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Value Addition: A Tool for Accelerated Industrialisation in Nigeria

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Abstract

The Nigerian economy since independence in 1960, shows all the trappings of underdevelopment. First dominated by the agricultural sector in the 1960s, became later tied-in to the oil and gas sector from the 1970s to date. Essentially, these primary sectors, especially the oil and gas sector since the 1990s, contributed over 95 percent to export earnings and 85 percent of government revenue. Hence, economic diversification is desired. To attain diversification of the economy through industrialisation high levels of value addition is critical. Over the years successive regimes have embarked on policies and strategies towards industrialisation. Some of the industrial development strategies are Import Substitution Industrialisation (ISI), export promotion, indigenization, etc. However, not so much has been achieved in the industrialisation drive due to obvious reasons of policy disarticulation. Thus, the main objective of the paper is to show that the industrial policies and strategies of successive administrations were not well articulated to bring about industrialisation. The study revealed that the capital-intensive nature and character of the few industrial establishments do not give room for value addition; hence there is no backward linkage with the local economy. To achieve real industrialisation labour-intensive industries should be encouraged to allow for innovation, indigenous technology, local manpower and raw material. This would create the much-needed backward linkages with the local economy. Hence the paper concluded that for Nigeria to be an industrialized economy value addition must be made a prerequisite in the production processes. The study recommended among other things, that value addition should be made

compulsory in the industrial sector operation(s) for this will guarantee backward integration and accelerate the process of industrialisation of the country.

Key Words: Industrialisation, value addition, economy, backward linkage, diversification, labour-intensive.

Introduction

Nigeria has all the trappings of an underdeveloped economy since her independence in 1960, mostly manifested in the country's industrial outlook. Indeed, the contribution of manufacturing to the economy of Nigeria, places Nigeria far behind the Newly Industrialized Countries (NICs) of the South East Asia (Ajayi, 2011). One of the major indices of a developed economy is high level industrialisation. No doubt, industrialisation is critical in making life meaningful, as it increases the quality and quantity of consumption as well as creates jobs and generates revenue for the state.

Successive regimes have made concerted efforts in Nigeria with the aim of industrializing the country without remarkable success. Some of the industrial policies adopted in the country are import substitution industrialisation, export processing zones, export promotion industrialisation foreign private investment-led industrialisation, etc (Ekpo 2014). For instance, the import substitution industrialisation was aimed at producing manufactured goods using imported semi-finished products and foreign technology which were assembled locally, while one of the major objectives of the export processing zone strategy in Nigeria was to enhance exports of manufactured goods so as to diversify the nation's economy. Consequently, various assembly plants were built in the country notably the Peugeot Assembly Nigeria (PAN) in Kaduna and Volkswagen in Lagos and the finished products completed here were sold in the local market, so that foreign exchange that would have been used to import the goods would be preserved. Essentially, one of the reasons for the adoption of the import substitution industrialisation, was the realization that industrialisation has become an undisputable universally accepted means of fostering social and economic development the world over (Harry 2016). However, the import substitution industrialisation, like all other industrial policies, failed for what Ake (1984) described as policy disarticulation. For Graft (1988) cited in Harry (2016), the major reason for the failure of the import substitution industrialisation, and the likes, was the little or none utilization of local materials, and perhaps technology, in the total production process. Thus, there was little savings of foreign exchange and failure to develop backward and forward linkages with rest of the economy, especially, the agricultural sector.

Essentially, the nature and character of the industrialisation policies in Nigeria had been capital-intensive, with the focus on importation of industrial machines, spare parts, and raw materials from abroad. This poses serious challenges on foreign exchange. This approach to industrialisation encourages large scale infusion of products, such as manpower/labour, technology, machines, raw materials, etc from external sources, and discourages innovation, indigenous technology and local manpower/labour utilization (value addition) in the production processes. Also, it does not encourage labour-intensive approach to production (for instance, the use of robots in the factories), therefore value addition and production segmentation is near absent. Hence, employment generation and other benefits of industrialisation are very minimal in the country's industrial sector, accounting for only 6 percent of economic activities, while the manufacturing sector contributed only 4 percent to GDP in 2011 (Chete, et al., 2014).

It is the adoption of labour-intensive industrialisation in Asia that helps in addressing the unemployment crisis in the region, and gradually moved them upward in technological advancement and capital-intensive industries. Thus, the main objective of the paper is to show that the industrial policies and strategies of successive administrations were not well articulated to bring about real industrialisation of the economy. The paper argued that the reason for the failure of industrialisation efforts in Nigeria is the poor/low level of value addition and production segmentation methods adopted over the years. For Nigeria to achieve accelerated industrialisation conscious efforts must be made to increase substantially the level of value addition to all products consumed in the country as well as promote massive deliberate investments in research and development (R and D) in the different sectors of the economy.

The Concept of Value Addition

The view that value addition is central to the development of the industrial sector of an economy has been enunciated by policy makers in different parts of the world. Consequently, different nations have adopted different strategies to achieve high level value addition in their production processes. What then is value-addition?

According to Harry (2018), value addition is the totality of inputs added to the finished products from the domestic economy on products produced for the local market or export. He noted that value addition is very central to the attainment of industrialisation of any nation. To him, value addition also occurs in form of production segmentation, which involves the production of the main components of a particular product in different countries, including the country in which the finished product or final production is to be made. Value addition basically creates backward integration between industries and the rest of the economy, as such help in wealth creation through employment generation, increase in income of the people and investment opportunities for industrialists both big and small.

The Bureau of Economic Analysis (BEA) explained value addition as the difference in the value of goods and services produced and the cost of inputs used to produce them. Value addition entails three elements: technology, material and labour elements. While these three elements are important to the industrialisation process, the technology and material components are more crucial in enhancing and accelerating a nation's industrialisation. Countries of the East Asian region, using the export processing zone strategy, transformed their economies from agriculture-based ones to high value-added manufactured goods production economies (Harry, 2016).

It is important to note that high level value addition is not achieved accidentally, rather it is achieved through purposeful and concerted efforts at research and development (R & D) activities in the different sectors of the economy, especially manufactured goods production.

Meaning of Industrialisation

The realization of the importance of the industrial sector has propelled many nations, if all nations, to design and implement various industrialisation policies and programmes aimed at industrialising their societies. As earlier noted, industrialisation has become an undisputable universally accepted means of encouraging social and economic development the world over. What then is industrialisation?

According to O’Sullivan and Sheffrin (2003), industrialisation is the period of social and economic change that transforms a human group from an agrarian society into an industrial society, involving the extensive re-organization of an economy for the purpose of manufacturing. It follows from this school of thought that manufacturing is key and central to the industrialisation process. A dictionary definition of industrialisation sees it as the development of industries in a country or region on a large/wide scale. The Investopedia website described industrialisation as the process by which an economy is transformed from primary agricultural production to one based on the manufacturing of goods. It added that, in an industrialised society individual manual labour is often replaced by mechanized mass production and craftsmen are replaced by assembly lines (that is, factories in which less labourers are used and the few employed essentially make use of machines). Emphasizing the centrality of manufacturing to industrialisation the *Business Dictionary* (2018) described it as the process by which traditionally nonindustrial sectors, (such as agriculture, education, and health) of an economy become increasing identical to manufacturing sector of the economy. It presented some of the major features of industrialisation to include, “sustained economic development based on factory production division of labour, concentration of industries and population in certain geographical areas, and urbanization”. It is the large-scale introduction of manufacturing, advanced technical enterprises, and other productive economic activity into an area, society, country, etc. (Dictionary.com, 2018). To Rowthorn and Coutts (2004), it is a stage in development when the share of agriculture in national employment falls and there is rapid increase in the share of manufacturing.

From the above it is evident that industrialisation is synonymous with manufacturing driven economy, in which manufacturing of goods, plays critical role in every facet of the society. It is important to note that all the industrialized nations of the Western world began with the crude method of production in which labour-intensive manufacturing was the mainstay of production activities and transited to the modern sophisticated and scientific methods of manufacturing/production. Indeed, the journeymen of the industrial revolution era at the demise of feudalism were operators of highly labour-intensive, manual and crude production industries. Obviously, industrialisation has revolutionized and transformed socio-economic development in many regions of the world, with the East-Asian countries being the latest beneficiaries of its contributions to societal transformation. Perhaps the sub-Saharan African region, particularly Nigeria, is the next in line.

Methodology

This study adopted the documentary research approach; thus, it is largely qualitative in outlook. Hence, data for the study were mainly drawn from secondary sources and augmented with personal observations of the relationships of the variables under investigation. The data were gathered from bulletins, textbooks, journals, etc selected based on their relevance to the topic of study. In addition, the data were analysed using the content analysis method of data analysis. Content analysis as a method of data analysis has two elements: rational analysis and conceptual analysis. In this paper the rational analysis element was adopted as against the conceptual analysis elements. Making distinction between the rational analysis and conceptual analysis, Kalagbor (2012) asserted that, whereas conceptual analysis seeks to clarify words, terms or concepts used in a document or text, rational analysis is concerned with drawing or establishing relationships between or among words terms, concepts or phenomena being studied or analysed.

Therefore, content analysis was used to show the relationship between value addition and industrialisation in Nigeria.

In this study we examined the level of value addition in three highly consumed industrial products and their industries in the country. They include: automobile, telecommunication/cell phone and food, beverages and tobacco industries.

Findings

Nature of industrialisation in Nigeria

The Nigerian economy depends mainly on the production of primary commodities or raw materials for exports than manufactured goods or industrial products. Evidently, most of the industrial products consumed in the country are largely imported, hence the description of Nigeria as a consuming/import dependent nation. Successive regimes have made efforts to grow the industrial sector of economy so as to make manufacturing contribute substantially to GDP and the overall economic activities in the country. Even the few industries that operate in the country are small-scale industries which are not able to significantly affect the structure of the economy. Obviously, the absence of heavy industries, such as car/vehicle manufacturing, among others, continually negate the transfer of technology in the country. To achieve this, different industrial policies or industrialisation strategies were put in place and vigorously pursued. These strategies, among others, include import substitution industrialisation (ISI), export promotion industrialisation (EPI) and foreign private investment-led industrialisation. Also, heavy industrial sector investments were made by the government in the establishment of industrial core projects (ICPs), like Iron and Steel Plant at Ajaokuta, Steel rolling mills at Warri, Katsina and Oshogbo, Aluminum Smelter Plant at Ikot Abasi, oil refineries at Port Harcourt, Warri and Kaduna, Machine tools company, cement industries at Kaduna, Calabar and Nakalgu, etc. As Ekpo (2014) asserted, these targeted areas of public sector industrial projects were meant to provide the necessary foundation for growth of the industrial sector of the nation's economy.

In addition, various supporting institutions, particularly research institutions, such as the Federal Institute for Industrial Research (FIIR) at Oshodi, Project Development Agency (PRODA) at Enugu, and the Raw Materials Research Development Centre (RMRDC) location almost every state of the federation, among others, were established, as well as polytechnics, and universities of technology to train the required manpower for the industrial sector in the country (Ekpo, 2014). These institutions have not significantly impacted the industrial sector in the country because of poor funding. As Harry (2013) observed, poor funding of research institutions in Nigeria has negatively affected research and development (R & D) activities in the country as well as technological advancement and industrialisation.

Interestingly, observers disclosed that for the past four to five decades of industrial policies/strategies implementation in Nigeria the policy outcomes are less than impressive. The industrial sector in Nigeria has witnessed and continued to witness high importation of industrial inputs, decrease in capacity utilization, high cost of production, low value addition, dwindling output growth, low employment generation and very low backward integration with the rest of the economy (Obioma & Ozughalu, 2005; Ekpo, 2014). For instance, following the adoption of the ISI several manufacturing/assembling plants were set up in different parts of the country. Some of these firms that established manufacturing/assembly plants are Peugeot

Automobile Nigeria Limited (PAN) Anambra Motor Manufacturing Limited (ANAMMCO), Volkswagen Nigeria Limited, Steyer Nigeria Limited, National Truck Manufacturers and Leyland Nigeria Limited. These companies were subsidiaries of automobile manufacturers abroad, except Anambra Motor Manufacturing Limited and National Truck Manufacturers, nonetheless, the two firms were set up in partnership with foreign automobile manufactures. At present, only two of the six auto-manufacturers (PAN and ANAMMCO) are still operational, operating at 10 percent of their installed capacities (Venture Africa, 2017). Ajayi (2011) revealed that Nigeria's manufacturing consists largely of assembly plants with little or no backward integration with rest of the economy. The first completely indigenous car assembly company in Nigeria, the Innoson Vehicle Manufacturing (IVM), was established in 2010 at Nnewi. As the Guardian Editor observes, the IVM is equipped with the state-of-the-art materials and sophisticated design, but under the control of multinational companies (The Guardian, 2018)

In 2015, through the National Automotive Design and Development Council (NADDC) 12 new vehicle manufacturers were awarded licenses to establish assembly plants in the country. The companies are Toyota, Honda, General Appliance West Africa, Perfection Motors Company and Richbon Nigeria, RT Briscoe Nigeria, Nigeria-China Manufacturing Company, Nigeria Sino Trucks, Coscharis Motors, DAG Motorcycle Industry Nigeria, Globe Motors Nigeria, Century Auto Assembly Nigeria and Concept Auto Central (Naira Metrics, 2017).

The establishment of automobile manufacturing companies necessarily spring up spare parts manufacturing companies in the country. Though, there are indigenous firms involved in local production of vehicle spare parts, production is dominated by foreign companies within the country. Furthermore, spare parts production is largely controlled by foreign firms, thus, the bulk of them are imported. The Business Innovation Growth website in 2017 reveals that the components required to service vehicles are mostly imported and these imports are augmented by the modest local production from the automobile spare parts cluster in Nnewi. Still on the nature of spare parts production, the National Automobile Council of Nigeria (NACN) report in 2014 indicates that, if imports were to be substituted by domestic production, it will not only result in a potential value added of over ₦100 billion naira per annum, but will also create over 70,000 direct jobs and 700,000 indirect new jobs in the economy, through medium and small-scale enterprises in the area of inputs suppliers for manufacturing of auto parts, etc. Obviously, the nature of industrialisation from the perspective of automobile manufacturing is largely import-dependent.

Similar imported dependent industrialisation is observable in the telecommunication industry. The global system of mobile-communication (GSM) was launched in 2001, thereby liberalizing the telecommunication sector. Since then, various types of cell-phones are used in the country. Interestingly over 97 percent of the cell-phones are imported. Busayo (2017) disclosed that some of the most available cell-phone brands in Nigeria are Tecno, Iphone, Samsung, Huawei, Gionee, Innojoo, ITEL, Infinix, Nokia, Sony Xperia and LG. As the News Agency of Nigeria (NAN) indicated the first cell phone manufacturing/assembly plant for made in Nigeria phones and other accessories was inaugurated in April 2017 in Lagos. The plant is owned by Afrione Limited. Edozie (2017) identified some made in Nigeria cell phones to include Solo Aspire 3, Plirisblazex-64, Ankara K2 and Gravity Z1. However, the main material components and the technology of these phones are imported. Thus, they are merely assembled in Nigeria in actual sense and cannot pass for made in Nigeria phones in reality. Cell phone

manufacturing/assembly is in the high-tech domain that requires concerted involvement in research and development. The Chinese and other Asian economies did not achieve high-tech industrial production and value addition by luck but through determined programmes and investment in research and development activities.

Other key contributors to the industrialisation aspiration of Nigeria are the food, beverages and tobacco industries. There are about 805 food and beverages companies in Nigeria, according to the Nigeria Directory in 2017. Some of these are UAC foods, Unilver Nigeria, Dangote Industries Limited, Honeywell Flour Mills Limited, Matna Foods Company Limited, Rhabe Ventures Limited, Michaga Foods Nigeria Limited, South Silos and Grains Limited, Wandy Foods, Dufil Prima Foods, Nestle and Nigerian Breweries Plc. As Chete, et.al (2014) posited, the Nigerian manufacturing sector is dominated by firms in the food, beverages and tobacco sub-sector, with 30.17 percent of total national manufactures and is closely followed by the garment sub-sector with 22.28 percent. Though considered to be light industrial sector the food, beverages and tobacco companies largely make use of foreign technologies and are dominated by international capitalists. Also, these firms, both local and foreign depend mainly on imported machines and spare parts as well as the bulk of the raw materials for their production (Adeokya, 2018). Obviously, this situation of import dependent industrialisation does not encourage the growth of indigenous technologies and local industries. This approach to industrialisation is capital-intensive and does not enhance international competitiveness of the Nigerian producer(s) since he lacks the technological capacity needed in the global market place at the moment.

Value Addition and Industrialisation: The Nigerian Experience

As earlier noted, Nigeria has experimented with different strategies of industrialisation since her independence in 1960. These policies/strategies have failed to achieve the desired outcomes because they do not make value addition a centre-piece of their design. However, it is important to note that for industrialisation to be achieved there must be substantial value addition and production segmentation in the country's manufacturing outfits. Production segmentation involves an arrangement in which certain main components of manufactured products are produced by different firms in the same nation or different nations. This encourages specialization of the different firms in the aspect of the product assigned to them for production (Harry, 2016). Essentially, it has been argued that the higher the value addition the greater the contributions of manufacturing to socio-economic wellbeing of the people of a country. On value addition and backward linkages, it is clear that the industrial sector has not done well in these areas (Ajayi, 2011). In Nigeria, over 80 percent of non-labour inputs in the industrial sector are from foreign sources. Ajayi (2011) opined that the percentage share of manufacturing in Nigeria's gross value addition dropped from 17 percent in the early 1980s to 13 percent in 1987, and 10.7 percent in 1993 and 12.1 percent in 1994. This has negative consequence for the growth of the industrial sector of the nation.

Commenting on value addition, backward integration and industrialisation in Asia, Jayanthakumaran (2003) asserts that domestic raw materials input in the production process was substantial and this led to a great success in South Korea, Indonesia, Malaysia and Sri Lanka's industrialisation efforts. Appreciating the centrality of value addition in the industrialisation of the Asian economies, using the export process zones strategy of industrialisation, Rhee and Belot (1990) and Haywood (2000) observed that the zones helped

these countries to achieve sustainable long-term growth by diversifying them into high-value-added manufactured goods production economics. Amirahmadi and Wu (1995) and Agarwal (2010) put the total value-addition rate of some Asian countries as follows: India – 48 percent, Indonesia – 62 percent, Taiwan – 49 percent and South Korea – 52 percent.

A focus on the three highly consumed industrial products (automobiles, cell phones and food, beverages and tobacco) manufactured in Nigeria indicates very low levels of value addition. For instance, a study by Price Water House Coopers (PWC) in 2015 revealed that the vehicle population in Nigeria is about 14 million cars (Business Innovation Growth, 2017). Business Innovation Growth (BIG) report further shows that the automotive industry in Nigeria has a market potential for one million new cars per annum. However, about 400,000 vehicles are imported annually valued at USD\$4.2 billion out of which 100,000 are new and 300,000 used cars. Furthermore, the report indicates that local production capacity (assembly) is about 300,000 but utilization is currently at about 15 percent of installed capacity. This shows that Nigeria imports nearly all the cars on her roads. According to Ventures Africa (2017), there are about 32 major brands of vehicles in Nigeria, out of which six are from Germany, twelve Japanese and the United Kingdom, France, South Korea and the United States of America share the rest. A Guardian Editor in 2018 identified five made in Nigeria cars to include: (i) Peugeot 301, (ii) Hyundai Grand i10, (iii) Nissan Almera (iv) Kia Rio, Cerato and Optima, and (v) IVM 6490A. While these cars are designed for the Nigerian market, they are vehicles manufactured in their parent countries and are only assembled in Nigeria, except the IVM 6490A which is designed, modelled fabricated and manufactured in Nigeria; however, the engine component is sourced from China. Indeed, in all other cars plying the roads of Nigeria technology and materials value addition is next to zero, while IVM (Innoson Vehicle Manufacturing) motors enjoys a minimum of 60 percent value addition in the technology and materials inputs.

Similarly, the National Communication Commission (NCC) puts the number of mobile phone subscribers in Nigeria as at September 2017 at 140 million people (Tauna, 2018). As Adepetun (2018) posited, mobile phone penetration in Nigeria enjoyed upward swing as the number of subscribers grew astronomically in 2017 resulting in 84 percent moving from 53 percent in 2016. The reason for this rapid growth of mobile phone users is the availability of lower priced phones (some of which are assembled in Nigeria), which paved way for more Nigerians to own a device or phone. Indeed, a number of cell phones are manufactured/assembled in Nigeria, which among others includes: Gravity ZI, Solo Aspire 3, Plirisblazex 64 and Ankara K2. Nonetheless, the technology and the component parts of these cell phones are imported. Also, the story is not different in the food beverages and tobacco industries. Thomas Mwanza, Unilever West Africa Procurement Director, discloses that the company is investing in the production of raw materials, such as palm oil for use in Blue Band and soaps and herbs and spices for seasoning cubes, locally; the bulk of the raw materials used by the firm are imported. Presenting a holistic view in this regard, with respect to raw materials procurement in the food, beverages and tobacco industries in the country, Adeokya (2018) stated that, “as it currently stands, imports are still the dominant source of inputs to food, beverages and tobacco industry in Nigeria, accounting for more than 70 percent of all materials. A similar remark was made by Abdullahi (2000) when he asserted that, manufacturers of toiletries and cosmetics depend heavily on importation of the chemical-based raw materials because of the absence of local production capacity. The low level of value addition in these sectors and products, no doubt, has stunted the industrialisation of the Nigerian economy in its leaps and bounds.

Discussion

The authors set out to establish relationship between value addition and industrialisation in Nigeria. Industrialisation is very important in addressing the many economic problems facing Nigeria such as unemployment, low per capita income, poverty, etc. In recognition of this fact the Nigeria government has adopted various industrialisation strategies, which among others include import substitution industrialisation, export promotion industrialisation and export process zone. From the findings, it is clear that industrialisation had remained a mirage because the strategies/policies put in place to pursue the course do not emphasize value addition in the production processes. While it is true that a number of industrial concerns operate in the country, they have not substantially impacted the economy to consider Nigeria a nation with a functional industrial sector. This is largely due to the near absence of value addition and production segmentation.

The share of value addition in manufactured/assembled goods is critical to achieve economic diversification and ultimately industrialisation. For the industrial sector to contribute meaningfully towards economic diversification and growth, as expected in Nigeria, the level of value addition for the manufactured/assembled goods, whether exported or locally consumed, must be reasonably high, up to 50 percent.

A focus on three key highly consumed industrial products and the operations of their sectors revealed that value addition in the country is abysmally low and that has strongly negatively affected the industrialisation drive of the country. First, in the automobile sub-sectors of the economy, it was evident that out of 14 million vehicles that ply the roads of Nigeria less than 20 percent were manufactured/assembled in the country.

Similarly, out of five brands of cars tagged “made-in-Nigeria cars”, only one (that is, the Innoson Vehicle Manufacturing (IVM) cars) is qualified in really sense to be so called. All other vehicles in the country are foreign brands, actually manufactured in their parent countries imported into Nigeria as finished products or semi-finished products assembled by their subsidiaries in Nigeria without any local input in the areas of technology and materials. On the other hand, the IVM cars on Nigeria roads were designed, modelled, fabricated and produced in the country, except the engines which were procured from China in a production segmentation arrangement. Indeed, value addition to IVM motors is over 60 percent and this is very significant in the industrialisation aspiration of the nation.

In the same vein, it was discovered that the population of mobile phone users increased astronomically to about 84 percent of the total population in 2017. However, the cell phones used in the country were largely imported. Even the “so-called” made-in-Nigeria phones were merely assembled by some Nigerian businessmen and their international capitalist partners, for the component parts of these cell phones were all imported into the country for assemblage. The experience in the food, beverages and tobacco industry is not so different. It was established that there are about 805 companies in this sector operating in the country and they dominate manufacturing activities in the country with 30.17 percent. Over 70 percent of all materials used in the food, beverages and tobacco industry were imported for production. This is particularly worrisome because Nigeria is largely an agrarian society producing most of the agricultural raw materials needed in the food, beverages and tobacco industry. Obviously, substantially patronizing farmers in the country would enhance agricultural value addition which will in-turn help in averting post-harvest losses that producers might suffer and create room for investment

on additional processing facilities as well as achieve increase in farm incomes. No doubt, for the political economy of value addition to be meaningful in Nigeria, there is need to achieve a minimum of 50 percent in technology and material value addition in most, if not all, products consumed and exported. It is only when such is the case that the country would experience accelerated industrialisation.

Furthermore, it was revealed that the industrialisation drive by successive administration was stunted by various issues of policy disarticulation by public office holders in the country. One of such area of disarticulated policy in Nigeria is with respect to poor research and development activities resulting from poor funding of the country's research institutes and the attendant effect on value addition and industrialisation is enormous. Research generates new ideas and enhances innovation in the production processes of a nation. Essentially, the poor investment in research and non-involvement in qualitative R and D, technological upgrades to facilitate value addition in the industrial sector. Interestingly, the Asian economies that were on the same pedestal with Nigeria at independence in 1960 in the area of industrialisation, today consume the bulk of industrial products manufactured in their countries. These Asian countries did not achieve high level of value addition in their industrialisation pursuit accidentally; rather they made concerted efforts at investment and involvement in R and D activities that enhanced their technological advancement and industrialisation. For instance, to achieve rapid technological advancement and industrialisation, China established the high-tech industrial development zones and heavily funded them with 105.4 billion Yuan, an equivalent of 35.1 percent of China's total expenditure on R and D. Evidently, with such huge deliberate investment in R and D activities, China attained high level of technological upgrade, made innovations and giant strides in manufacturing and industrialisation.

With respect to the model of industrialisation adopted in the country and its implications, it was noted that the capital-intensive industrialisation approach held sway in all the industrialisation policies/strategies pursued since independence in 1960. As demonstrated earlier, the plants, factories and other manufacturing outfits set up in the country imported machines and spare parts for their operations. This approach to industrialisation negates the use of indigenous technology, technological development and rapid innovation needed for industrialisation. To indigenise and endogenise technology in the manufacturing/industrial sector of the country concerted efforts must be made to encourage craftsmen to grow into setting up labour-intensive industries. This was the approach adopted in all the developed economies on their path to industrialisation. Indeed, the Western countries adopted the labour-intensive manufacturing model of industrialisation in the beginning and then moved to the capital-intensive model as was with the journeymen during the industrial revolution in Europe and later to Asia and Latin America. The major problem of the capital-intensive model of industrialisation adopted in Nigeria is that the required technical manpower to drive the process effectively is in short supply to give the nation competitive advantage in the industrial sector. Obviously, the encouragement of labour-intensive industries in certain areas of production in the country would help increase employment, cut cost of production in those industries and enhance competitiveness.

Conclusion

The realization of the importance of the industrial sector to socio-economic development of a nation necessitated the pursuit of various industrialisation policies/strategies by successive

regime in Nigeria since independence in 1960. However, these policies and strategies have not yielded the expected benefits for the nation. The major reasons for the failure of the industrialisation efforts and strategies in Nigeria is the poor/low level of value addition and production segmentation as well as the capital-intensive approach adopted in manufacturing over the years. To achieve accelerated industrialisation in Nigeria, deliberate and concerted efforts must be made to increase value addition on manufacturing and encourage labour-intensive production in certain industries (for example, in the food and beverages industries). Thus, the conclusion of the paper is that for Nigeria to be an industrial economy value addition must be made a sine qua non in the production processes (that is in the manufacturing and assembling) across all the sectors. This was what the Asian countries do to rapidly industrialize their economies.

Recommendations

Based on the findings of the study the following recommendations are made:

- (a) Value addition and production segmentation should be made mandatory in the production processes across all sectors. This will enhance backward linkages with the rest of the economy and accelerate the industrialisation process of the country.
- (b) Labour-intensive model of production should be encouraged in certain industries, particularly in the food and beverages industry.
- (c) Research and development activities should be properly funded to generate new ideas, make innovations and develop local/indigenous technologies in the production processes.

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