Agriculture, industrialization and economic development in Nigeria: Implication for sustainable development

[1] Mbang Ozu Daniel, [2] Effiong Mary Okon & [3] Jarigo Cecilia Monah

[1] Department of Business Admin/Management, Federal Polytechnic Ugep, Nigeria,
Email and Phone: mbangdandollar@gmail.com Phone: 07030244083

[2] Department of Business Admin/Management, Federal Polytechnic Ugep, Nigeria,
Email: maryeffiong33@gmail.com Phone: 08061615490

[3] Department of General Studies, Federal Polytechnic Ugep, Nigeria,
Email: ceciliajarigo@gmail.com, Phone: 08161389732

Abstract

This study examines the convoluted relationship between agriculture, industrialization, and overall economic progress in Nigeria, and its significant implications for achieving sustainable development. Conventionally, the Nigerian economy was fostered by bedrock of agricultural sector which was a mechanism for provision of food, employment, foreign exchange, and raw materials for emerging industries before to the oil surge era. The neglect of agriculture, which was the major source of employment to the teaming population for the country, has crumble industrial growth by reducing the flow of raw materials, depressing rural demand for manufactured goods, and limiting foreign exchange earnings needed for capital importations. The study adopts a descriptive and analytical research design. It leans primarily on secondary data within an interval of 1981 to 2024, sourced from the World Development Indicators (World Bank), Central Bank of Nigeria (CBN) Statistical Bulletins, and National Bureau of Statistics (NBS) reports. Findings from the study shows an adverse correlation between the era of oil boom and the performance of both agriculture and manufacturing, an event which was characterized as the "Dutch Disease." The study recommends a wide-range of an overhaul reform in the agricultural sector, integrated policies that promote retrograde linkages from agriculture to industry, rural infrastructural investment, accessible credit facility for farmers and SMEs, and to embrace the green technologies which will ensure economic growth that is inclusive, resilient, and environmentally friendly and sustainability.

Keywords: Agriculture, Industrialization, Economic Development, Dutch Disease, Sustainable Development, Nigeria

Introduction

Sustainable development remains a central focal point of challenge for every nation across board, especially for countries that are economically vulnerable like Nigeria. Sustainable development, which the United Nations defines as "development that meets the needs of the present without compromising the ability of future generations to meet their own needs," is predicated on a harmonious balance between economic growth, social equity, and environmental protection. For Nigeria, Africa's most populous nation and largest economy, achieving this balance is intrinsically linked to resolving the historical and dysfunctional relationship between its agricultural sector and its industrial ambitions (Akpan, Udoka & Patrick, 2021). Before the era of oil boom in commercial quantities in Nigeria, agriculture has been the major backbone of the Nigerian economy. In 1960s, it is noted that the sector accounted for over 60% of the Gross Domestic Product (GDP) and about 70% of total export earnings. Agriculture was also the largest employer of labour, engaging over 80% of the adult workforce (CBN, 2020). In the United State for instance, agriculture and its affiliated industries such as food sales contributed over $1.05 trillion to GDP, amounting to about 6% of the overall US economy (Akpan et al, 2021).

Observably, it is evidently noted that the performance of agricultural sector in Nigeria falls below satisfactory level even when the people in rural area relies heavily on it. The oil boom of the 1970s ushered in an era of petro-wealth, but with it came the infamous "Dutch Disease." The massive inflow of foreign exchange from oil led to a neglect of the agricultural sector, an overvalued currency that made non-oil exports uncompetitive, and a shift in policy focus and national priorities. For instance, available statistics from CBN (2021) showed that in 1986, the value of agriculture productivity stood at 2986.8 billion representing 9.4% increase over the preceding year which decline to 3.9% in 1996, agriculture sector witness further decline by reaching all-time low of 2.1% in 2021 (CBN, 2021). According to Kenny (2019) Nigeria transitioned from a self-sufficient agricultural producer and net exporter of food to a nation heavily reliant on food imports, while its industrial sector failed to mature, remaining import-dependent, uncompetitive, and incapable of generating mass employment. During the era of oil boom which suddenly substituted agriculture as the major source of government revenue and foreign exchange for the import goods. The government overwhelmingly dependent on oil as the major sources of revenue to the country has increasingly force a severe policy which further neglect more the agricultural sector. Public investment in rural infrastructure, research, and extension services dwindled. This supports findings by Oji-Okoro (2021), who asserted that a boom in one sector (like natural resources) can harm other sectors (like agriculture and manufacturing). They further emphasized that the booming oil sector pulls labour and capital away from agriculture and industry, raising their costs.

Consequently, this paper asserts that this break between these two sectors (agriculture and industrialization) is the underlying constraint to sustainable economic development in Nigeria. The failure to build synergistic linkages between these two critical sectors has caused an economy that is over dependent on a volatile exhaustible resource, troubled by persistent high unemployment, prevalent poverty, food insecurity, and more significantly environmental degradation. The result of these contradictions stand stall and further seek a more stable redress to the principles of sustainability. Therefore, this study aims at examine the intersection between agriculture, industrialization, and economic development in Nigeria and its implications for sustainable development.

Statement of the Problem

Nigeria has a high level of food insecurity due to inefficiencies, conflict (e.g., farmer-herder clashes), resulting to high rate of poverty despite being a top agricultural producer in Africa. This has not only violated the core social tenet of sustainable development but has put the country in state of dilemma. Observably, this negligent on the part of agriculture has relatively pushes farmers into unsustainable practices like deforestation, threatening environmental sustainability. This symbiotic relationship positions agriculture as not merely a contributor but a fundamental catalyst for industrialization through five key channels: providing raw materials, supplying food for a growing urban workforce, generating foreign exchange for importing capital goods, creating a demand for industrial outputs (e.g., fertilizers, machinery), and releasing labour for industrial employment (Kenny, 2019).

In Nigeria, Industrialization has primarily been static over the years and heavily dependent on importation of goods. The inability of the Nigeria government to interplayed agriculture and industrialization has severe consequences for achieving the three pillars of sustainable development goals. Adenuga (2020), stated that Nigeria's attempt to industrialize without a solid agricultural foundation has been a primary driver of its unsustainable development trajectory. This finding aligns with Topman & Adaka, (2021) whose empirical evidence demonstrates that the failure to establish robust backward and forward linkages between farm and factory leads to an import-dependent industrial sector, persistent unemployment, food insecurity, and widespread poverty. According to available statistics, at independence in 1960, agriculture was the backbone of Nigeria’s economy such that between 1960 and 1969, the sector accounted for an average of 57.0% of GDP and also generated 64.5% of export earnings (NBS, 2022). However, the discovery of petroleum led to a drastic policy shift, resulting in the notorious "Dutch Disease," which manifested in agricultural neglect. This explains why the sector which was hitherto the major employer of labour at independence is today left for the sick and elderly (Yusuf, 2014). Consequently, a large number of development metrics in the rural areas perform badly when compared to the ones in urban areas. For example, there is high infant mortality rate, lower income earners, even as life expectancy are shorter coupled with high illiteracy rate. Similarly, a greater percentage of the population don’t have access to clean and drinkable water as well as an improve sanitation services. Essentially. The role of agricultural sector is critical to poverty reduction as it contributes over 50% GDP and employs about 60% of the working population (Akpan, Udoka & Patrick, 2021).

Therefore, sustainable development in Nigeria is not an immaterial concept but a major requirement for repositioning the Nigerian Economy. And as such, it obligates an intentional and a resolute commitment to breaking the chain of over dependency on oil by retracting the nation’s steps to a modernizing agricultural root.

Study Objectives

1) To examine the relationship between Agriculture, Industrialization and Economic Development in Nigeria

2) To ascertain the impact of Agriculture on Sustainable Development in Nigeria

Literature Review and Theoretical Framework

Conceptual Review

Agriculture is as old as mankind; it serves as the live-wire of the nation's economy. This is based on the fact that agriculture plays a major role in the economic growth and development of the nation. As the provider of food, it is the corner stone of human existence (Blandford, 2014). Agriculture is a way of life that involves production of animals, fisheries, crops, forest resources for the consumption of man and supplying the agro-allied products required by other sectors (Yusuf, 2014).

Though subsistence agriculture is practiced in this part of the world, it will not be an overstatement to say that it is the live-wire of the economies of developing countries (Yusuf, 2014), he further stated that economic growth is the increase in the monetary value of goods and services produced in a country over a defined period of time usually a fiscal year. Anyanwu 2023, emphasized that, if Nigeria is to achieve long-term economic growth, it must develop an agricultural sector that drives income growth through viable manufacturing industries, accelerates food and nutritional security, creates jobs, and transforms Nigeria into a global food market leader, while also increasing wealth for millions of farmers. The traditional approach to the agricultural sector would have to shift to an industrialized focus in order to its objective. The agricultural investment structure, as well as the procurement of fertilizer and distribution, marketing institutions, and financial value chains, would all need to be restructured. The fertilizer plan aims at creating a robust commercial fertilizer industry to compensate for inefficiencies in the government distribution system and resource waste. Subsistence farmers will be changed from their high poverty levels to a commercialized system of farming that would promote trade and competitiveness through market-oriented/market surplus facilitated by Nigerian Incentive-based Risk Sharing for Agricultural Lending (NIRSAL). This will be accomplished through the Growth Enhancement Support (GES) program, which will benefit 20 million farmers at a cost of N5,000 per farmer each year (Anyanwu,2023). While development is conceived as a multifaceted process involving major changes in the social framework, popular attitudes and logical institutions, as well as the intensification of economic growth, the reduction of inequality and the eradication of poverty.

Agriculture, Industrialization and Economic Development

The connection between agriculture, industrialization, and overall economic development is a classic theme in development economics. For Nigeria, a nation with immense natural and human resources, this relationship has been particularly complex and pivotal (Akpan et al, 2021). Edigin (2010) identified de-industrialization in Nigeria, attributing it to inadequate infrastructure, unreliable power supply, policy inconsistency, and an overvalued exchange rate that disadvantages local production. The missing nexus between the two sectors has been highlighted by authors like Nwuke (2017), who noted that the lack of agro-based industries prevents value addition and limits the growth potential of both sectors. The result has been a stunted and disarticulated economic structure. At independence in 1960, Nigeria's economy was predominantly agrarian. Agriculture was not merely a source of livelihood; it was the economy's backbone, accounting for over 60% of its Gross Domestic Product (GDP) and 70% of its export earnings, while also providing the raw materials for its fledgling industries and employing the vast majority of its workforce (Topman and Adaka, 2021). This era presented a classic opportunity for a development trajectory theorized by economists like Arthur Lewis and Albert Hirschman, where agricultural surplus would fuel industrialization through capital accumulation, supply of raw materials, and creation of a domestic market for manufactured goods. However, the discovery and subsequent exploitation of crude oil in the late 1960s dramatically altered this trajectory. The drastic shift in the 1970s which is often described as the "Dutch Disease" led to the neglect of agriculture. It became cheaper to import food than to produce it domestically.

Despite its vast population and resource endowment, Nigeria has failed to industrialize. Export basket has remained largely undiversified and continued to be dominated by crude oil and gas-related products with agricultural products taking the back sit. The lack of a diversified productive base leads to macroeconomic instability, inflation, and debt (Oyebanji, 2020). The manufacturing sector's contribution to GDP has remained stagnant, averaging below 10% for decades (World Bank, 2022). Meanwhile, agriculture, though still the largest employer of labour, operates far below its potential, characterized by low productivity, subsistence farming, and inadequate linkage to industrial processes. This disconnection between agriculture and industry poses a significant threat to sustainable development. Consequently, this has exacerbated unemployment, poverty, and environmental degradation, posing significant threats to achieving the Sustainable Development Goals (SDGs) (Nwankwo, 2014). Also, Oyebanji (2020) explained that the focus on oil extraction has led to severe environmental degradation in the Niger Delta, destroying farmland and aquatic life, which are primary livelihood sources. Therefore, the present framework of leaning on an unpredictable oil tent, is economically unsustainable. It stimulates massive unemployment, underemployment and underdevelopment of the nation, making it socially not viable for sustainability.

Previous studies have extensively documented the decline of Nigerian agriculture. Adenuga (2020) detailed how the oil boom diverted government attention and policy focus from agricultural investments. More recent studies by Okoruwa et al. (2019) confirm the continued low productivity in the sector due to poor infrastructure, limited access to credit, and outdated farming techniques. He emphasized that investment should be directed to agriculture to spur growth in other parts of the economy. According to him, early manufacturing was predominantly agro-based, including textile mills, food and beverage processing, tobacco, and leather goods. This created strong backward and forward linkages, stimulating demand for farm outputs and adding value to primary products domestically. Key cash crops like cocoa, groundnut, palm oil, and rubber placed Nigeria competitively on the global map (Helleiner, 1966).

Concurrently, industrialization has not been able to take root sustainably with the oil boom. Manufacturing's contribution to GDP peaked at around 10% in the 1980s but has since been static at a minimal level of 9-13% in recent decades (World Bank, 2023). The industrial sector that arose was often capital-intensive, import-dependent for raw materials and machinery, and poorly connected to the domestic agricultural sector. This made it susceptible to global shocks and foreign exchange deficit. The stalled agricultural sector, characterized by low productivity and subsistence farming, cannot absorb the intensive growing labour force. The stunted industrial sector, being non-labour absorptive, fails to create sufficient formal jobs. This has resulted in high unemployment (particularly among youth) and persistent poverty, with over 80 million Nigerians living in extreme poverty (World Bank, 2022). This drains foreign reserves and exposes the nation to global food price volatility. Hence, growth has been sectorally and geographically unbalanced, concentrated in the oil and services sectors, leading to vast regional and rural-urban inequalities. According to Nwankwo, (2014), the decline of viable livelihoods in agriculture has fuelled uncontrolled rural-urban migration, leading to the growth of urban slums, increased pressure on urban infrastructure, and associated social vices. He further emphasized that, reduced focus on diverse food production systems contributes to malnutrition and stunting in children, affecting human capital development. The central argument is that Nigeria's inability to develop a rigorous agro-industrial linkage is the primary limitations to its sustainable economic development. Labour force was pulled put from agricultural sector because of the oil boom. Therefore, a resilient and intentional agricultural sector is a key antecedent to industrialization (providing raw materials, capital, and a market for manufactured goods).

Theoretical Framework

The Dependency theory and Dutch Disease is the definitive hypothetical illustration for Nigeria's de-industrialization and agricultural setback. These theories provide the notional structures for understanding Nigeria's trajectory and its implications for sustainable development, it shows that Nigeria's development route has deviated significantly from the prescribed paths to sustainable development. According to the Dependency theorist, the country's efforts to industrialize without first modernizing its agricultural sector, violating the sequence suggested by Lewis and Johnston-Mellor. It fell prey to the Dutch Disease, which hollowed out its tradable sectors and entrenched a heavy dependency on oil. In this regard, the theoretical review concludes that sustainable development in Nigeria cannot be achieved without successfully executing the long-delayed structural transformation from a productive agricultural base to a diversified, industrialized economy. Early development theorist placed agriculture at the centre of development. The theoretical expectation that capital would flow from agriculture to industry was tested by Nwoko et al. (2016). The dependency theorist asserts that labour force and capital were pulled out from agriculture due to the oil surge. The theory prescribes a fundamental return to rigorous agriculture. Therefore, sustainable development in Nigeria is indivisibly connected to revolutionizing the agricultural sector and leveraging it to drive agro-industrialization.

Methodology

This study adopts a descriptive and analytical research design. It relies primarily on secondary data spanning through the period of 1981 to 2024, sourced from the World Development Indicators (World Bank), Central Bank of Nigeria (CBN) Statistical Bulletins, and National Bureau of Statistics (NBS) reports, UN Sustainable Development Goals (SDGs) Reports for Nigeria, and the Nigerian Economic Summit Group (NESG) Publications.

Analysis and Discussion of Findings

Poverty and Unemployment: Multivariate analyses consistently show a strong negative correlation between agricultural productivity and rural poverty rates. Studies using survey data from the National Bureau of Statistics (NBS) have found that states with higher agricultural produce per capita show lower incidences of poverty. Similarly, industrial stagnation is directly linked to high urban unemployment in empirical models. Empirical studies by Adeyemi (2018) and data from the Food and Agriculture Organization (FAO) show a steep decline in agriculture contribution to GDP fell to 23% by the 1980s and hovers around 22-25% today, despite employing over 35% of the workforce, a sign of low productivity.

The critical agro-industrial link is broken. Empirical tests by Topman & Adaka (2021) fail to find a strong causal relationship between domestic agriculture and industry, indicating a fundamental flaw in the economic structure. Hence, the implications for sustainable development are negative. The empirical data on poverty, unemployment, food imports, and environmental damage all point towards an unsustainable development path’s securing a prosperous and sustainable future for all Nigerians.

Employment vs. Productivity: Empirical data from the National Bureau of Statistics (NBS) consistently shows that agriculture remains the largest and pivotal employer of labour (engaging ~35% of the workforce as of 2023). However, its contribution to GDP is disproportionately low compared to its share of employment, this negative indication is due to the fact that the Nigeria government are not giving the sector ultimum priority it deserves. This indicates severe low productivity in the sector. Studies conducted by Oluwatoyese et al. (2016), suggest that improvements in agriculture tend to spur economic growth. However, the reverse is not consistently true in the short run, especially with an oil-dominated economy.

Environmental Degradation: While harder to quantify directly, studies have used satellite data and regression analysis to link oil spills (data from NOSDRA) to reduced agricultural yields in the Niger Delta, providing empirical evidence of the environmental unsustainability.

Summary/Conclusion

The history of Nigeria's economic development is a classic case of a missed opportunity. Nigeria inability to leverage on the agricultural sector as a wellspring for sustainable industrialization has caused a fragile, oil-rent dependent economy that is not viable enough to meet the persistent challenges of the 21st century not to talk of achieving the sustainable development goals (SDGs). Agriculture, which has been the largest employer of labour in Nigeria and the engine of productivity growth which is industrialization has since been disconnected from each other resulting to the fundamental flaw in Nigeria's development architecture.

It is crystal and evidential clear that Nigeria's drive for economic development through oil sector has been unsustainable. Rather than what it ought to have been a critical synergy between agriculture and industry, it turns to be a retrogression to the Nigeria economy leading to jobless growth, high rate of poverty, and environmental decay. For Nigeria to achieve the sustainable development goals (SDGs), a fundamental overhaul of the system is non-negotiable. To move forward, the country must trace it root back to the era of non-oil by strategically modernizing agriculture and using it as a launchpad for competitive agro-based industrialization. Nigeria can create a virtuous cycle of inclusive economic growth, massive job creation, and environmental sustainability through non-sector such agriculture.

Recommendations for Implementation

In Nigeria, sustainable development is reliant on a basic structural reformation. This entails an intentional agricultural-led industrialization strategy, where strategic investments in modern agriculture serve as a hallmark and a catalyst for agro-allied industries that will foster economic diversification, inclusive growth, job creation, and the overall environmental sustainability, thereby aligning Nigeria's development path with the core tenets of the Sustainable Development Goals (SDGs). This paper therefore recommends;

1) Revitalize the Agricultural Sector: Effective policy that must go beyond rhetoric measurement but one that will bring about massive investment in modern agricultural technology, rural infrastructure (roads, storage, irrigation), extension services, access to credit and insurance for farmers, as well as the adoption of climate-smart and precision agriculture technologies. This will boost productivity, ensure raw material supply for industries, and increase rural incomes.
2) Pitch Agro-Allied Industrialization: The government, policy makers and other stakeholders should develop and implement policies that are unequivocally link agricultural production to industrial processing. Motivate the establishment of factories that add value to raw agricultural produce (e.g., fruit juice processing, tomato paste, leather goods, textile mills) for both domestic consumption and export. The value this is going to add in exports, will turn out to creates jobs with the value chain, reduces post-harvest losses, and conserves foreign exchange.
3) Variegate the Energy Mix: The crisis in power sector should be address by investing more in renewable energy sources (solar, hydro), this will in turn provide stable and affordable electricity that will further boost industrial development and promote rural agro-businesses.
4) Championing Green Economy Values: Priority should be given to funding of renewable energy for agro-processing, adopting circular economy models in agriculture (e.g., using waste for bioenergy), and promoting sustainable land management practices are important for environmental sustainability.

5) Policy Consistency and Governance: Long-term Implementation of consistent policies that transcend political cycles will be the hallmark of industrialization and sustainability. Importantly, improvement of security in rural areas to allow farmers to cultivate their lands without fear. Also, agriculture should be revitalize not as a standalone sector, but as the foundation for growth, fulfilling its theoretical roles as stated by development theorist. There's need to entrench good government and policy consistency as well as combating corruption, and providing a secure environment as prerequisites for attracting the long-term investment needed for sustainable development.
6) Stable and motivating Macroeconomic Environment: An exchange rate policy that will not penalize local production but stable and competitive should be maintain. Provide targeted fiscal incentives (tax holidays, tariffs) for industries utilizing local raw materials.

By establishing these missing links, Nigeria can embark on a path of sustainable development that generates inclusive economic growth, creates millions of jobs, ensures food security etc.

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