these totals to fluctuate" (as cited in Vaish, 2002: 31). The government is a major player in providing the enabling environment for macroeconomic stability in a modern society. As such, the government's macroeconomic policy, according to Sloman and Sutcliffe (1998), aims primarily at achieving the two goals of ensuring that key macroeconomic variables are at acceptable levels, on

the one hand, creating a stable economic environment in which the economy can flourish, that is minimizing fluctuation in economic activities on the other hand. Sloman and Sutcliffe (1998) identified several macroeconomic variables that the government seeks to influence and grouped these under four main headings. These are: economic growth, unemployment, inflation, and balance of payments. This subsection focuses on how the agricultural sector has contributed so far and could possibly still contribute to economic growth, increased employment, and promotion of favorable balance of payments in the Nigerian economy, especially when adapted to the agribusiness model.

A number of empirical studies have been reviewed and discussed in this paper, which have presented far-reaching conclusions and evidences that validate the conceptual model and proposition presented in this paper. In addition, the analysis of time series data regarding the contribution of the agricultural sector to the GDP of Nigeria between 2005 and 2014 also validates the central argument and proposition of the paper. Going forward, these results open another dimension that is pertinent to macroeconomic stability and which also helps to appreciate the prospects that agribusiness portends for the Nigerian economy and society as a whole. Macroeconomic stability here implies a steady state characterized by economic activities that contribute towards the promotion of economic growth and consequently development, reduction of unemployment, or attainment of full employment, achieving favorable balance of payments and ensuring the full utilization and optimal allocation of resources within strategic sectors of an economy.

Nigeria being the most populous country in Africa has two-thirds of its population employed in the agricultural sector or productively engaged in some form of business that relates to the agriculture supply chain. However, this statistic does not translate to high output of the sector, even though in the last decade it has been the largest contributor to the Nigerian GDP. As previously stated, Akpan and Atan (2015) observed that the structure of the agriculture sector is dual in nature, with 95% of the sector being largely labour intensive and 5% being technology driven. This large disparity in itself presents the business case for the timely introduction of an agribusiness model into the sector, with the resultant effect of large and modern farm spin-offs, which employ mechanized farming techniques. This position is supported by the fact that mechanized farming will enhance the cultivation of land, increase output, and improve supply chain efficiency. Consequently, this leads to the full employment of factors critical to increased agricultural production, processing and commercialization of primary agricultural commodities. It must also be said that this full employment of resource factors come with some attendant macroeconomic benefits.

When there is full employment and engagement of resource factors in the agricultural sector through the intervention of agribusiness practices, this will

translate and contribute to economic growth and development *ceteris paribus*. For example, as agricultural output increases, the local aggregate demand for agricultural products, which hitherto have been supplemented with imports from abroad, will reduce. This will help save foreign exchange as less processed agricultural commodities are imported. Such foreign exchange savings could be put to alternative use for development projects. This narrative describes how agribusiness can promote actual economic growth in the short run through variations in the growth of local aggregate demand given the large population of the Nigerian state, which is projected to be over 230 million by the year 2025 and projected to be larger than the population of the USA by 2050 (UN Population Division, 2013).

Exploring the prospects embedded in agribusiness as a predictor of economic growth, and consequently development, will be best understood when the various sources of economic growth are properly highlighted and, in addition to this, when the types of economic growth and the measures of economic growth are clearly stated. Across the extant literature on economic analysis, many sources of economic growth have been identified. Arnold (2005) maintains that two major factors affect economic growth, namely: increase in the quantity of resources and an advance in technology. According to Arnold (2005), "An advance in technology commonly refers to the ability to produce more output with a fixed quantity of resources or the ability to produce the same output with a smaller quantity of resources" (Id.: 40). Sloman and Sutcliffe (1998) identify policies which can cause governments to increase a country's growth rate. The first category of policies comprises those that stimulate aggregate demand and alternatively aggregate supply. In their view, policies to stimulate aggregate demand ensure that firms will be eager to invest and by so doing increase potential output, and policies aimed at increasing aggregate supply focus on concentrating on measures to increase potential output. Such measures include the encouragement of research and development, innovation and training. The second category of policies are the market-oriented or interventionist policies. These policies advocate that while a free market economic system will indeed open up a conducive environment that encourages growth through private enterprise, research, and development, such environments are still besieged by uncertainty and cyclical fluctuation. As a result, government intervention is needed to reduce the fluctuations and challenges that are characteristic of uncertain and unstable business environments.

McConnell and Brue (2002: 323–324) proposed six main ingredients that promote economic growth. They grouped these ingredients as being supply-related, demand-related, and efficiency-related. The supply factors comprise four ingredients of economic growth that relate to the physical ability of the economy to expand. These are: (1) increases in the quantity and quality of natural resources, (2) increases in the quantity and quality of human resources, (3) increases in

the supply (or stock) of capital goods, and (4) improvements in technology. The fifth ingredient of economic growth in their proposition is the demand factor. According to McConnell and Brue (2002), "To achieve higher production potential created by supply factors, households, businesses, and government must *purchase* the economy's expanding output of goods and services" (Id.: 323). The sixth ingredient is the efficiency factor. In their view, for an economy to reach its production potential, it must achieve economic efficiency as well as full employment.

Gwartney, Stroup, Sobel, and Macpherson (2003: 374–375) stress that "The process of economic growth is complex. Several factors contribute to growth and they are often interrelated." To this end, they highlight three factors that reveal important sources of economic growth: (1) investment in physical and human capital, (2) technological advances, and (3) institutions and policies consistent with efficient economic organization. To consolidate their position, they further identified six key institutions and policies that enhance efficiency and growth. These are: (1) secure property rights and political stability, (2) competitive markets, (3) stable money and prices, (4) free trade, (5) open capital markets, and (6) avoidance of high marginal tax rates.

Colander (2001) examined some factors which according to him economists have determined to be the five important sources of economic growth. These are: (1) capital accumulation – investment in productive capacity, (2) available resources, (3) growth-compatible institutions, (4) technological development, and (5) entrepreneurship. Finally, the contribution of Jhingan (2005) in the review of sources of economic growth is very critical. Jhingan presented economic and non-economic factors. The economic factors include: (1) natural resources, (2) capital accumulation, (3) organization, (4) technological progress, (5) division of labor and scale of production, and (6) structural changes. Jhingan believed that "Economic growth is not possible so long as social institutions, political conditions and moral values in a nation do not encourage it" (Jhingan, 2005: 39). These factors, according to him, are non-economic factors that promote economic growth.

An overview of all the factors that promote economic growth so far discussed reveals that some factors appear to be the most cited ones, four in number, as being predictors of economic growth. These are: (1) availability of resources, (2) technological development and progress, (3) capital accumulation (or formation), and (4) strong social institutions and policies. Thus, it can be concluded that these four factors are the most strategic predictors of economic growth. Technological development and capital accumulation had the most occurrences in the literature cited. To these should be added *leadership* and the *national culture* of a country. *Entrepreneurship* has also become a critical factor that promotes economic growth, bringing the total to seven factors.

When reference is made to economic growth, two types of growth are usually discussed. These are "actual growth" and "potential growth". Actual growth refers to the percentage annual increase in national output, while potential growth is the speed at which the economy could grow. It is the percentage annual increase in the economy's capacity to produce that is the rate of potential output (Sloman & Sutcliffe, 1998). Economic growth is usually measured in terms of Gross Domestic Product (GDP), and the data on the agricultural sector's contributions to GDP vis-à-vis three other critical sectors in Nigeria between 2005 and 2014 have been analyzed and presented to investigate and support the proposition in this paper for a transformation of the Nigerian agric sector to an agribusiness model.

Agribusiness is driven by three principal forces, namely: technology, innovation, and capital investments. Apparently, two of these three components have received the highest attention in literature as the most strategic factors that cause a country to experience economic growth and thereby position itself for economic development. This being the case, it can be argued that, given the three key driving forces of agribusiness, that is technology, innovation, and capital investments, and the multiplier effect that these driving forces have on other sectors of the economy, agribusiness can be seen as an economic catalyst that can position Nigeria to be a major player in the global economy in line with its vision for the year 2020. This argument should not be accepted on face value without some reference to examples from countries who by reinvesting surpluses from agriculture became economically advanced in the 20th century and who are currently global leaders in agribusiness. Examples of such countries include: USA, Britain, Brazil, China, and Israel, to mention but a few. The foregoing has been a case for the contribution of agriculture to economic growth. This contribution is invaluable and has been described from the viewpoint of how agriculture (a primary sector activity) contributes to the growth of an economy by augmenting the long-run expansion of activities in the secondary and tertiary sectors. This kind of contribution is known as the "market contribution" of agriculture (Kuznet, 1964).

6.3 Attraction of Foreign Direct Investment (FDI)

The discourse on the agriculture and economic growth symbiosis leads to the discussion on the third major prospect presented by agribusiness to the Nigerian economy, that is attraction of Foreign Direct Investment (FDI). One of the strategic factors critical for economic growth is capital formulation. To this end, Jhinghan (2005) maintains that "Agricultural surplus leads to capital formation…" (Id.: 335). While this stance supports Kuznet's (1964) position in his classical study on the role of agriculture, Kuznet is quick to stress that "One of the crucial problems in modern economic growth is how to extract from the product of agriculture

a surplus for the financing of capital formation necessary for industrial growth without at the same time blighting the growth of agriculture" (Kuznet, 1964, as cited in Winters, de Janvry, Sadoulet, and Stamoulis, 1997). While the benefits and problems associated with agricultural sector surplus appropriation as it pertains to capital accumulation is obvious, it remains a critical sector for generating foreign exchange and consequentially for promoting increased national productivity in Nigeria, as indicated in the analysis of the four sectors that have contributed to Nigeria's GDP between 2005 and 2014. In support of this view, Salako, Lawrence, Aremu, and Egbekunle (2015) emphasized that:

> The most reliable means of earning foreign exchange is the agricultural sector through the exportation of its output. The reason for this is not far-fetched; Agricultural output is a renewable product considering the fertility of the Nigerian farm lands, while the crude oil which we rely so much on is non-renewable. As we continue to fetch it, it is diminishing in supply. Hence, in the opinion of researchers, the ability of this non-renewable resource to sustain… *Nigeria's* economic growth and development in the long run is doubtful. (Id.: 466)

A quantum of scholarly attempts have been made to examine the impact of FDI on the agricultural sector in Nigeria in comparison to other sectors (Ogbanje et al., 2010; Oloyode, 2014). Such studies have been undertaken in view of the fact that the country has witnessed a great deal of political stability since its transition to democratic rule in 1999, which is a critical factor for attracting FDI. In addition, data show that the agricultural sector has attracted a lot of FDI over the last decade owing to the renewed focus on it as a springboard for economic growth. But the extent to which these investments have been significant in transforming the sector begs the question, especially when considered against the backdrop of the fact that well over 95% of the structure of the agric sector is still largely dominated by traditional or crude forms of farming and cultivation practices (Akpan & Atan, 2015). This contradiction continues to remain apparent despite the data which indicates that the agric sector has contributed the most to the country's GDP in the last ten years under review. This contradiction, however, does not take the shine away from the fact that agriculture remains a viable pool for attracting genuine FDI into Nigeria.

6.4 Technological Acquisition, Diffusion, and Development

Agribusiness is a technology-driven business. Baptista (2012) stressed that "Adoption of new technology throughout the agribusiness chain is necessary to meet the higher food and fuel needs of a growing and wealthier population" (Id.: 105). This statement typifies and exemplifies the Nigerian society, where the population is growing faster than the national income. The expected astronomical

growth in Nigeria's population projected for 2050 would be accompanied by an increase in the demand for agricultural products. The present state of the country is one in which, despite the agric sector's significantly large contributory effects to GDP in the last 10 years in Nigeria, agricultural production has had to be complemented by an excessive importation of processed agricultural products and other agro-related commodities. This lag in the sector, besides blaming policy failure and the shift in focus to the oil and gas sector, can be attributed to the dual structure of the sector as previously mentioned. This opens up prospects for disrupting the sector with agrotechnological innovations that can improve the productivity of the sector and also improve the acquisition of new skills, work ethics, and labor efficiency in the sector and ultimately alter and modify the structure of the sector.

If the agric sector in Nigeria is to once again attain its "Cinderella" status from presently being the backwater sector of the Nigerian economy, an agricultural revolution is strategically imperative. And very critical to a successful revolution and consequent transformation of the sector in this regard are technological acquisitions and diffusion across the country. Technological diffusion is an important source of economic growth, particularly because it increases productivity output, promotes efficiency in resource utilization, and improves the marginal productivity of labor.

Agribusiness, therefore, promotes technological developments and requires the acquisition of existing technology to boost output. This will translate into improved economic activities and will enhance the global competitiveness of the agric sector by improving its performance in the global agricultural supply chain. Similarly, it positions indigenous firms to take advantage of the rising prices of food across the globe occasioned by the increasing world population, which is projected to hit 9 billion by the year 2050.

7. The Role of Government, Business, and Society in Nigeria's Agribusiness Consolidation

What interdependent roles should the public sector (federal, state, and local governments in Nigeria), private-sector businesses, and the society play in the consolidation of agribusiness in Nigeria? Addressing this issue is critical if the economic activities in the real sector are to coalesce into national competitiveness and comparative advantage of the Nigerian economy anchored on agric sector transformation. To achieve this objective, gleanings from various perspectives on the functions of government, businesses, and society will be examined in brief, and then an integrating perspective/framework on how their functions would result in contributing to agribusiness consolidation in Nigeria would be

presented. This would ultimately form the basis of a fulcrum of recommendations and strategies pertinent to the main aim of this paper.

For the context of this paper, government is defined as that which comprises federal, state, and local government tiers as well as public-sector institutions and organizations which regulate and moderate the social structure of society. For generic purpose "public sector or government sector" will be adopted to denote this definition. Following Gwartney et al. (2003: 380), "Governments can promote economic progress by establishing an environment that encourages entrepreneurship, investment, skill development, and technological improvements". This statement underscores a major role that government plays in consolidating economic activities for the general improvement of society's welfare in all spheres and ramifications.

This role is further reinforced with the performance of certain functions. McConnell and Brue (2002) identified certain economic activities of the public (government) sector in the government–business–society continuum. These are: (1) providing the legal structure, (2) maintaining competition, (3) redistributing income, and (4) reallocating resources. McConnell and Brue's (2002) position rests on the premises that the government's core function is to promote the efficient allocation of resources through an effective optimal amount of regulation as it concerns the production of goods and services. According to McConnell and Brue (2002), "The optimal amount of regulation is that at which the marginal benefit (MB) and marginal cost (MC) are equal. Thus, there can be either too little regulation (MB exceeds MC) or too much regulation (MB is less than MC). The task [of the *government*] is deciding on the right amount" (Id.: 79). Sloman and Sutcliffe (1998), commenting on this level of macro-analysis, maintain that the two major objectives of government intervention in the market identified by economists are social efficiency and equity. Thus, if the marginal social benefits (MSB) to society of producing (or consuming) any given good or service exceeds the marginal social costs (MSC) to society, then it is said to be totally efficient to produce (or consume) more. However, where the reverse is the case, then it is socially efficient to produce (or consume) less. As such, social efficiency occurs when the MSB of producing (or consuming) a particular good or service exceeds the MSC. In either of the cases, regulation, as McConnell and Brue (2002) have clearly pointed out, is critical to attaining efficient allocation of resources and consequently social efficiency.

Colander (2001) identified six major roles of government within a market economy. These are: (1) providing a stable set of institutions and rules, (2) promoting effective and workable competition, (3) correcting for externalities, (4) pursuing economic stability and growth, (5) providing public goods, and (6) adjusting for undesired market results. Of these six key roles of government, two are of particular interest, namely: correction of externalities and adjustment for undesired market results. These two roles are interwoven. Market externalities

can be considered as the after-effects (usually in some form of costs) to society or third parties experienced as a result of transactions or productive activities engaged in by other actors in the transaction or environment. According to Colander (2007: 110), "An externality can be positive (in which case society as a whole benefits by the trade between the two parties) or negative (in which case society as a whole is harmed by the trade between two parties". In this section, specific focus is on negative externalities. Negative externalities, according to Luxmore and Hull (2010), are "By-products or side effects of a company's activities, which have negative consequences for entities not directly involved with those activities" (Id.: 20).

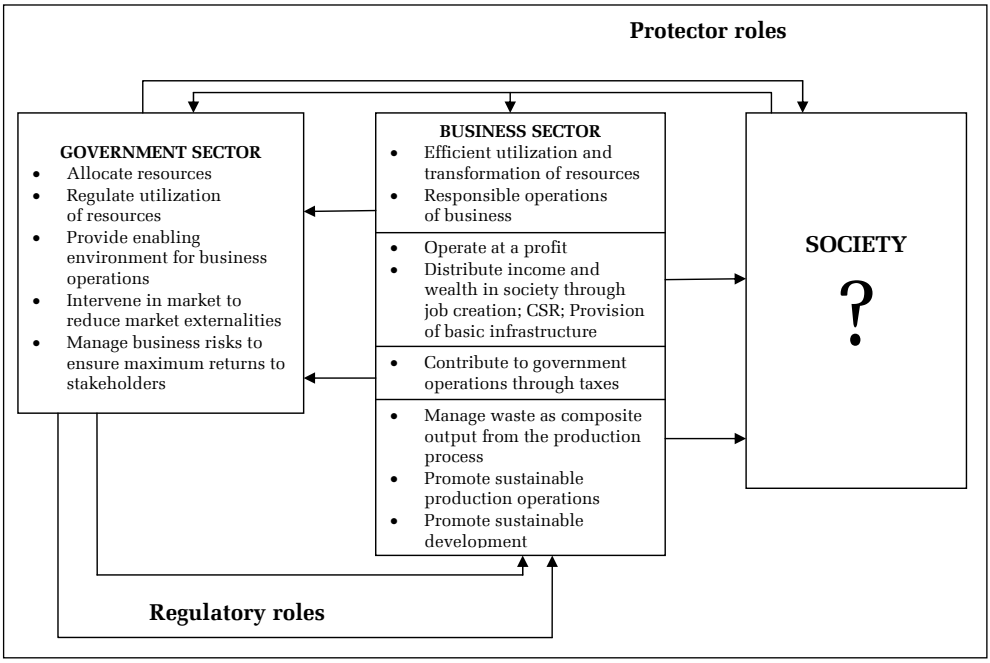
Firms engaged in agribusiness usually have associated to their operations marginal private and implicit external costs, which spill over into the society. These spillover costs are for the most part negative externalities. Examples of negative externalities that should be anticipated with the upsurge of industrial agriculture, that is, agribusiness in Nigeria include: *air pollution, water pollution, destruction of the tropical rainforest for the purpose of clearing massive expanse of land for cultivations, environmental degradation, loss of soil quality, natural habitat restructuring, and loss of employment for labor-intensive small traditional farmers.*

Another externality that has been the focus of discussion in Nigeria is that associated with the perceived health-related side-effects of Genetically Modified Organisms (GMOs) and their related agricultural products. Attempts to introduce this radical innovation by the last political administration attracted a lot of criticisms. However, Luxmore (2005) observes that "In the case of agribusiness and GMOs, many of the negative externalities associated with the resistance are externalities only in potential—they have been imagined, but have not (yet) happened in fact" (Id.: 20). Another spillover cost that is a negative externality which results from industrial agriculture is the negative effects emanating from the use of pesticides on crops. This externality is two-sided. One side is the effect on the environment and the other side are effects on consumers in the long run.

All of the externalities, put together, will account for market failures that characterize large-scale agribusiness, which the Nigerian government must prepare for. It is these market failures and the resultant multiplier effects that justify the rationale for government intervention in agribusiness to ensure its maximum benefits to all stakeholders by reducing negative externalities and in so doing protecting the consumers, market, investors, and most importantly the environment. This brings to the fore the core roles of government that must be performed more efficiently than the role of regulation, that is the role of adjustment for undesired market results and protection of the market, consumers, and investors.

Given the above, it is obvious that business firms play a major role in the proposed agribusiness transformation. The generic term business will be used to refer to firms in this paper. Business may be defined as "The collection of private, commercially oriented (profit-oriented) organizations, ranging in size from one person proprietorships… to corporate giants" (Caroll & Buchholtz, 2006: 5). Business firms are responsible for the efficient conversion and utilization of scarce resources through process innovations and technology, for the collective benefits of government and society.

Figure 2 describes the interdependent roles of government, business, and society for the viability of a fledging Nigeria agribusiness industry.



Source*: the authors (2016)*

Figure 2: *Agribusiness Government—Business—Society (GBS) Integrative Model*

From the agribusiness Government—Business—Society (GBS) integrative model above, which depicts key roles and relationships of three principle economic actors, that is government, business firms, and society, it can be established that businesses play key social, economic, and fiduciary roles. The multiple arrows display what some of these roles are to both the government and society. The roles in the model are not exhaustive, but they lay down the critical success platform for strategic actions that should be taken to ensure a successful transition to agribusiness in Nigeria. What is(/are) then the role(s) of the social sector in this discourse?

Society has been defined in different ways across multiple spheres and ramifications of disciplines. Within the GBS context, society according to Steiner and Steiner (2006) refers to a network of human relations that includes three interacting elements: ideas, institution, and material things, while Caroll and Buchholtz (2006) define it as "A community, a nation, or broad grouping of people, having common traditions, values, institutions, and collective activities and interests" (Id.: 6). For want of a better explanation, Wu and Davidson (2011) expand the concept with a new nomenclature suitable for discourse: the civil society sector. This would be adopted in the paper. According to Wu and Davidson (2011), the civil society sector comprises advocacy groups and the media. The society is the macro-environment which accommodates the various institutions, systems, and subsystems that enable businesses to pursue their goals and objectives. Jones (1983), citing Bell (1976), and Novak (1982) uphold that "society" is made up of three major subsystems: an economic, a political, and a cultural subsystem, which all interact with each other. To these three should be added the legal subsystem. This legitimizes which interactions are permitted within the social framework and which are not. Basically, therefore, society plays the dynamic and mechanistic role of providing social controls of and for business. Jones (1983) maintains that this notion of social action of business is the central focus of the field of business and society. Novak (1983) defined social control of business as "The means by which society directs business activities to useful ends" (Id.: 560).

From Novak's (1983) submissions, it can be garnered that society provides the much needed social control mechanisms that keep businesses aligned to ethics, values, sustainable operations, and green-oriented endeavors. This makes it easily appreciable to see the important role that society plays in the GBS relationship through advocacy/interest groups and the media as watchdogs. However, these roles beg the question: *How structurally dependent are the effective outcomes of society's roles in the GBS interaction?* This accounts for the question mark in *Figure 2*. The aim here is to explore the extent to which the effectiveness of the societal sector is a function of the kind of political (democratic or otherwise) structure, level of economic development, literacy level in the society, rural/urban population ratio, jurisprudence system, etc. This spells a challenge for agribusiness GBS interaction effectiveness in Nigeria, especially considering the fact that the country has only maintained political stability for seventeen years and is only beginning to witness media freedom and other features of the rule of law.

Consequently, in view of the fact that this paper attempts a descriptive approach to amplify and appropriate the GBS relationship abstractions for the purpose of generating applied strategies that would contribute to the transformation of the Nigerian agric sector, too much emphasis would not be placed on theoretical underpinnings. However, it is imperative to identify at least some basic models

that help to substantiate the approach that is being promoted here. Steiner and Steiner (2006) have presented seminal works in the GBS field of study. They discuss four basic models that explain the GBS relationship. These include: the market capitalism model, the dominance model, the countervailing forces model, and the stakeholder model. The position advocated in this paper is an amalgam of the market capitalism and stakeholder models. This position initiates answers to the question: *How can the integration of government, business, and society components be aggregated to ensure that effective business-social control mechanisms are developed and deployed to checkmate the negative externalities that could possibly result from the upsurge of agribusiness in Nigeria, especially with respect to health, labor market, economic and environmentally-related spillovers?* The issue raised in this question is critical if considered against the backdrop of the reality that the Nigerian society is mired with political, economic, moral, and social inefficiencies. The next section highlights strategies that can be considered critical and useful in effectively positioning the emerging agribusiness industry as an economic replacement of the oil and gas industry in Nigeria.

8. Strategies for Effective Agribusiness Operations in Nigeria

One major argument that informed the proposition in the paper is that a strategic management and market-driven approach to agribusiness would enhance the advantages to be gained by Nigeria in the global food market. Strategic management and the strategies that emanate from its process and practice are useful in industries characterized by high ambiguity, volatility, turbulence, and uncertainty. For the most part, these characteristics are resultant effects of a competitive and technologically driven global business environment. This being the case, it should follow that it is countries with the most strategic and proactive approach to trade and economic management that will continue to have international comparative and competitive advantage over other countries. The market-driven approach, on the other hand, emphasizes market-orientation as a dominant logic for ensuring the successful outcome of strategies that are applied to mitigate against the challenges posed by impending threats and to take advantage of emerging opportunities. The terms market-oriented and market-driven firms will be used interchangeably.

According to Cravens and Piercy (2003), "A market-oriented organization continuously gathers information about customers, competitors and markets; views that information from a total business perspective; decides how to deliver superior customer value; and takes actions to provide value to customers" (Id.: 6).

Slater and Narver (1994, as cited in Kirca, Jayachandran, and Bearden, 2005: 4) maintained that "Market orientation enhances customer satisfaction and loyalty because market-oriented firms are well positioned to anticipate customer needs and to offer goods and services to satisfy those needs". Kirca et al. (2005) further identified four major consequences of market orientation, which are: organizational performance, customer consequences, innovation consequences, and employee consequences. Their research confirmed that market orientation had a positive and significant effect on innovativeness, which in turn had positive significant effects on customer loyalty, both of which have positive significant effects on organizational performance. Their results, were, however, industry-specific (i.e. related to the manufacturing industry) and very much culture dependent. One important link Kirca et al. (2005) empirically established as being significant in their research is the link between market orientation and performance. This link according to Ellis (2006) was originally formalized by the twin papers of Narver and Slater (1990) and Kohli and Jaworski (1990).

The Nigerian business environment and, indeed, the global market is quite a turbulent one. To this end, Day (1999) stresses that "Turbulent markets are simply too unpredictable and efforts to codify everything usually result in rigidity and myopia" (Id.: 21). Owing to this environmental feature, it is important, as is the case across global markets, to note that environmental turbulence and market shakeouts create uncertainties. However, they also provide an ambience of opportunities, as has been postulated in this paper, with respect to agribusiness development in Nigeria.

To deal with market turbulence and its cognate, market shakeouts, Day (1999) recommends three ingredients which are necessary for a business to successfully steer the strategic course through market turbulence. These are: strategic vision, market orientation, and a robust process for formulating and choosing the best strategy. These ingredients Day (1999) maintains would help a firm become proactive in shaping events and competitive behavior to its advantage. Market orientation is therefore critical in producing a market-driven strategy, for creating value, and ultimately for sustaining competitive advantage. This emphasis on delivering superior value to the customer and on quality is good for the emerging agribusiness industry in Nigeria so as to guard against some of the negative externalities associated with agribusiness.

By focusing on the strategic management approach of planning, implementation, and regular evaluation of strategic intent of regulators, the government and firms in the emerging agribusiness industry in Nigeria, the supply-side economics of the industry can be better explored for superior performance. On the other hand, applying the strategic marketing (market orientation) approach to the demand-side economics of the agribusiness industry will ensure that maximum benefits for all stakeholders can be attained. A combination of both approaches, as being proposed here, would lead to enhanced value and supply chain performance in

the industry, overall market competitiveness at both local and global levels, and finally sustainable macroeconomic benefits in the long run.

In response to the first question posed in this paper for the purpose of building an analytical framework, below are six strategies, suggested for the promotion of enhancing social and operational efficiencies in the agric sector in preparation for mass industrial take-off.

i) Agric Finance Strategy

Agribusiness is capital intensive as such – a proper institutional framework and strategy should be put in place which would guarantee that present and potential investor-farmers have unfettered access to securing credit facilities on a long-term basis, without the usual administrative bottlenecks and business-suffocating interest rates that accompany such credit facilities. Some dimensions to this strategy include: having revolving credit schemes; dedicated agric development financial institutions; encouraging special-purpose entities and institutions to regulate agribusiness finance and investments, just to mention a few. All of these should be directed towards the development of financial instruments, innovative products and services that would be peculiarly efficient in meeting the special needs of the Nigerian agricultural system.

ii) Supply Chain Strategy

The success of agribusiness at the macro-level in a country depends to a great extent on well-developed marketing systems, institutions, and boards, which will ensure that all activities and operations related to ensuring the performance of a well-articulated agricultural supply chain are put in place, performed excellently, and well managed at a profit to all supply chain actors/participants. Such a strategy will enhance supply chain efficiency, agility, flexibility, quality assurance, cost effectiveness, and product durability.

iii) Cooperative Marketing Strategy

Marketing and distribution cooperatives are key components in sustaining agribusiness, especially at its emerging/developmental stage in a country such as present-day Nigeria. This is especially because cooperatives, in whatever form, play strategic roles in financial aggregation, especially in the area of credit disbursement and management. In addition, they serve as supply chain intermediaries, which ensure the success of vertical integration irrespective of whatever type of business model is employed by stakeholder firms. The challenge remains that most cooperatives are plagued with short-term management and

corporate governance issues. Therefore, to weigh against these, a well thought-out strategy must be evolved to ensure the perpetuity of agricultural cooperatives and an effective monitoring of their functions and intervention in agribusiness chains and industry all over Nigeria.

iv) Agribusiness Education and Management Strategies

Agribusiness has become an increasingly global phenomenon especially amidst the threat of global food shortages, resource scarcity, famine, and changing climatic conditions. These incidences necessitate that the requisite education and management-related structure, strategy, and governance mechanisms be put in place to enhance and aggrandize the collective understanding and appreciation of the dynamics that characterize the global agribusiness environment on the part of Nigerian academics, agric researchers, agric economists, investors, regulators, and potential pool of students. Thus, a well-defined strategy aimed at improving agribusiness education and management will contribute to improved specialized agricultural production, post-harvest management geared towards commercial processing for export, overall product positioning and marketing in the global economy, and better supply chain performance and value delivery. Last but not the least, such a strategy will also contribute to the easy adaptations of already existing tools and mechanisms that are critical to boosting system and operational efficiency in the agribusiness set up in Nigeria.

v) FDI Inflow Strategy

The federal government of Nigeria in conjunction with indigenous agribusiness firms, academics, and consultants must develop a well-articulated strategy for attracting "genuine" Foreign Direct Investments (FDI) inflow into Nigeria, which will actually contribute to agribusiness industry growth and consequently to the generation of significant economic activities that reflect positively on macroeconomic indicators of job creation, increased exports, increased GDP, and a well-diversified economy. To aid this strategy, the government must provide at all levels a sustainable enabling environment for agribusiness operations, a flexible tax regime, appropriate governance and control mechanisms to checkmate inter-firm- and intra-firm-generated negative externalities, among other things.

vi) Adaptation of Quality Management Systems

The negative externalities that emanate from the operations of agribusiness firms usually have a demand and supply side dimension. However, most pertinent and equally petrifying are issues related to produce/product/service quality. The

quality issue has become a major barrier to global agribusiness trade, production, and logistics-related efficiency. A quality strategy and associated certifications to enhance food safety and management must be adapted and adopted by regulatory authorities and other stakeholders to reduce the risks associated with produce/product/service quality in the agric sector. Some of the global quality assurance and management tools/certifications and techniques that would prove useful in this direction are: ISO 9000, ISO 14000, ISO 22000, Hazard Analysis and Critical Control Points (HACCP), and a Food Safety Management System (FSMS) certification known as FSSC 22000.

9. Policy Recommendations for Agribusiness System Efficiency – Year 2020 in View

This paper reveals a key recommendation which suggests that all policies to be recommended as emanating from this paper are geared towards establishing a medium-term program called *Structural Adjustments for Agribusiness Promotion* (SAFAP) in Nigeria. In view of this program, the following policy recommendations are made.

i) Land-Use Reforms

Submissions from various quarters have agreed that the present land-use and tenure system being operated in modern-day Nigeria poses a major impediment to agricultural development, which consequently hampers progression towards industrial agriculture. Therefore, it is imperative that a land-use reform that will guarantee minimal challenges to land ownership, tenure, security, and development rights be considered as a prerequisite for facilitating the agglomeration of land in Nigeria and for attracting large-scale investments in the agric sector. There is an urgent need to review the 1978 Land-Use Act enacted by the then military government of General Olusegun Obasanjo.

ii) Sustainability Policies

It has been revealed that incorporating sustainability policies in the strategy of firms contributes to more competitiveness and returns on investments as well as to increasing other financial and strategic performance-scorecard indicators. Government, business, and society sectors should thereby make it mandatory for agribusiness firms that aspire to and presently carry on large-scale operations in Nigeria to be guided by some sustainability policy blueprint. This will demand

that such firms take the responsibility for environmental and ecological care: the core foundation of their operations. This will help to minimize some of the spillover effects that are associated with agribusiness expansion.

iii) Trade Policies

One of the major challenges that herald the diversification of the Nigerian economy from concentration on oil and gas to agriculture and agro-related businesses is that of providing an enabling environment for the promotion of export-led strategic trade policies, especially as it pertains to encouraging agricultural trade. These should include policies that affect import tariffs, prevent dumping, encourage local industries to process agricultural produce for export, and policies that foster international co-operation between Nigerian agribusiness firms and regional or global counterparts.

iv) Agribusiness Educational Policy

Agribusiness and the export-led economics that surrounds it will, of necessity, need to manage the variance that exists between market demand and ability to supply agricultural and agro-allied produce on a global scale. To bridge this gap in Nigeria, it is suggested that a strategic marketing-management-based syllabus is developed to make agribusiness management and agric economics education more robust in Nigeria. This will mitigate against the challenges of achieving market demand and supply equilibrium at least from the management point of view. In addition, a more articulated agribusiness management and agric economics curriculum will help improve the training and development of manpower and consequently improve employment generation mechanisms in the agric sector.

v) Farmers' Credit Scheme

The capital intensive nature of agribusiness will require financial policies that will be supported by legal and regulatory frameworks, which will enable farmers and agro-allied businessmen and -women to have easy access to credit facilities for the purpose of funding produce export, produce processing, large-scale farming, working capital, and other financial obligations and contingencies.

vi) Agricultural Subsidies and Incentives

Subsidies and incentives are pivotal in sustaining agribusiness cycles especially at the developmental stage. However, care must be taken to ensure that the subsidy corruption regime, which has pervaded the Nigerian oil and gas downstream

sector, does not repeat itself in the emerging agribusiness industry. While subsidies will promote export and local consumption of Nigerian processed agricultural produce, incentives will further encourage farmers and prospecting investors to plow resources into the industry.

vii) Protectionism and Anticompetitive Policies

The three tiers of government in Nigeria, agro-allied-related businesses, and advocacy groups must design legal, policy, and regulatory frameworks that will protect Nigerian agro-allied businesses from foreign competition and pressures coming from globally established agribusiness firms seeking to invest in the agric sector. Some legislations that can evolve such protectionist strategies and which will also ensure that no anti-competitive behavior is indulged by agribusiness firms within Nigeria are "competing-interest legislations" and "anti-trust legislations".

viii) Internal Migration Control

Government and businesses should devote resources to developing infrastructure as well as other basic necessities and amenities that would help stem the tide of rural–urban migration. This is especially because most farmlands are situated in rural Nigeria, and the manpower needed to supplement mechanized agriculture seems to be depleting as more and more skilled and unskilled persons within the working-age bracket look to migrate to urban centers for greener pastures. Policies to discourage rural–urban migration should be enacted with fringe benefits and incentives to encourage young people to go into farming.

ix) Asset Injection Model

Targeted asset-injection-related policies and mechanisms to encourage mainly *four* strategic activities, which are critical for agribusiness success in Nigeria, must be formulated and regularly reviewed to ensure consistency and continuity. These activities are: attraction of foreign direct investment, promotion and funding of research and development, promotion of innovation in the agric sector, and finally enabling support systems to perpetuate vertical integration in the sector. These activities are usually better calibrated and augmented through policy-driven, policy-guarded, and policy-assured "asset injection". This model is exemplary of that adopted by countries such as China, Singapore, Malaysia, South Korea, and India. The model has transformed these nations form third-world economies to rank shoulder to shoulder with developed countries.

x) Institutional Framework for Sustainable Investment

Agribusiness is structured on a global industrial scale, and as a result it is usually characterized by the attraction of a surfeit of funds. The onus, therefore, lays on the present and successive governments to regulate the industry and other associated businesses, especially in the financial services industry in such a way that will guarantee such protection of funds invested in agribusiness nation-wide. Such regulation and protection, as guarded and guided by an institutional framework, will also ensure that all participants in the agribusiness value and supply chain get to achieve above average returns on their investments and deployments of resources.

xi) Agricultural Insurance

The agribusiness industry is one that is particularly characterized with high risk. This owes to the fact that, on the one hand, nature and the environment could generate some unforeseeable externalities, which could lead to loss of farmlands, crops and vegetation, and poor harvest. On the other hand, supply-chain-related risks can also contribute to low return on investment. To this end, the Nigerian Agricultural Insurance Corporation (NAIC) must be more empowered by law, policy, and capitalization to help weigh against the risk peculiar to agribusiness supply chains in Nigeria. Similarly, they must mitigate risks, which also prevent the attraction of more investments into the agric sector and consequently agribusiness. Farmers across all scales (small and large) must be able to have equal access to agric insurance. This would in turn serve as an incentive to encourage continuous farming engagement.

xii) Corporate Governance Framework

Having considered eleven areas where policy frameworks are needed to promote and entrench agribusiness in Nigeria, it is adequate to mention that the capstone policy to ensure the successful implementation of other policies and programs, which will at the same time guarantee returns on agric-fund investments at the firm level, is *corporate governance*. It is, therefore, suggested that a code of corporate governance be developed to guide the operations of large-scale farmers, board of directors of agribusiness firms as well as regulators in the agribusiness industry. This will ensure to a great extent that all stakeholders' interests are provided for and protected.

The above highlighted recommendations are not exhaustive. However, suffice it to mention that these policy recommendations are a response to the second

question posed in this paper in the build-up to the analytical framework of this paper.

10. Conclusions

The strategies and recommendations suggested in this paper are an attempt to create a blueprint that encompasses the roles of government, business, and societal groups in promoting economic development in Nigeria as an emerging market economy. However, the fact remains that in the Nigerian case the government should bear most of the burden and take the lead in tackling the challenges of arrested development not just in the agric sector but in all critical economic sectors. Thus, to transform the Nigerian agric sector into a flourishing agribusiness industry, with the attendant economic benefits of resource utilization, job creation, and economic growth, the Nigerian government – in addition to carrying along business firms and societal stakeholder groups – must create a legal, sound fiscal, regulatory, volunteering, and protectionist environment to ensure the efficient operations of markets and the effective running of institutions. The government must also escalate its commitment and deployment of resources to the development of infrastructure, provision of basic amenities, other public goods and services, especially in rural areas. Finally, this paper concludes with empirical evidence that agriculture can once again become the mainstay of the Nigerian economy if and only if concerted efforts are made to transform the sector into an agribusiness model. It also argued that all the recommendations made in this paper can be best implemented with the increase in government expenditure deliberately aimed at investing in the expansion of agribusiness management and education, emerging opportunities, and human capital development. Similarly, such expenditure should also be directed towards technological acquisition and development that enhance agricultural output as well as towards funding of agric-related R & D programs which encourage and promote innovation. Additionally, the agribusiness emphasis will also have far-reaching social implications in alleviating poverty, reducing crime rates, and stemming rural–urban migration.

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