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# Nigerian State and Industrialization Crises: A Lesson from Taiwan

Ogwola, Idoko Robert<sup>1,\*†</sup>, Iwarimie, B. Uranta<sup>2,†</sup> and Sapele, Frank Funkeye<sup>3,†</sup>

<sup>1</sup>Federal University, Gashua-Nigeria and <sup>2</sup>Ignatius Ajuru University of Education and <sup>3</sup>University of Africa, Toru Orua

\*corresponding author:ogwola68@gmail.com

†Auhors Contributed equally.

## Abstract

**Background:** This paper aims to examine the crises in Nigeria's industrialization process with the view to further interrogate the causes and consequences of this lingering crisis on the development of the country. To this end, the development miracle of Taiwan is brought into perspective, chiefly to explore her success story as one of the newly industrialized countries, and to identify the gaps Nigeria was not able to fill from the experience of Taipei. **Methodology:** Given the above, this research adopted secondary data analysis and desktop research designs. The data and literature collected were qualitatively analyzed based on the dominant themes. **Findings:** The results showed that a combination of factors were responsible for the failure of Nigeria's efforts to industrialize and these are: Lack of political will, rent-seeking behaviour of the leaders or political elites; infrastructural deficits, inadequate education and skills development; weak state institutions, ineffective government industrialization policies, bad governance, inappropriate land policy, low level of technology, the relegation of the agricultural sector and insufficient flow of FDIs, etc. As a way forward, it was recommended that Nigeria should look at the experience of Taiwan and borrow a cue from her, where necessary.

**Key words:** Industrialization, Development, Crises, Nigerian State, Lessons, Taiwan

## 1. Introduction

According to modernization theorists, industrialization is one of the core pillars or means of achieving sustainable development. Thus to achieve the desired level of development a country would need to transit from its agrarian or traditional mode of production and culture to a complex growth supporting culture and a mechanized system of production, with its attendant economy of scale. Evidence to support this view abound in western industrialized states such as the US, Britain, Canada, Germany, the Scandinavians (Finland, Sweden, Switzerland, Island etc.); France, Spain, Portugal, Russia, and Japan just to mention but these few. Aside from being highly industrialized, these nation-states have highly modernized; they could be said to have attained the stage of

"Mass Consumption" as posited in the linear growth model of development, propounded by Rostow (1952).

Besides the aforementioned evidence, the progress made by some newly industrialized or middle-income nations, which are largely found in South and East Asia, and others in the Middle East, specifically Arab and Jewish nations (Saudi Arabia, Iran, the United Arab Emirate, and Israel, etc.), have indicated an impressive development and a lesson for Africa and Nigeria in particular. Singapore, Taiwan, Malaysia, India, South Korea, to mention but these few, have demonstrated uncommon feats in recent history (Gahia; 2019). Considered as part of the developing countries, these nation-states have shown that with the requisite political will and popular support by the citizenry, high-level industrialization or development can be

achieved.

The dilemma of the industrialization crisis in Nigeria often keeps a keen observer thinking profusely in the ocean of thought: with the abundant natural and human resources, Nigeria has got what it takes to industrialize; why then is the country not making the desired level of progress? Are there lessons that the country can learn from the experience of Taiwan in particular, and other newly industrialized nations in general? In some previous studies, tentative answers to these questions have been given (Iwuagwu; 2009; Ekpo; 2014). As per why industrialization process is very slow in Nigeria, the consensus opinion as well as empirical evidence, have indicated that lack of political will, infrastructural deficit, bad governance, in-congruent land reform policies, inconsistency in Nigeria's industrialization policies, the dearth of foreign direct investments (FDIs), socio-cultural inhibitions, national economic sabotage, absence of advanced technology, among others are to blame for the poor state of Nigeria's industrialization.

Albeit, vast extant literature on Nigeria's industrialization is available, nonetheless, this research paper is designed to extend the frontier of the body of knowledge on the problem of Nigeria's industrialization. Specifically, this paper is designed to explore the Taiwanese industrialization strategy so as to draw relevant lessons that may help Nigeria to overcome her wobbling industrialization effort and process. Obviously, this represents an important gap in knowledge and constitutes the contribution this study would make to knowledge. One of the salient indicators of a country's level of development is its industrialization level. The more industrialized a country is the higher her rating among the comity of developed nations.

Unfortunately, Nigeria does not meet these criteria hence she is not counted among the industrialized nations. The issue that ponders us is that, with her vast natural resources, Nigeria has all it takes to advance and develop; but then the reality is that the country is ranked as of the least developed nations. In fact, international ranking and visible evidence on the ground prove that the country is underdeveloped, poor, and weak National Planning Commission (NPC; 2004). Nigeria, represents a paradox; blessed with abundant natural resources yet poor and underdeveloped (Joseph et al.; 2021). Compared with Taiwan, Nigeria should have an edge, in terms of development, over Taipei due to vast natural resource endowment which is far beyond the reach of Taipei; but the irony is that the former is better and far more industrialized than the latter.

How then Taipei did made it? And where has Nigeria gone wrong? What lessons can Nigeria learn from the Taiwanese experience? These are important questions that this study would attempt to unravel and they constitute the gaps in knowledge that would be filled by this study. Thus, the main purpose of this study is to explore the causes and consequences of Nigeria's industrialization crises vis-à-vis the exemplary progress made by Taiwan, with the view to drawing important lessons for Nigeria's present and future industrialization strategy.

Figure 1 depicts the framework on which this study is guided and analyzed. As it can be seen, the two countries present contrasting industrialization scenarios. Nigeria's industrialization process is faced with a menacing crisis, whereas the Taiwanese experience is a success story. The difference between these two nations is that while Taiwan makes a positive use of its policy options, Nigeria simply reverses the experience of Taiwan. So it is obvious that while Taipei is industrialized and developed, Nigeria reverses the gear towards the opposite direction. As depicted in Figure 1, the way forward is for Nigeria to look at the

Taiwanese model and draw relevant evidence-based lessons which could be adopted by policy makers in Nigeria, so as to rejig and gets its industrialization process threads smoothly and on the right path towards development.

## 2. Literature Review

### 2.1 Conceptual Review

#### 2.1.1 Industrialization

Industrialization is the process by which an economy is transformed from a primarily agricultural one to one based on the manufacturing of goods. Individual manual labour is often replaced by mechanized mass production, and craftsmen are replaced by assembly lines. Characteristics of industrialization include economic growth, the more efficient division of labor, and the use of technological innovation to solve problems as opposed to dependency on conditions outside of human control (Rasure; 2021).

Seen from the above definition, we can glean that the concept of industrialization is often associated with the method of production in any society: a system dominated by massive manufacturer's rather than exclusive dependence on agricultural or subsistence mode of production. It is instructive to mention here that industrialization as a concept possesses some important features which include but are noted limited to the following:

- Massive production and consumption of goods and services;
- Manufacturers led production system; heavy reliance on assembly lines than human labour;
- A developed or active service sector;
- High level of economic growth; and
- Advanced technology.

In industrialized countries, the production system, obviously aided by machines and less human labour, involves mass production of processed goods and consumption patterns among the populace. Goods are not only produced for consumption within the local environment alone but also on a massive scale for distribution to foreign end-users. Also, there is heavy reliance on assembly lines or plants than human labour in all industrialized economies. Further, among the sterling characteristics of industrialization are the high rate of economic growth occasioned by high production and distribution networks. Again, the economy is aided by an active service sector which, perhaps, facilitates or supports mass production and distribution of the industrial sector. Finally, industrialization is only feasible with relevant technology and innovation.

#### 2.1.2 Development

In development literature a variety of definitions are replete. In economic terms, development has been understood as achieving sustainable rates of growth in income per capita, in a sense that enables the nation to expand its output faster than the population (Todaro and Smith; 2009). This definition fails to take into consideration the problems of poverty, inequality, discrimination, unemployment, and income distribution. The reason being that increased output alone is not the true measure of development. Thus to further broaden the frontier of development, it has been conceived:

as a multidimensional process involving major changes in social structures, popular attitudes, and strong national institutions, as well as the acceleration of economic growth, the reduction of

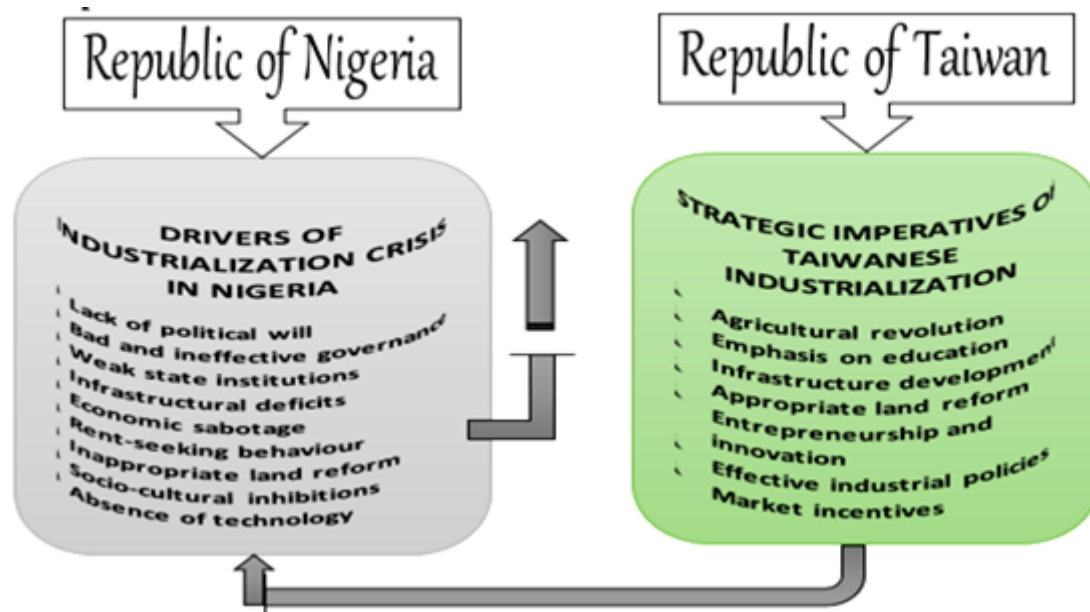


Figure 1. Conceptual Framework

inequality and the eradication of poverty. Development, in its essence, must represent the whole gamut of change by which an entire social system, tuned to the diverse basic needs and desires of individual and social groups within that system, moves away from a condition of life widely perceived as unsatisfactory towards a situation or condition of life regarded as materially and spiritually better (Todaro and Smith, 2009, p. 16).

Development is indeed multidimensional, involving economic growth, high and sustainable GDP output, rising income, stable price regime or less price volatility, cultural changes and modernization, uninterrupted political transitions, plus improvement in the general well-being of the individual. Economic growth on the other hand, is a narrower concept than economic development. It is defined as the increase in the value of goods and services produced by every sector of the economy. It is usually expressed in terms of the gross domestic product (GDP) per capita.

Recently, development has been conceived as increased capability and freedom. Sen, a 1998 winner of the Nobel Laureate in economics, argues that development means the “capability to function”... “Development has to be more concern with the life we lead and the freedom we enjoy” (Sen; 1999). Capability to function, in the view of Sen involves being able to achieve what a person values or desires to be. It may range from being adequately nourished and free from avoidable diseases to complex functions as in being able to relate well with others in the society or achieve self-respect. The import of this definition centres on the use to which commodity is put for the greater good of humanity. Development, therefore, is measured in further terms to include human freedom and capability to function.

### 2.1.3 Economic Growth versus Economic Development

Laypersons often tend to use the two terms economic development and economic growth interchangeably, as they appear to be synonymous with each other. But for the economist economic development is entails an expansion in per capita income or Gross National Income (GNI) and the overall well-being of the citizens of a country, as they are the ultimate beneficiaries of the development of the economy of their

country. Economic development should involve a sustainable rise in the standards of living of the people of a country. It implies an increase in per capita income of every citizen. It also leads to the creation of more opportunities in the sectors of education, healthcare, employment, and the conservation of the environment. Economic growth on the other hand, is a narrow concept than economic development. It is defined as the increase in the value of goods and services produced by every sector of the economy (Tonuchi and Onyebuchi; 2019; Edmunds et al.; 2020).

## 2.2 Empirical Review

In the body of extant literature on the subject matter, there are published studies on Taiwanese and Nigerian industrialization process. Some of these empirical literatures are reviewed or examined below:

### The Case of Taiwan

The road to Taiwan’s industrialization was not a tea party process; indeed the path had formidable bumps and meanders; but with persistence and resilience, Taipei triumphed. Just like any other modern society, Taiwan began its industrialization process through state-led agricultural reforms before it eventually cascades into an electronic hub (Chevalerias; 2012; Vincent; 1999; Yeo; 2003). In fact agriculture was the core driver of Taiwan’s industrial development process. As argued by Shirley (2014) a more basic factor supporting the industrialization of Taiwan has been the progress made in high level accumulation of agricultural surplus. Although, some literature attributed early industrialization progress in Taipei to US aid, however, evidence on the ground shows that the surplus accumulated from the agricultural sector was the major incentive that drove Taiwanese effort to industrialize and modernized. The citation below further lends credence to our argument:

Taiwan followed a similar trajectory to Korea in its progression through four distinct stages of development, though with two exceptions of note: first that light industry played a key role in the economy all the way into the 1980s, and second that leadership did not seek to move beyond the first phase until threatened with aid reductions by the US. The unexpected lack of decline in light

industry once heavier industries were developed could perhaps be attributable to the role of small- and mid-sized industries as discussed by Chang, with most heavy industries nationalized but small-scale entrepreneurship tolerated, this is a logical industry to gravitate towards. The second point is by far more significant, and may contain a clue as to the underlying reason that the Asian Tigers successfully developed through state-led, rather than market-led or interventionist methods (Shirley, 2014. p. 4)

In the pre-World War II, precisely between 1910s and 1920s, Taiwan agricultural practice witnessed a revolution. There was extensive production of commodities centering on sugar and rice cultivation. "This was followed by a mechanized processing of sugar by investors from the Japanese sugar processing industry" (Liu, 1969. p. 1). This initial efforts orchestrated the capitalist mode of production in Taiwan. Simultaneously, there was a parallel progress in rice production in the 1920s in Taiwan. As it were, Taiwan had a comparative advantage in rice production over other agricultural products, hence it concentrated and engaged in massive labour-intensive approach in the production of rice and sugar.

The massive production of rice and sugar accelerated progress and brought about improvement in agricultural technology, thereby greatly enlarging Taiwan's capacity for commercial agriculture (see Yahaiharatadao, 1928 in Liu, 1969). Sugar and rice production reached their pre-WW II all-time peak within the period 1938-39, "with sugar at 1.37 million tons and rice at 1.40 million tons" (Liu, p. 63). But the interruption orchestrated by the break of the WW II in 1945, brought a temporary halt and the ensuing decline in the production of rice and sugar. It took Taiwan another seven years after the war, that is, from 1945 to 1952 for its agricultural growth or productivity to rebound (Liu, 1969). As already noted, the basic elements accounting for the rebound were land and labour. Albeit, the post-WW II era witnessed another epochal transformation in the agriculture sector in Taiwan and this in some notable way accelerated the pace of industrialization in Taiwan.

Taiwanese success in agriculture during the pre and post-WW II eras was possible due to some two strategic steps involving a deliberate land reform policy and the effective use of labour-intensive approach towards rice and sugar production. Arguably land and labour, unlike capital investment, are more resilient in the face of vulnerability. This may have accounted for the rapid rebound in Taiwan's post-WW II economy (Todaro and Smith; 2009; Yongping; 2004).

#### **Land reform**

Prior to the 1953 land reform policy in Taiwan, ownership of land was tilted towards the Landlord class which concentrated land in the hands of a few bourgeois class (the Barons). This development restricted the land tillers free access to land for farming purpose (Liu, 1969). The 1953 land reform policy focused attention on the owner-cultivators model, which in practice ensured the formation of a productive labour-force that propelled massive cultivation of rice and sugar, as well as capital investments in industrial processing of rice and sugar, mainly for local consumption and export to Japan. "The systematic elimination of the landlord class gave rise to the emergence of the formation of industrial entrepreneurs in Taiwan" (p. 64).

There were two factors which accounted for agricultural boost in the 1950s Taiwan. First is the owner-cultivator land reform policy which accelerated labour-intensive mode of production, with emphasis on rice and sugar production. A glance at the 1952 structural composition of the agricultural

classes indicates that owner-cultivator class accounted for 38%, part-owner and part-tenant accounted for 26%, and tenant farmers 36% (CIECD, 1966). "In 1953, the year the reform was completed, the percentage share for each of the aforementioned classes were: 55%, 24%, and 21% respectively; while by 1965 owner-cultivator share has risen to 65%" (p. 24). This trend was maintained as the agricultural sector continued to witness sustainable boom.

#### **Labour-intensive production option**

Secondly, the labor-intensive agricultural policy gradually drifted towards the capital-intensive production system, as profitability became the concern of investors in Taiwan's agribusiness. Consequently, the surplus amassed from the labour-intensive economy couple with external capital was invested in fertilizer processing plants as the drive for profit maximization dominated the agricultural industry. Fertilizer was required to increase yield and this means that a steady supply of the inputs must be achieved and maintained. Gradually, the labour-intensive economy moved towards a capital-intensive production system; this development in some significant ways propelled the move to industrial economy in Taiwan.

#### **Population advantage**

A third factor, though controversial and contentious, is the population factor. Classical and neo-liberal economists would argue that overpopulation eats up capital formation and thereby slow down the propensity to invest; nonetheless, this proved to be an exception in Taiwanese development trajectories. Twenty years after the end of WW II, the population of Taiwan doubled from "6 million in 1945 to 8.13 million in 1952; 10.17 million in 1960, and 12.62 million in 1967" (Liu, 1969, p. 66). Two factors accounted for the rapid population growth in Taiwan during the period under review. First was the massive migration of people from mainland China into Taiwan in search of greener pasture (better employment opportunity). The second was the unfettered annual population growth rate which averages around 3.4%. Meanwhile, our aim here is to justify how rapid population growth did impact the industrialization of Taiwan.

The answer lies in the evidence that during the period of the 1950s, food (rice) production in Taiwan went on smoothly, and the rising population had no problem being fed. For example "If we look at rice production in Taiwan during the 1952, it stood at 1.57 million tons, in 1955 production rose to 1.62 million tons; in 1960 it was 1.91 million tons; and in 1965, it increased to 2.35 million tons, showing an increase of 49.6% production growth rate in thirteen years interval between 1952 and 1965" (Liu, 1969. p. 67). Again total agricultural growth rate for the period was 191.1% (CIECD, 1966, pp. 23-26). The surplus of labour from the agricultural industry became a ready made manpower supply for the industries in Taiwan. Having available manpower, therefore, meant that the industries in Taiwan had unfettered access to affordable labour which aided and abated the expansion of industrial activities in Taiwan.

This growth rate was maintained in the over four decades, that is, from 1960 to 2000. Impressively, Taiwan racked up annual economic growth rate averaging about 7% (Todaro and Smith; 2009) during the period under consideration. Taiwan's economy grew annually at the rate of 10% over the four decades from 1960 to 1980, a level considered as the fattest compared to any other nation. Taiwan's per capita income as at year 2000 stood at \$13, 925, while its purchasing power parity (PPP) in year 2000 was \$22,646 (p. 649). Sustaining this long term

economic growth was very significant and remarkable.

#### Nigeria in Perspective

“Since Nigeria became independent in 1960, achieving economic development through rapid industrialization has remained a major challenge” (Iwuagwu; 2009). Notably, this is a sharp contrast from the experience of Taiwan. A considerable literature exists on Nigeria’s industrial policies, especially since the 1960s. But majority of these works revealed the obvious bias for some of the policies, while others in some cases simply critique without putting the issues into a proper context (Adejuge; 2004; Ikpeze et al.; 2004). As noted below: The industrial pattern of Nigeria at independence in 1960 was that of providing agricultural raw materials needs of the advanced economies, particularly of Britain. The bulk of national income was from exports of primary agricultural products. Available data shows that the share of agriculture in Gross Domestic Product (GDP) was about 63% and about 80% of export earnings of the country came from agriculture. The level of industrial activities in the country was very low and were mostly commercial activities owned and run by foreign companies like the United Africa Company (UAC) Ltd., Leventes (Brothers) Ltd., and the Union Trading Company (U.T.C). These companies engaged in trade and commerce especially in the importation and distribution of (foreign) manufactured goods into Nigeria.

Laying a solid foundation for the development of an industrial economy for Nigeria was not part of the colonial economic policy; rather the objective was making the colonies perpetual producers of primary raw materials for foreign industries and importers of manufactured goods (Egwakhide et al.; 2001; Banjoko et al.; 2012; Ekpo; 2014). Deducing from the above, it is apparently clear that, the colonial history of Nigeria was that of utter economic plunder and sabotage, chiefly by Britain, her collaborators (the foreign trading companies). The agricultural sector which could have served as the pivot of Nigeria’s industrialization, as were the case with Taiwan, was distorted and exploited. Rather than engage in massive food production for local consumption and export, Nigerian farmers were encouraged to indulge in the production of primary raw materials for onward movement into Europe where they are processed and brought back for sale at exorbitant prices. Chief among the primary commodities produced for export were: cotton, rubber, palm fruits, groundnuts, cocoa and timber etc. This was the sad scenario prior to Nigeria’s independence on October 1st, 1960.

The story after Nigeria attained independence, left much to be desired. Initial efforts at post-independence showed some level of seriousness. But successive efforts at policy and implementation levels indicated a downward trends that lasted over four decades of Nigeria’s industrialization pursuit. For example, Nigeria’s “annual growth rate of the industrial sector as a percentage of GDP is marginal compared to what is obtainable in many developing countries, including Singapore, Hong Kong, Malaysia, Indonesia and South Korea which were at the same level of development with Nigeria in the 1960s and the early 1970s” (Ekpo; 2005). The contribution of manufacturing subsector to Nigeria’s GDP has been declining instead of appreciating. The share of the manufacturing subsector output in GDP, which was 76.6% in 1975 declined to 38.3% in 1985 and 32.4% in 1998 (CBN; 2002), which by implication portrays Nigeria’s industrialization as still operating within the rudimentary level (Ekpo; 2005). Even now the poor trends in Nigeria’s industrialization is yet to reverse; poor electricity, infrastructural decay, bad governance, inadequate technical education and skills development, poor public policy coordination and management, the inordinate land tenure system, rent-

seeking behaviour, weak state institutions, and cultural inhibitions among other factors are actually constraining Nigeria’s industrialization pursuit.

### 2.3 Theoretical Framework

The Resource Curse Thesis popularized by Auty (n.d.) is adopted as the theoretical frame of analysis for this study. As posited by Auty (p. 58), “the successful industrialization of many East Asian countries contrasts with the disappointing outcome in much of Latin America and sub-Saharan Africa. Not surprisingly ... explanations usually stress cultural factors (in the form of a work ethic or type of political regime) or environmental factors (the level of urbanization or the natural resource endowment)”.

The idea that resources might be more of an economic curse than a blessing began to emerge in debates in the 1950s and 1960s, putting the economic problems of low and middle-income countries into perspective (Ross; 1999). However, the term resource curse was used by Richard M. Auty to describe how countries rich in mineral resources were unable to use that wealth to boost their economies and how, ironically, these countries had lower economic growth compared to countries without much of natural resources. An influential study by Sachs and Warner (1995) found a strong correlation between natural resource abundance and poor economic growth in some selected countries.

The resource curse thesis suggests that resource-rich countries may squander their resource advantage because an over-optimistic estimate of their prospects leads to the pursuit of lax economic policies. A corollary is that resource-poor countries, mindful of their marginal position, may compensate for their disadvantage by adopting firmer and more far-sighted policies. But the resource curse thesis is not an iron law, rather it is a strong recurrent tendency (Auty, 1995, p. 58)

Relatedly, the resource curse theory aptly describes the rent-seeking behaviour of the Nigerian urban elite; as posited earlier, part of the problem of industrialization in Nigeria is the dependent nature of the nation’s economy on oil wealth. This has made the leaders to see industrialization process as a plan “B” instead of a plan “A”. Rather than initiate effective industrial and economic policies and see to their execution, the elite or leaders are concern with playing politics in terms of who gets what, how and when; and their main focus is on the wealth from the petroleum and natural gas resources. Evidently, Nigeria is one of the few nations blessed with abundant fossil oil; the proceeds from the oil extraction accounts for over 80% of the country’s revenue. This implies that, taking oil away from Nigeria would mean taking life out of her over two hundred million people, the majority of whom are very poor and unemployed. Thus, Nigeria is underdeveloped, and non-industrialized because she has been plagued by resource curse. The rate of urbanization, aided by oil and gas rent surpluses, has concomitantly produced a group of selfish, yet powerful rent-seeking groups in Nigeria, since the discovery and subsequently exploration of oil and gas.

### 3. Methodology

Research Design, constitutes the blueprint for the collection, measurement and analysis of data. As such research design includes an outline of what the researcher will do from formulating the research problem and its operational implications to the final analysis of data. The design of this study is essen-

tially a combination of desktop research and secondary data analysis. The data for this research paper were obtained from secondary sources; these included documented materials such as journal articles, government publications, publications of international governmental and non-governmental organizations, web pages (internet materials), newspapers and magazines, and books. The data collected were analyzed using the qualitative approach to data analysis. The secondary data obtained were categorized and analyzed according to themes.

## 4. Discussion of Findings

In this section, attempt is made to provide answers to the questions that were raised in section one of this paper. Thus our discussions are presented based on each of the research questions posed.

### 4.1 Causes of Nigeria Industrialization Crisis

Based on the literature surveyed and the inferential deductions made, we found that a combination of issues are mitigating the efforts of Nigeria to industrialize. These issues include: Lack of political will, rent-seeking behaviour of the leaders or political elites; infrastructural deficits, inadequate education and skills development; weak state institutions, ineffective government industrialization policies, bad governance, inappropriate land policy, low level of technology, relegation of the agricultural sector and insufficient flow of FDIs. A brief analysis of these problems are discussed.

#### Lack of political will

Political or executive will is a pertinent pre-condition for development or industrialization to occur. Countries that are fully industrialized, perhaps, have got the backing of their political leaders or executives. The commitment and sacrifice of these leaders is the propeller that drives the support of citizens or followers towards action that eventually would lead to industrialization. Ironically, this factor is lacking, especially among leaders in Nigeria hence the poor attitude towards development. Leaders in Nigeria are self-seeking and are unwilling to invest their time, energy and managerial skills into the business of industrialization.

#### Rent-seeking behaviour

A rentier state or economy is one in which a few self-seeking urban elites struggle, inordinately, to appropriate to themselves and their cronies available rents or surpluses from natural resources endowment. In such economies, leaders and other elite class engage in rent-seeking corruption to the detriment of industrialization. Rather than initiate policies and commit available and affordable labour towards massive production, using machinery and other technologies, the leaders indulged in dangerous quest for the sharing of rents (values) that accrued from the exploitation of natural resources. This attitude is a perfect description of the situation in Nigeria today. With her enormous petroleum and natural gas potential, Nigeria has all it takes to fully industrialized, but the nation's elite are more concern about how to share available natural resources wealth among themselves than engage in productive ventures.

#### Infrastructural deficits

The availability and affordability of infrastructures is imperative for industrialization. Evidence from the developed nations and the newly industrialized countries proved this point rightly. For example, one of the main drivers of

industrialization and development in Taiwan is the adequate supply of critical infrastructures. It was observed that "from the period of the Japanese colonial rule (1905-1945), Taiwan inherited an infrastructure system that was far more superior to that of most poor countries. The Japanese built roads, ports, railway, and electricity to facilitate their own acquisition of rice and other farm products from the island" (Todaro and Smith, 2009, p. 650).

Unfortunately, the reverse is the case in Nigeria. Albeit, the British colonial regime built ports and railways that facilitated the movement of raw materials from Nigeria to Europe; however they did not invest meaningfully in critical infrastructure development such as hospitals, education, roads, and urban housing project to mention but these few. Not even the rent-seeking indigenous leaders who succeeded the colonial officials did much to salvage this problem in Nigeria. Therefore, this malaise is significantly responsible for the poor level of industrialization in the country.

#### Inadequate education and skills development

Although the colonial government in Nigeria introduced the western-styled education system, it failed to provide hands-on-skills and development. Literacy was emphasized over skills and innovation. This partly explains why technical and vocational education were given less emphasis. Industrialization thrives where capital (machinery and tools) are applied in the production process. This requires sufficient knowledge and skills in design, fabrication and construction. Ironically, this form of education is lacking in Nigeria today. Corollary, Taiwan has a well-focused education system; emphasis were on the Japanese model that emphasizes technical and vocational education, and the US system which emphasizes general education. Although in Nigeria, beginning from the 1980s up to the present, efforts were made by successive regimes to entrench technical and vocational education at the different levels of education (primary, secondary and tertiary), not much was left to be desired as the schools are yet to address the challenge of technology and skills development.

#### Weak institutions

State institutions and policy implementation organs in Nigeria are weak; they lack innovative and enforcement capacity. The bureaucracy is characterized by rent-seeking officials and maladministration; the judiciary is weak and lack capacity to dispense justice; the legislature is stereotypical and filled by rent-seeking politicians, the MDAs are enmeshed in corruption and docile personnel-performance management and regulatory mechanisms deployed are weak and unresponsive. The cumulative effects of these menace on industrialization and development are quite huge.

#### Ineffective government industrialization policies

Since the time of Nigeria's nationhood in 1960, different industrialization policies have been implemented but with little or no success. Previous industrialization policies in Nigeria included: Import Substitution Policy (1960s through 1970s), Export Promotion Policy (1986/7 through 1998) and the Foreign Private Investment Led Industrialization Strategy from 1999 to date (Ekpo; 2005; Joseph et al.; 2021).

The import substitution strategy was designed to encourage local production of certain consumer goods and restrict illicit imports of such commodities into the local market; achieve domestic self-reliance, and promote domestic industrialization. The export promotion policy was adopted to facilitate the achievement of external trade balance, maximizes foreign exchange and plow back surpluses into domestic industri-

alization process. Thirdly, the foreign private investment was conceived as a means of attracting FDIs, especially those that aim to promote the manufacturing sub-sector and allied industries (see [Joseph et al.; 2021](#)).

#### **Bad governance**

Among the litany of African development, challenges is the problem of bad governance: electoral illegitimacy, distortion of the principle of the rule of law, lack of accountability, corruption, and rent-seeking behaviour. This problem is an infectious disease that may not spare even the brightest of the world economies. Inevitably, Nigeria's industrial sector is trapped under the grip of bad governance; this undermined any meaningful policy efforts targeted at Nigeria's industrialization.

#### **Low level of technology**

Technological advancement is critical for achieving high level of industrialization. Machineries, tools, equipment and artefacts are prerequisite for industrialization; their level of application determine whether or not a country is industrialized. Unfortunately, not much progress is made in this direction in Nigeria. Thus the low level of Nigeria's development is a challenge to its industrialization effort. Relegation of the agricultural sector Prior to the discovery of oil at commercial quantity, and the subsequent exploration that followed in the 1970s, the agricultural sector accounted for over 63% share of the nation's GDP ([Egwakhide et al.; 2001](#)). Ironically, this trend could not be maintained as further development showed a downturn trend. Ideally, and as the Taiwanese model showed, initial effort to industrialized began with massive investment in a labour-intensive agriculture, the surplus which later provided the incentive for full industrialization of Taiwan. But this was not the case with Nigeria as progress in agriculture slowed down in rapid propensity and oil boom became a source of rentier behaviour among the urban elites.

#### **Insufficient flow of foreign direct investments (FDIs)**

The shift of emphasis from local capitals to the inflow of FDIs as an industrialization option for Nigeria was pursued with much vigour at the dawn of this millennium in 2000. Unfortunately, despite the provision of adequate incentives by the government in this direction, not much was accomplished. Foreign private capitals were hesitant to flow in as expected; this may be attributable to such issues as the high level of insecurity, dearth of infrastructures, bad governance, and corruption in high places.

## **4.2 The Strategic Imperatives of Taiwan's Industrialization**

As already highlighted in the conceptual framework of this study, the drivers of Taiwan's industrialization consist of a number of factors which will be discussed here.

#### **Agricultural Revolution**

As examined in the literature, early land reform which transferred ownership from a few landlords to private tillers helped in the massive cultivation of rice and sugar products, both for local consumption and for export. Additionally, the gradual transformation from a labour-intensive mode of production to the capitalists or industrial mode of production helped leads to a comprehensive transition from an agricultural-dependent economy to a more advanced industrial system of production. These developments were great incentives for the industrialization of Taiwan.

#### **Emphasis on compulsory Education**

From 1950 onward, six years of education became compulsory and almost free for children of both sexes. Enrolment, especially of the girl child, into basic education, surpassed 90% of those within the age 6 and 11 years in the 1950, while that of the boy child increased to 96% ([Todaro and Smith; 2009](#)). Besides, emphasis was placed on basically three models of educational system: (1) the Chinese cultural education based on respect for hierarchy and constituted authority; (2) the adoption of Japanese technical education with its emphasis on skills and vocational aptitude; and the America system which provided a general and holistic approach to learning.

#### **Infrastructural Development**

Taiwan inherited an infrastructure system from Japan that was far more superior to that of Nigeria. The Japanese built roads, ports, railway and electricity to facilitate their own acquisition of rice and other farm products from the island" ([Todaro and Smith; 2009](#)). This supported movement of machines and other products (raw materials) that kick started industrialization.

#### **High Rates of Savings and Investment**

During the 1950s and 1960s, Taiwanese saving rates were amongst the world's highest ever recorded, averaging between 30% in the 1950s and 40% in the 1960s. The saving ethic is deeply rooted in the Taiwanese culture ([Todaro and Smith; 2009](#)). This high saving rate was a serious incentive for investment and industrialization.

#### **Market Opportunity**

The government of Taiwan, though not efficient enough, provided the enabling environment for wealth creation rather than seeking to share existing wealth alone. Entrepreneurship efforts were complemented with government incentive packages and infrastructural transformation. Taiwan's "relations with China have played a major part in the economic development of Taiwan. As a new land of opportunity for the island's investors, it helped many small and medium enterprises (MEs) to maintain their competitiveness in overseas markets by allowing them to produce at lower cost" ([Chevalerias; 2012](#), p.35).

#### **Effective Government and Industrialization Policies**

Taiwan successfully switched from a martial and authoritarian government, which undermined democracy; to a democratic system of rule in 1996 when the election President Lee Teng-hui was considered free and fair. Between 1949-1958, Taiwan adopted a state-directed imported substitution industrialization strategy (imports were categorized as prohibited, controlled and permissible), import of luxury goods in particular were prohibited; a few imported goods were made to obtain license from the state authority, for them to enter the Taiwanese market. From 1958, there was a change in policy, whereof export promotion became the thrust of Taiwan's industrialization policy. Later on the market forces were allowed to function but subject to state control.

## **5. Conclusion**

Based on the analysis made in this paper, it is concluded that Taiwan's industrialization was predicated in its agricultural revolution, a state-controlled market forces, and the transition from being an industrial hub to an IT dependent technology development economy. Emphasis on compulsory basic education and skills development was a huge incentive for development. It was also revealed that Nigeria was not mak-

ing the expected progress because rather than invest in education, skills development and innovation in Science and Technology, the policymaker are concerned about how to share the already provided wealth from natural resources exploration (a phenomenon known as “rent-seeking behaviour”). This has hampered the industrialization of the country, and the solutions to this disease lies in the following recommendations.

- Reduction or elimination of Nigeria’s dependence on oil and natural gas resources through a systematic investment in agriculture value chain and manufacturing sector for the diversification of the economy.
- Government policy that seeks to promote entrepreneurship and innovation management should be enhanced.
- There is need to undertake a holistic land reform in Nigeria, so that old and outdated landholding policies could be evolved to support agricultural and land development.

### Competing Interests

Author declare no competing interests.

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