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Industrial Development Potentials and Mineral Resources Sector Generation in Nigeria

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Abstract

The solid mineral sector is very strategic to industrialization and development of the Nigerian economy. In addition to its macroeconomic importance, the sector has major roles to play in reducing poverty, improving productivity and enhancing the general quality of lives. The sector is greatly linked to other sectors of the economy, contributes to a stable growth of economy and the realization of social and political objectives. Nigeria is blessed with rich and vast variety of conventional and mineral sources. Despite these potentials Nigeria's mineral sector has been dominated by fossil fuels and is been faced by various challenges, which have undermined its industrialization process and development over the years. The fundamental issue addressed in this paper is the extent to which Nigeria has restructured her industrial and energy systems for effective industrialization within the on-going trade globalization process. Generally, enough incentives for efficient resource allocation in order to promote processed raw materials within the on-going process of globalization, coupled with economic liberalization mid deregulation paradigms have not been created. It was proposed that a mixture of the invisible hand of the market with the visible hand of the State should guide the process of industrialization, economic diversification, trade and development similar to the case of East Asian Tigers. Nigeria needs to diversify its mining and mineral sectors and the utilization of these will reduce the country's dependence on fossil fuels and provide an economically stable source of income and employment in the sectors. Therefore, Nigeria needs to develop a technologically driven mineral sector that will harness the nation's resources to complement its fossil fuel consumption and guarantee solid mineral resources security.

Keywords: *Industrial Development, Potentials, Mineral Resources, Nigeria.*

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Background to the Study

Industrialization has been seen as a veritable channel of attaining the lofty and desirable conception and goals of improved quality of life for the populace. This is because; industrial development involves extensive technology-based development of the productive (manufacturing) system of the economy. In other words, it could be seen as a deliberate and sustained application and combination of suitable technology, management techniques and other resources to move the economy from the traditional low level of production to a more automated and efficient system of mass production of goods and services (Ayodele & Falokun, 2003).

Against this background, however, industrialization seems to require sustainable mineral sector to achieve economic growth and development. This therefore explains the reason why successive governments in developing countries such as Nigeria emphasize industrialization as a way of transforming the economy as well as the constraints.

In the last three decades, since independence, Nigeria has pursued industrialization with the hope to transform the economy from a monolithic, inefficient and import-dependent economy to a more dynamic and export-oriented economy, especially exports of industrial goods. These aspirations as contained in the successive development plans (especially, first and second development plans) of the Federal Government were further reinforced by the windfall gains from crude oil boom of the 1972/73 and 1979/80 periods (Ajakaiye, 1990). However, despite series of deregulation policies introduced since 1986 by successive governments to facilitate industrialization process in an economically conducive manufacturing environment, the performance of the industrial sector remains undesirable. In the last two decades, Nigeria recorded an unremarkable economic performance especially in manufacturing industry in the areas of production and international trade (Hayashi, 1996). Besides, lack of knowledge and mining of minerals might have largely contributed to such unfavorable performance of the industrial (manufacturing) sector. Regardless of the numerous constraints facing the industrial sector, the country still has some hope in the sector in propelling the necessary economic diversification from risk and uncertainty of the mining sector. On the trade front, historically, industrial development in Nigeria ties squarely with the developed countries from both the east and the west. Currently, the country is a member of the ECOWAS and has been affiliated to the World Trade Organization (WTO).

However, to achieve the desired level of industrialization, solid mineral exploitation is vital. This is because it is the driver for industrial development; that its sufficiency will reduce the production cost of the domestic industries thereby enhancing their competitiveness. Despite this, Nigeria is still suffering from mining crisis.

In the current trend of globalization of trade and investment, however, Nigeria is facing a crucial turning point of how to improve significantly, the performance of the industry, in terms of such production and trade. Thus, the challenge to the country is how to design strategies and policies relevant to regional and global competition given the small market of the economy especially in the area of industrial products. Future economic development

seems to depend upon whether or not Nigeria can establish a preferable industrial structure and participate in horizontal international specialization in the global market (Falokun, 1999).

This paper therefore seeks to discuss Nigeria's new industrial development strategy, its challenges with respect to solid mineral's development shortage, and the way forward. It starts by showing the relevance of such mining industry to economic development before undertaking a comprehensive review of the country's past industrial and mining of solid mineral's policies. The central argument is that the new policy may still suffer the fate of its predecessors unless immediate steps are taken by governments at various levels to facilitate its implementation.

The Study Area

Nigeria is located in western Africa on the Gulf of Guinea and has a total area of 923,768 km^2 (356,669 sq mi) It is situated in the West African region and lies between longitudes 3 degrees and 14 degrees and latitudes 4 degrees and 14 degrees (see figure 1). It has a land mass of 923,768 sq.km. It shares a 4,047-kilometre (2,515 mi) border with Benin (773 km), Niger (1497 km), Chad (87 km), and Cameroon (1690 km), and has a coastline of at least 853 km. Nigeria lies between latitudes 4° and 14°N, and longitudes 2° and 15°E. The highest point in Nigeria is Chappal Waddi at 2,419 m (7,936 ft). The main rivers are the Niger and the Benue, which converge and empty into the Niger Delta. This is one of the world's largest river deltas, and the location of a large area of Central African mangroves (Kankara, 2008).

Nigeria has a varied landscape. The far south is defined by its tropical rainforest climate, where annual rainfall is 60 to 80 inches (1,500 to 2,000 mm) a year. In the southeast stands the Obudu Plateau. Coastal plains are found in both the southwest and the southeast. This forest zone's most southerly portion is defined as salt water swamp, also known as a mangrove swamp because of the large amount of mangroves in the area. North of this is fresh water swamp, containing different vegetation from the salt water swamp, and north of that is rainforest. It is found in the Tropics, where the climate is seasonally damp and very humid. Nigeria is affected by four climate types; these climate types are distinguishable, as one moves from the southern part of Nigeria to the northern part of Nigeria through Nigeria's middle belt.

Figure 1: Map of Nigeria showing the States
Source: Geological Survey, 2009

Figure 2: Areas of gold mineralization in Nigeria
Source: Geological Survey, 2009

Climate and Vegetation

Temperatures across the country are relatively high with a very narrow variation in seasonal and diurnal ranges (22-36t). There are two basic seasons; wet season which lasts from April to October; and the dry season which lasts from November till March. The dry season commences with Harmattan, a dry chilly spell that lasts till February and is associated with lower temperatures, a dusty and hazy atmosphere brought about by the North-Easterly winds blowing from the Arabian peninsula across the Sahara; the second half of the dry season, February-March, is the hottest period of the year when temperatures range from 33 to 38 degrees centigrade. The extremes of the wet season are felt on the southeastern coast where annual rainfall might reach up to 330cm; while the extremes of the dry season, in aridity and high temperatures are felt in the extreme northern part of the country (Kankara, 2008).

In line with rainfall distribution, a wetter south and a drier northern half, there are two broad vegetation types: Forests and Savanna. There are three variants of each, running as near parallel bands east to west across the country. Forests Savanna Saline water swamp Guinea Savanna Fresh water swamp Sudan Savanna Tropical (high) evergreen Sahel Savanna Rainforest. There is also the mountain vegetation of the isolated high plateau regions on the far eastern extremes of the country (Jos, Mambilla, Obudu). The savanna, especially Guinea and Sudan, are the major grains, grasses, tubers, vegetable and cotton growing regions. The Tropical evergreen rain forest belt bears timber production and forest development, production of cassava; and plantation growing of fruit trees-citrus, oil palm, cocoa and rubber, among others.

Industrial Potential and Mineral Resources Generation

Challenges of the country's industries to the point that many have concluded that the more new policies were introduced, the farther the country moved away from being industrialized. Furthermore, the discovery of crude oil, which immediately became the primary export commodity and foreign exchange earner, was to worsen the situation leading to the almost total neglect of industries. Unfortunately, the volatility associated with international oil prices frequently led the country's resource expectations into avoidable difficulties resulting in the resurgence of calls for the diversification of Nigeria's economy in general and revenue base in particular (NISER, 2003). As in the past, the government early in 2007 responded by introducing a new industrial development policy, which was based on the Cluster Concept (Yesufu, 1996). But, given past experiences, many are not yet convinced that this is the long term solution to Nigeria's industrial development challenges.

Industrial Development and Mineral Generation Since Independence

The mineral resources of Nigeria can be divided into three: Economic ones, potentially economic ones, and other minerals. The economic ones are tin ore, columbite, gold, limestone, coal and oil. The potentially economic ones are lignite, iron ore, china clay, or kaolin, mica, lead zinc, wolfram and tantalite. Other minerals include radio-active minerals (monazite, pyrochlore, thorite, zircon, and fergusonite); precious stones and metal, diamonds discovered in Sokoto and Zaria Provinces of Northern Nigeria in 1934, and silver at Kigom in Plateau Province of the same region, felspar (in Kabba Province (north), Abeokuta and Oshogbo (west)), phosphates, salt, asbestos, diatomite, talc, barytes, beryl, ilmentine, and xenotine (Kankara, 2010).

Coal

Until quite recently coal was the basic fuel for commercial and industrial energy. The main users have been the Nigerian Railway Corporation, the Ghana Railway Administration, the Electricity Corporation of Nigeria and the Nigerian Ports Authority. The first three, however, have found it more economical to use diesel oil and their demand for coal has therefore fallen, with the result that over 2,000 of the operating staff of the Nigerian Coal Corporation were retrenched in 1960 and the output from the mines was reduced by more than 150,000 tons. The total output from the mines of the Nigerian Coal Corporation in 1959 was the highest on record-905,397 tons (Egwaikhide, 1997). The Nigerian Coal Corporation is a statutory Corporation established in 1950 to operate coal mines which were first discovered in Enugu, capital of Eastern Nigeria, in 1909. The Corporation has a monopoly to work coal in Nigeria. The first colliery was opened in 1915 under the administration of the railway and later of another government department (Kankara, 2010).

There are four mines in the colliery, Okpara, Iva, Ribadu and Ekulu. The reserve of coal in Enugu is estimated at 38 million tons. About 40 million tons of coal have been proved to exist in Orukpa in Benue Province, Northern Nigeria. Coal has also been discovered in Kabba Province, but none of these have been developed apart from Enugu. The reserves of coal in the country as a whole are estimated at 242 million tons. Contrary to earlier reports, it was discovered in 1959 that the Enugu coal is of a coking variety. There are five seams of coal in the colliery, but only one is being worked because the other four are considered to be uneconomic. The collieries have a production capacity of between 2,600 and 2,800 tons per

day, but the present rate of production is about 600,000 tons per annum, an average of 1,666 tons a day.

Tin Ore

Nigeria supplies 5 per cent of the world output of tin ore, and is thus the world's sixth largest tin producer. The price is controlled by the International Tin Council by an agreement which came into effect on 1 July 1956, and lasts for five years. In 1957 exports were worth more than £7 million, but exports were later restricted by the International Tin Council and were worth about £4 million in 1960. During the first quarter of 1961 there was no restriction of exports. The chief deposits of tin are in Plateau, Bauchi, Zaria, Kano, and Benue Provinces of Northern Nigeria, small deposits are found in Ondo, and Oyo in the West and Calabar in the East. It is estimated that the known tin-ore reserves of the Federation total 135,000 tons (Chete & Adoye, 2002). There are, however, other reserves of tin ore which have not yet been determined because they are found below a basalt capping and it is impossible to work them by known mining methods. It is officially stated that these undetermined reserves "constitute a major source of tin for the future". In 1963, 11,788 tons of tin ore valued £7,951,000 were exported from Nigeria (Kankara, 2010).

Columbite

Nigeria is the world's largest supplier of columbite, producing 95 per cent of the world's requirement, From 1952 to 1955 the United States Government, the largest consumer of columbite, offered a 100 per cent bonus on all purchases, with the result that in 1955 the value of Nigeria's exports exceeded £5 million. Since then world demand for columbite has fallen and in 1958 Nigeria's exports were worth only £500,000. Columbite is associated with tin ore and until early in the century it was thrown away in Nigeria as a waste material in the course of tin concentration. The chief deposits are, therefore, found in the same provinces where tin ore is found. The known reserves of columbite total 66,900 tons but there are large deposits of columbite not yet determined. In 1963 2,012 tons of columbite worth £861,000 was exported (Fabayo, 2003; Kankara, 2010).

Gold

Although it is officially stated that gold deposits cover a large area of Nigeria, the only goldfields now producing gold, of some quantity are in Oyo Province, Western Nigeria Nigeria's total output of gold has been falling (see figure 2). It reached its peak in .1942 when 43,747 ounces were' produced. In 1954 the production was 1,010 'ounces. In 1957 it was 522. In the pre-war years and during the war the bulk of 'the production came from Sokoto and Niger Provinces. But now the .only provinces 'outside Oyo where gold is produced are Kabba (60 ounces) and Niger (22 ounces).

Limestone

Deposits of limestone exist in all the provinces of Nigeria but there are difficulties of transport and fuel in converting them to lime or cement. Consequently only the deposits at Nkalagu, Eastern Nigeria (with rail and road access and with coal being supplied from Enugu) and the large deposits at Abeokuta, Western Nigeria (on the railway line and with easy road access) are at present being worked by two separate factories. Apart from these two factories, a third cement factory with a capacity of 100,000 tons per annum was expected to go into production

at Sokoto by the middle of 1965, a fourth is planned to be constructed in Calabar in Eastern Nigeria and a fifth at Ukpilla in the Midwest (Kankara, 2010). There are four clinker- grinding mills in addition to these factories. In 1964, both Nkalagu and Abeokuta (Ewekoro) produced between them 650,000 tons out of Nigeria's total consumption 810,000 to 900,000 tons of cement a year.

Harnessing Other Development Sector
Oil/Petroleum Potentials

Eight companies are prospecting for oil in the Federation. They are Shell-BP Petroleum Development Company of Nigeria Limited, Safrap Nigeria Limited, the Nigerian Gulf Oil Company Limited, the Nigerian Agip Oil Company Limited, Tennessee Nigeria Incorporated, Mobil Exploration (Nigeria) Limited, the American Overseas Petroleum Company Limited, and Phillips Petroleum Company Limited. All but one (Phillips Petroleum Company Limited) have found oil in varying quantities. The whole of the Delta area in the east and the mid-west is an oil province. Oil also exists offshore along the Coast, outside of Nigeria's territorial waters. The export figures for the last three years are as follows:

1962	24,680,833 barrels or 3,301,120 tons
1963	27,704,769 barrels or 3,695,442 tons
1964	43,287,805 barrels or 5,764,245 tons

At the end of the financial year 1964-65, oil export was at the rate of 7,096,080 barrels or 945,946 tons a month. When all the companies start production at the end of 1965, well over a million tons a month will be exported. Both the Federal Government and the Shell-BP Development Company of Nigeria Limited are building a refinery at Alesa Eleme, near Port-Harcourt. The refinery is expected to begin operation in the third quarter of 1965, at a rate of I 5 million tons per annum. When in operation, the refinery will make Nigeria self-sufficient in kerosene, diesel, gas oil and fuel oil. The Bureau of International Commerce of the United States Department of Commerce has predicted that Nigeria may become one of the ten largest oil-producing countries of the world within the next five to ten years. According to the Bureau, estimates of Nigerian petroleum reserves indicated a potential production capacity of 30 million tons per annum. It is expected that petroleum will become Nigeria's biggest foreign exchange earner.

Wind Energy Potentials

Wind, which is an effect from the uneven heating of the earth's surface by the sun and its resultant pressure inequalities, is available at annual average speeds of about 2.0 m/s at the coastal region and 4.0 m/s at the far northern region of Nigeria. Assuming an air density of 1.1 kg/m3, wind energy intensity, perpendicular to the wind direction, ranges between 4.4 WV m2 at the coastal areas and 35.2 WV m2 at the far northern region (Sambo, 2009). It is estimated that the maximum energy obtainable from a 25m diameter wind turbine with an efficiency of 30% at 25m height to be about 97 MWh year for Sokoto, a site in the high wind speed regions, 50 MWh year for Kano, 25.7 MWh year for Lagos and 24.5 MWh year for Port Harcourt (Ikuponisi, 2000).

Biomass Energy Potentials

Biomass refers to energy derivable from sources of plant origin such as trees, grasses, agricultural crops and their derivatives, as well as animal wastes. As an energy resource, biomass may be used as solid fuel, or converted via a variety of technologies to liquid or gaseous forms for the generation of electric power, heat or fuel for motive power. Biomass resources are considered as they are naturally occurring and when properly managed, may be harvested without significant depletion. Biomass resources available in the country include: fuel wood, agricultural waste and crop residue, sawdust and wood shavings, animal dung/poultry droppings, industrial effluents/municipal solid waste (Sambo, 2009).

The biomass resources of Nigeria can be identified as wood, forage grasses and shrubs, animal's waste arising from forestry, agricultural, municipal and industrial activities, as well as, Aquatic biomass. The biomass resources of the nation have been estimated to be about 8x10 M.J. Plant biomass can be utilized as fuel for small-scale industries, it could also be fermented by anaerobic bacteria to produce a very versatile and cheap Fuel Gas i.e. bio gas (Ikuponisi, 2000). Moreover, Nigeria produces about 227,500 tons of fresh animal wastes daily (Uyigue, et al. 2007). Since I kilogram (kg) of fresh animal wastes produces about 0.03 m gas, and then Nigeria can produce about 6.8 million m of biogas every day. In addition to all these, 20kg of municipal solid wastes (MSW) per capital has been estimated to be generated in the country annually. By the 1991 census figure of 88.5 million inhabitants, the total generated MSW will be at least 1.77 million tonnes every year (Ikuponisi, 2000).

Gas

Natural gas has been discovered in the Eastern and a new Power Station, the Afam Power Station is to be constructed in the area of Port Harcourt and Aba which will provide cheap power not only to this area but to Calabar via Ikot Ekpene and Uyo. This also extends from Aba to Oji by means of a transmission line.

Sustainable Mineral Resources

Many features or solid mineral resources make them sustainable and thus suitable for sustainable income generation. Some of these features are: their rate of exploitation does not affect their availability in future, thus they are inexhaustible; the resources are generally well distributed all over the world, even though wide spatial and temporal variations occur. Thus all regions of the world have reasonable access to one or more forms; they are of commercial quantities, good reserves and are pollution-free, that they can be cheaply and continuously harvested.

On the other hand fossil energy carriers are hydrocarbon substances and include crude oil, natural gas, tar sands and coal. They are depletable at any rate of consumption. Also, when ordinarily consumed, fossil fuels upset the natural balance of carbon dioxide (C02) in the atmosphere and thus contribute to global warming (Oyejide, 1998).

Energy carriers are resources, which are available on a continuous or cyclic basis and include solar, wind, hydro, tidal, wave, geothermal, and biodegradable- biomass (fuel wood, animal and crop residues, energy crops, etc.). They are, on the other hand, non-depletable on consumption. Apart from large hydro, and some form of biomass, energy utilization has

relatively little negative effects on the environment. They are therefore energy resources suitable for sustainable development.

Problems of Solid Mineral Industrial Sector

The problems facing this sector have been severe since 1982. Prior to the 1980s, growth had been greatest in Industries that process raw materials, industries like those that process synthetic fibers, paints, rubber and kaolin processing plants, but in 1988, only five sub-sectors were able to exceed the 1982 production levels. Growth in the manufacturing index in 1990 was driven by growth in the production of synthetic fabrics. Overall capacity utilization in manufacturing rose from 25 per cent in 1985 to 38.7 per cent in 1991 and to 41.8 per cent in 1992, before declining again in 1994 to 31% (CBN, 1995), and this is generally due to the energy and power problems persisting in to the country.

The shrinking of the country's foreign exchange earnings was the primary cause of the collapse of many manufacturing activities and mineral processing Industries in the mid 1980s. In view of the high dependence on imported raw materials and equipment, inevitably, manufacturing was hard-hit by import rationing that resulted from the contraction of government import licenses and foreign credit lines from 1982-86.

Apart from energy problem, the following also hamper solid mineral's industrialization in Nigeria: Most of the companies lack the economies of scale, technical know-how and the financial resources to make such ventures successful. Thus, heavy production costs tend to make using locally sourced raw materials more expensive than their imported counterparts. Contractions in the industrial sector mean increases in the rate of unemployment, inflation and external trade imbalances.

Moreover, it is reasonable to expect that at initial stages of development, agriculture may be dominant as contributor to GDP. However, as the economy develops, the contribution of agriculture should decline while that of the manufacturing should increase. In other words, a country where the contribution of mining to GDP is higher than that of the manufacturing can be considered less developed than another where the contribution of manufacturing is higher than that of mining, be it illegal or formal.

In short, Nigeria has experienced little or no transformation of its mineral industrial structure, with the primary or local industry's dominating. This observed phenomenon could be adduced to a low volume of investment and productivity in the manufacturing industry. The structural changes that brought about the few level of growth recorded in the manufacturing industry could be attributable to series of deregulation measures since 1986. The challenge for Nigeria at this point is to articulate policies and programs that will accelerate the pace of manufacturing and industrial activities so as to catch up with countries like Malaysia, Indonesia and South Africa especially in the medium term.

The analysis so far shows that the Nigerian economy has a built-in structure of high import dependency. An increase in domestic demand induces a large increase in imported intermediate, finished and capital goods through direct and indirect linkages. This industrial and trade structure with heavy reliance on imported inputs has resulted in the increasing

deficit on current account, which is one of the, most serious problems the Nigerian government is facing in recent years. Given the rapid international trend towards the trade liberalization and globalization, an economy without strong basic industries or supporting industries can neither enjoy the emerging opportunities nor sufficiently compete in the international market. It is therefore essential for the Nigerian government to formulate appropriate industrial and trade policies aimed at fostering competitive basic industries or supporting industries without adopting protection measures.

Conclusion

In conclusion, given the recent trend towards trade liberalization and globalization of the solid minerals and other commodities, it is Imperative for the Nigerian government to formulate appropriate industrial and trade policies as suggested above. These policies will foster competitive basic industries, support local manufacturing industries and make Nigeria to enjoy the emerging opportunities and sufficiently compete in the international market without adopting protection measures. Mineral exploration and exploitation technologies are promising solutions to the mineral crisis in Nigeria. Mining of industrial minerals, apart from being sustainable and inexhaustible, they can be set up in small units and is therefore suitable for community management and ownership. The development of these is a win-win strategy for both industrial and developing countries; this brings together climate and environmental protection, poverty reduction, technology development and the securing of jobs, energy resources such as solar radiation, wind small-scale hydropower and biomass are, in general, well distributed over the country, including especially the rural areas, thus, if optimally exploited, energy holds the potentials of achieving sustainable power generation capacity of between 25,000MW to 40,000MW for industrialization processes of solid minerals.

Recommendations

Thus, a set of recommendations on industrial and trade policies which will make industries more efficient and competitive and establish a preferable and sufficient industrial and trade structure are suggested as follows: Nigerian government should continuously and consistently introduce further deregulation or reform measures aimed at eliminating an anti-trade bias through reductions in import-protection, removals of export restrictions and increases in domestic competition. This approach will reduce market distortions and raise efficiency in the solid mineral and mining industry. For instance, removals of non-tariff barriers and associated domestic regulations on solid mineral commodities will stimulate exports of sister-based industries In addition to the above measures, government should adopt positive industrial and trade policies in which resources should be allocated to important sectors through persuasion by directing banks to offer credit to local and intermediate mining industries, in order to really spur massive investment in the mining activities, government should lead in providing access to long-term funding at concessionary interest rates as commercial banks are not suitably placed to offer such facilities. Thus, the newly introduced Banks of Industries should be properly funded to provide these facilities. In order to encourage and persuade commercial banks to voluntarily provide a large part of their credit facilities and also allocate a large part of the foreign exchange acquisitions from the official market to manufacturers, government patronage of these banks should be conditional on acceptable performance of the banks in these regards.

The logical solution to the Nigerian solid mineral challenges is for the government to increased penetration of exploitations into the overall mineral assaying supply mix. In addition to this, government should also fund research and development by setting up research centers to develop exploration and exploitation technologies to avoid importation equipments which escalate the already high cost of investment in the sub sector. Moreover, private sector should be encouraged and be given incentives to fund such projects.

Similarly, government should commercialize proven indigenous exploitation technologies and promote local production of said equipments, devices and components through investment promotion strategies and fiscal incentives. In the same vein, public awareness should be carried in the development, application, dissemination and diffusion of solid mineral resources and technologies in the national mineral market; demonstration projects on various mineral's forms be established widely so that the performance and efficiency with which services are delivered can be sensitized.

The development of mineral services is linked to many other sectors such as agriculture, small scale industrial enterprises and poverty alleviation, it is recommended that, mineral related projects have a greater likelihood of success if implemented in tandem with activities in these sectors to ensure sufficient demand for the energy services providers.

There is need to quickly revitalize the industrial base of the economy and promote backward and forward linkages among all categories of industries in the Nigerian solid mineral's manufacturing sector. Besides, manufacturing firms should be encouraged to source their production machinery locally.

Moreover, despite the current global emphasis on privatization and deregulation, a. mutual mixture of the invisible hand of the market with the visible hand of the state should guide the process of industrialization, economic diversification, trade and development similar to the case of the East Asian Tigers. In this regard, Nigerian government should:

(i) Support the industrial sector by providing incentives such as subsidized loan and transitory tax exemption to encourage both indigenous and foreign entrepreneurs. The current Small and Medium Industries Equity Investment Scheme (SMIEIS) meant to finance potential investments in small and medium scale industries is in the right direction;

(ii) support other sectors of the economy such as transport and public utility which are crucial to industrial sectors by reducing their service costs; and

(iii) Support industrial and skilled labour training and technological progress by providing the necessary technical support to the existing industrialists.

Also, the industrial investors should make more effort to compete, directly through raising product quality, efficiency, and productivity and maintaining minimum input costs. Finally, domestic enterprises should exploit to the fullest the current African Growth Opportunity Act (AGOA) and other trade opportunities; but should devise long-term competitive strategies when such opportunities will have expired.

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