
The Measures Needed to Reshape Ghana's Industrial Sector for the Country's Economic Development

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Abstract: Ghana, a West African country often prides herself as the country with abundant natural resources. However the country's economy is yet to benefit from these resources. In the attempt to gain an understanding of the underlying reasons why this is so, the writer employs qualitative research methods by observing the performance of the country's industrial sector. Particularly looking at the contributions that comes from the industrial sector to the country's GDP annually. The writer finds that two major subsectors are contributing negatively to the country's GDP while the country mostly records trade deficits. In view of this, the writer concludes that the country should employ advance technology in all areas of economic activities. There should also be good trade policies, promotion and acceptance of science, technology, vocational and technical education as well as an increase in the share of R & D expenditure in the country's GDP expenditure annually.

Keywords: Gross Domestic Product (GDP), Information and Communication Technology (ICT), Multinational Corporations (MNC), Research and Development (R & D), Small and Medium Enterprise (SME)

1. Ghana's Industrial Sector- How It Looks Like

According to [1], industrialization is the process of building up a country's capacity to process raw materials and to manufacture goods for consumption or further production purposes.

Ghana, a West African country often prides herself as a country with abundant natural resources. This is evident in the abundance of industrial minerals such as gold, timber, diamond, bauxite and manganese. Ghana also has great deposit of other minerals such as barites, clays, granites, and Iron ores and so on. The abundance of hydrocarbons such as sweet crude oil and natural gas makes the country more proud. It is the world's 10th largest producer of gold, 9th largest reserve of diamonds and 9th largest producer of diamonds in the world. Ghana also produce high quality cocoa, and is the 2nd largest producer of cocoa globally. With all these attributes, the state of the country's economy is yet to enjoy from these resources. Although oil production is contributing immensely to the country's GDP, the effect is still low.

According to [2] records the country's provisional GDP for

2015 showed a growth of 4.1 percent where oil is factored into it. Non-oil annual GDP growth rate however expanded from 3.9 percent in 2014 to 4.2 percent in 2015, which leaves some questions unanswered. With all these attributes, in 2014, the contribution from the industrial sector to the country's GDP was 0.8 percent. Water and sewage contributing negative 1.1 percent and manufacturing recording negative 0.8 percent, and construction recording no growth but a decline from the previous year's 8.6 percent. In 2015 however, water and sewage managed to climb to 15.6 percent, construction rose again to 30.6 percent, thanks to some robust measures put in place to revamp the water and sewage as well as the construction industry. However, the manufacturing industry keeps declining, recording a record low of negative 2 percent.

A broader look at the country's 2015 provisional GDP clearly shows that the country's industrial sector is in control now, with a contribution of 9.1 percent, as against agriculture, 0.0 percent with the service sector contributing 4.7% respectively. How can the industrial sector continue to lead the economy as two major industries are contributing negatively to the country's GDP? With mining and quarrying recording minus 3.8 percent and manufacturing minus 2 percent growth rates, is the country's industrial sector performing well? What

is missing? What has to be done?

2. The Situation of the Country's Balance of Trade

According to [3], manufacturing levels in Ghana's industrial growth is rising at a rate of 7.8 percent, making it the 38th fastest industrial production growing in the world due to government industrialization policies. However, a five year record covering 2009 to 2013 shows that the country recorded 3 years of trade deficit out of the 5 year period. The only trade surpluses recorded was in 2011 and 2012 primarily due to the export of crude oil. With this outlook of the country's trade balance, it is a worrying situation and one would doubt if the country would be able to reach even a step close to the vision 2020 set forth.

3. Ghana's Long-Term Strategic Vision of Achieving Middle-Income Status

History tells us that, between 1960 and 1970, Ghana had a very booming industrial sector. Because, after Ghana gained independence in 1957, the first President Dr. Kwame Nkrumah launched an aggressive industrialization drive which resulted in the creation of a relatively wide range of industrial enterprises. That resulted in an increase in the country's manufacturing's share of the Gross Domestic Product (GDP) from 10 percent in 1960 to 14 percent in 1970. But manufacturing is contributing negatively to the country's GDP in this 21st century, why?

Having gone through a historic industrial revolution through different faces of the political structure after independence, the country has had various strategies to enable her regain her industrial attributes. One of such strategies was categorized in the vision 2020. In 1995, the NDC administration launched the Vision 2020 document that was put together by the National Development Planning Commission (NDPC) as Ghana's blue print for sustainable socio-economic development. This vision was presented in Ghana's parliament by then president, President Jerry John Rawlings. The vision 2020 was a strategic economic and development plan put in place to ensure that Ghana becomes a developed country from the years 2020 to 2029, and then immediately move to become a newly industrialized country from the years 2030 to 2039 and thereafter.

However, the subsequent administration (The national Patriotic Party (NPP), under the leadership of former President John Agyekum Kuffour, upon assumption of office realized that the state of the economy needed some social intervention programs to help bring a little relief to the people of Ghana since the country was heavily indebted (and as a result had brought hardship onto the people. He therefore opted for a debt relief under the Heavily Indebted Poor Countries (HIPC), which is a joint comprehensive approach to debt reduction by the International Monetary Fund (IMF) and the World Bank to poor countries facing debt burden they

cannot manage. Through the HIPC initiative, he was able to undertake many programs such as 'The School Feeding Program, The National Health Insurance Scheme, The Metro Mass Transport System, The Private Sector Initiative, to mention but a few, as well as focusing on food production and processing and job creation. This is just one example of the many different economic growth strategies set by one government but changed or modified by another government. Attaining industrial status as a country is not the work of a particular political party. It takes a nationalistic approach devoid of partisanship. This is a major setback to the country's development. Any party that comes into power sees the previous government's programs and policies as not strong enough, simply because the country lacks a well meaning National Development Agenda. These parties just rely on their party manifestos to rule the country. This is a peculiar problem created by democracy, whereby the majority always controls the system. The majority in power is always able to use their numbers to push through the policies and programs of their government either good or bad without looking at the aftermath consequences since they stand in for the 51% of the population.

4. Science and Technology Situation in Ghana

As far back as in the 1960's Ghana's first President, Dr. Kwame Nkrumah saw that science and technology was indeed the engine of growth. His industrial drive was backed by the concentration on education. The accelerated education program and the setting up of the Ghana Education Trust Fund (GET FUND) which enabled the building of secondary and technical schools to train the skilled manpower needed for Ghana's industrialization. According to [4] a relevant section from the last Sectional address of the then president to Parliament on February 1, 1966, three weeks before his overthrow as below

"While higher education advances on a broad front, I have directed that emphasis be laid on education in science and technology with a view to Ghana producing in the shortest possible time not only the Administrators and Managers required to implement our development program, but also the Scientists, Technologists and Technicians needed in industry and agriculture".

Way back then, Ghana was introduced into how the country can be industrialized through the contribution from science and technology, but what is happening in the country now seems rather the opposite. Due to political unrest at that time, some of these science and technology institutes he made mention did not see the light of day, whilst those existing now have serious infrastructural problems for decades. Students' enrolment in science, technical and engineering courses are not rising as compared to other courses such as arts and businesses. A case study conducted on Kwame Nkrumah University of Science and Technology (KNUST) in 2002 revealed that enrolment in Bachelor of Arts and Management

programs as a percentage of total enrolment in the university has been more than 60 percent and still increasing whiles Engineering and the sciences decline by 0.5 percent [5]. This is a big blow to the country as Ghana is seeking to become an industrialized state.

Another worrying development in the country is the societal view towards enrolment in technical education. The writer remembers when he was graduating from Junior high and was asked to choose the programs he would be pursuing in Senior high, none of his classmates was willing to choose to study in the technical schools. Most of them chose the arts, business, etc. This is because the Ghanaian society in a way looks down upon technicians and those who are in the technical fields. For this reason most young ones if not all, never want to enter into that area. And when the writer finally got into the high school, Adisadel College, he was offered business as he had chosen. When it was time for their national competition being it in athletics or football games, most high school students really never wanted to associate with the technical school counterparts. It is also a belief that poor families often opt for technical education for their children since they consider high schools as expensive. And mostly, those who are unable to qualify for the senior high schools all end up at the technical schools. Average income- earners usually prefers their children to enroll in the secondary education as against technical education in Ghana, since they want their children to become teachers, businessmen, lawyers and recently medical doctors, but not as technicians or engineers.

5. Research and Development (R & D) Situation in Ghana

Having low enrolment in science and technical schools and universities automatically means that the country has research and development problems. Coupled with the only few research institutions in the country such as the Council for Scientific and Industrial Research (CSIR) which has about 13 research institutes, the Kumasi Technical Institute, Kwame Nkrumah University of Science and Technology. The researcher further agrees with [6] that, yes, research and development is an expensive business and that it is usually undertaken by big multinational corporations who have the resources. Apart from the problems in connection with research and development, there is the problem of application. A visit to some of these research institutions will show that there are several completed research works that are lying idle and filled with dust on bookshelves in the libraries. For these reasons, the country's industrial sector is not performing as it should, and as it were some years ago. As Manufacturing is recording negative growth rate, and the mere fact that we import more than we export, the country's path to industrialization has to be looked at again. As [7] stated, improving the co-ordination between government research institutions and industry for effective management of science, technology and Innovation (ST & I) is what the country needs.

The way forward

(1) Pushing for Trade Surplus

With the amount of resources at her disposal, the country should always push towards achieving positive trade surpluses by employing good economic strategies. The following measures can help the country in achieving the desired needs;

a Technological advancement

In basic economics, it is evidently clear that advancement in technology is paramount to achieving industrial growth. Applying technology in all aspects of economic activity is needed to yielding positive results. In trading, the use of advanced technology in manufacturing processes and products delivery enhances productivity and efficiency. The writer believes that the few MNCs in the country actually have been applying advanced technologies in their processes and products delivery, but they are not enough for the country. For this reason the government should focus more on the indigenous firms who do not have the ability to employ such technologies such as the use of robots in manufacturing plants due to the huge cost involved.

b Good trade policies

The government and his economic team must ensure the implementation of good trade policies such that there should be the acceptance of purchase and use of made in Ghana goods. Such policies are to be directed at promoting made in Ghana goods so that indigenous companies can expand their market shares locally through domestic supplies. According to [8], between 2009 and 2013, the country's import of live animals and products, vegetables products, prepared food, wood and articles of wood, textiles and textile articles, footwear, headgear and umbrella, animals or vegetable fats and oils and their cleavage products, to mention but a few, have been increasing steadily over the years. Meanwhile these products can easily be produced locally if the government supports the local industries well enough. If government can enforce the policy of buying made in Ghana goods, the country's import of such products would rather reduce instead of increase. For example, there is a car manufacturer in Ghana called Apostle Kwadjo Sarfo, who is doing a great job in car manufacturing but the question is how many ordinary Ghanaians or government officials buy from this manufacturer? With such a huge market, local producers of such products will be able to increase production, increase profit, pay the required taxes back to the government and then will be able to reinvest their profit into purchasing and usage of advance technologies and heavy equipment, and can be able to finance their own research and development for further increased production. When this happens, then they can as well be able to produce good quality products for domestic consumption and can as well be able to export to other African countries and to the rest of the world in the long-term.

Another trade policy which will be useful to the country is protectionism, which is indirectly being practiced almost globally but no single country would be bold enough to come forward to accept it. The writer believes many writers will disagree with him on this but it is an open secret that many countries are still practicing this indirectly. Ghana, can also employ this in a wise and decent way to help her local

industries grow in the short-term, and then push for more technologically advanced production methods and R & D for these local firms so they can be self-dependent in order to avoid medium to long-term loss it might occur since such local producers might tend to bang their hopes on this policy for long thereby making them inefficient. To the writer, highly advanced and developed countries can live without protectionism since they already have all they need, but not developing countries like Ghana. Protectionism can help to reduce *dumping* by foreign enterprises. As it is the case now in Ghana, where second-hand business in clothing, footwear, utensils and many other used products from advanced countries are dumped into the economy. -Also, increasing the cost of import licenses and placing high taxes on goods which can be easily manufactured in the country will help the country reshape her trade deficit into surplus. More so, some of such goods as used items should not be allowed to enter the country's borders.

c Assisting Local Manufacturers.

Apart from tax holidays and lower taxes on the importation of manufacturing plants and ICT equipments, research institutions in the country should open their doors to such small scale and medium scale manufacturers. Since the Small and Medium Enterprises (SME's), mostly have not reached the level of undertaking their own research and development works, liaising with such government institutions at a cheaper cost or even for free can impact the manufacturing sector positively. This can help to increase efficient and quality production. The writer remembers when he was working in a small factory producing iodated salt as a fresh high school graduate. He had to wash the salt by hand before drying in the oven and then subsequently proceeding with the other basically manual manufacturing process to the final product. During that time, it was evidently clear that the factory was moving on alright just because the boss happened to be a Chemistry Professor in one of the country's University, having enormous research work done in the University's laboratory before replicating it in the factory's tiny laboratory, which barely had full laboratory equipment. This is a case of a lucky boss. What about those who do not have such links? Especially starters or fresh tertiary and technical institution graduates who have brilliant manufacturing ideas but lack the needed assistance? Manufacturing environment must be friendly to all local businesses not only 'party-faithfuls' or professionals with links as it is the case in Ghana, where only the businesses belonging to the members of the ruling party flourishes while others struggle. When the manufacturing sector booms locally, local manufacturers would be able to finance their own R&Ds for further production which can reverse the current negative contribution of the manufacturing sector to positive trend in the country's GDP.

(2) Taking advantage of non-market industry transfer modes in the country

Another critical area that the writer would discuss, of which again, he further thinks that many will disagree with him but which cannot be ignored is, banging on the positives of non-market industry transfer modes. The writer agrees with [9]

that most studies stress more on transferring technology through formal market channels, the understanding on how technology and knowledge are transferred through non-market channels is also useful because of the interface between formal market channel and non-market and various underlying theories. According [10] technology transfer may be said to be successful if the receiving entity, thus the transferee, can effectively utilize it and eventually absorb it. This means that should Ghana be able to take full advantages of the positives of these transfer modes, the country can be well off. Transfer is said to be successful if the receiving entity, the transferee, can effectively utilize the technology transferred and eventually assimilate it [11]. Some of such non-market transfer modes are imitation, movement of personnel, data in patent application and test data, communication media and temporary migration. By considering imitation, the writer thinks the emphasis is not on copying someone's work directly, but indirectly. To this the writer prefers to call it 'understudying'. For example, the writer sometimes comes across cell phones with strange and funny names as NIKIA, NUKIA, NAKIA which have similar features and function as NOKIA. This is complete imitation of NOKIA. But if the local manufacturers of NIKIA and co., can add their local touch to it and give it a new identity although in a way following similar features of NOKIA, then the writer thinks this should be promoted locally. Since due to poverty, the average Ghanaian cannot afford to buy original NOKIA. The writer is against copying but understudying positively will help developing countries like Ghana to expand their local manufacturing base. There are many Ghanaians across the globe with enough experience in various fields of their endeavor as a result of working with big multinationals, but are not encouraged to either go back home to help the country or to help the country because of politics. Ghana must open her doors to such people.

(3) Accepting Science and technology in Ghanaian homes.

As was initially discussed, education of the populace to accept technical education as they accept secondary education from every Ghanaian home is the basic strategy the country needs. From the 'grassroots' level, parents should encourage their children into sciences and other technical related courses. Parents should also be educated of the importance of science and technical education. From there, technical and other research institutions should be well furnished with the state-of-the-art facilities to enable them carry out the needed scientific and research work towards building the manufacturing base, so the country can export more than import. The same respect should be given to all professionals being it university graduates, engineers or commercial and vocational technicians.

(4) Establishing and Increasing the share of Research and development (R & D) in the country's GDP

As the old adage goes "the height that great men achieved and maintained were not by a sudden flight, but they while their companions were asleep toiled in the night". While the Americans, the British and Chinese to mention a few, are training engineers and scientists, Ghanaians are training more students in general arts and business. For these reasons and

others, the country depends on foreign aid, grants, and loans from America, Britain and China etc. for loans. The atmosphere in the Country is less of scientific research and industrial growth strategies but all about arts and politics. The writer do not have any bad intentions for those in the general arts and business. He just thinks that the country is focusing too much on these subjects areas as against the sciences, technology, vocational and technical areas. The country needs more scientists, Technologists and Technicians to help drive the industry and agriculture sectors as former president Nkrumah stated. It is these experts, who will toil at night to bring out the best and efficient manufacturing and farming methods needed to boost the countries development agenda.

6. Conclusion

For Ghana to improve her industrial base in the country there should be a constant push for trade surplus through advancement and use of high technology. Emphasis should also be put on good trade policies. The country should also take advantage of the positives of non-market industry transfer modes in order to understudy already developed countries and big MNCs. Furthermore, the populace should be educated on the crucial benefits of building science, technology, vocational and technical based society. And finally, there should be the establishment or massive increment in research and development budgets in the country's GDP expenditure to enable researchers and research institutions carry out the needed research works to be able to share their outcomes with local manufacturers and the local people.

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