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## Steel as an Index of Power

Since the Second World War, the nations of the world have come to appreciate the unique role of steel as the base for rapid technological progress and STEEL has become an index of National Power. Steel had enabled Britain to launch the first industrial Revolution and Western Europe to colonize most of the World. Germany overran Europe while Japan suddenly leapt to the forefront of modern technology. Similarly, the United States became a supreme post-war global power as it systematically boosted its steel capacity to excel the entire output of continental Europe.

About 1780, over two centuries ago, the greatest amount of iron produced in the world was less than 20,000 tonnes a year! Today the size of the furnace in Ajaokuta Steel Company can produce this quantity in under a quarter of an hour. By 1840, the figure was about 1.25 million tones and by 1900 it was 9 million tones. Today, Iron and Steel production has become phenomenal giant nations like United States, the former USSR and Japan produced 326 million tonnes of steel in 1970 and over 405 million tonnes in 1974, the peak year in world steel output [4].

In 1980 the total world output was estimated at 900 million tonnes of raw steel. It is not surprising therefore, that Nigeria's emergence as latest debutant on the steel scene was widely acclaimed locally and generated understandable euphoria throughout the country. Steel being

necessary for the production of steel. For instance, we possess a large reservoir of iron ore deposits in Itakpe, which is the primary source of raw material to Ajaokuta Steel Company Limited.

There are iron ore deposits in several other locations within Kogi state and other parts of the country. The country is also blessed in abundance with other relevant raw materials such as Dolomite, Clay and Limestone required for Steel production. Even the coking coal that is to be imported has been discovered in some locations like Lafia/Obi in Nasarawa State and Enugu in Enugu State. This will surely reduce our dependence on imported coking coal.

for ₦160 instead of ₦100. In the 2016 bags of rice has been selling for ₦23,500 instead of ₦18,500. The way things are, if the prices of food items continue to rise the way they are going, the poor in this country will starve to death. The question is what do we do to curb the imminent crisis staring us in the face? A rice farmer, Mrs. Olufunke Mudashiru wondered why the Government should import rice to the tune of ₦80 billion when Nigeria has large fertile land suitable for growing rice, She said, "I do not see reason why we are importing rice because this country is blessed with vast area that are favourable to massive production of rice". We have areas we can grow such rice as Ofada rice in Ogun state, there is also Abakaliki in Ebonyi state and some areas in the North". Just as she stressed the need for Government to provide necessary agricultural equipment for farmers to enable them cultivate enough rice for the country, the actualization of the Ajaokuta Steel Company Limited becomes very necessary to ensure availability of equipment for the production of abundant food for the populace.

As an industry and wealth creator for the nation metallurgical industry is supposed to be second to farming. The company should be responsible for the production of different types of metals and alloys for usage in various sectors of the economy including agriculture. The company can handle different types of farm implements, spare parts and machinery for farming processes. The availability of these metals at a cheap rate will greatly contribute to the development of agric-mechanization in the country. The metal produced from

warned that "No country can claim to be industrialized if it does not develop metalworking industries: it must have its own steelmaking on the basis of the ferrous metal industry. The steel fabricating industries multiply beyond count. The key lies in the establishment of iron and steel industry as the basic unit of any serious industrial development".

### Steel and Employment Opportunities

The steel company has the prospect of employing a large number of the nation's labour force. The steel company itself is expected to employ more than ten thousand workers directly while it will create employment for millions of Nigerians indirectly through the upstream and downstream industries. It will further help to alleviate the ridiculous unemployment problem of the nation. As an important element of industrialization, the Ajaokuta steel industry is vital for developing linkages with all other sectors of the economy. Let us consider the setting and operation of a typical iron and steel company [13]. On the one side are sets of inputs that must go into an intricate progression of production processes, ranging from raw materials (Iron ore, coal, refractory clay, limestone, dolomite etc.) through energy and utilities (electrical energy, gaseous and liquid fuels and water) to operating spare parts and consumables. Each of these inputs can generate an upstream activity. On the other side are sets of outputs, which serve as inputs for other industries and/or applied as finished products. Downstream industries can be set up using these outputs, which include metalworking and forming (forge, fabrication, machining, drawing, stamping, etc.) iron and steel foundries, pipe and tube making companies, etc. The products from these works form the major inputs for other bigger industries like automobile, engineering and machine tools, agro-allied, construction and various consumer goods manufacturing industries, etc.

References

1. (2008) Ajaokuta Steel Company Limited-Bulletin 2.
2. Afonja AA (1994) Steel Development in Nigeria. Current status and Future Prospects. A paper presented at the Nigerian Metallurgical Society Annual conference, November 30<sup>th</sup>-3<sup>rd</sup> December 1994 in Lagos.
3. Ajaokuta (2006) 1: 11-17.
4. Ajaokuta (2007) 1: 18-20.
5. Tenuche BO (1994) The Steel Industry in Nigeria. CAL TOP Publications Nigeria Ltd., p: 52.
6. Ilori TA (1996) Increasing Local Value Addition in Vehicular Technolog. Proc NSE, pp: 58-75.
7. Inuwa IK (1995) Foundries Subsystem. A Crucial Linkage for the Successful Operations of the Other Industries: Basic Tech Experience NSE October Lecture.
8. Mudiare E (1994) A Tale of Two Steel Plants. A paper presented at Nigerian metallurgical Society 20-35.
9. Ojobo AE (1983) Blast Furnace - A suitable Material for Spin Off industries from Ajaokuta Iron and Steel project-Aja-steel Technical 1-5.
10. 2 NRQML 32 6 W H H O 3 D W K W R ( F R Q R P L F ' L Y H U 13: 11-16.
11. Ojo O (1986) procurement of Iron and Steel-making Raw materials to User points. An address delivered to the Nigerian Metallurgical Society Ajaokuta Branch, pp: 15-25.
12. Oni SK (1998) Steel in Defence. Proceedings. NMS Seminar, NIPSS Kuru, pp: 8-9.
13. Tyler WG (1976) Brazilian Industrialization and Industrial Policies: A Survey, World Development 4: 863-882.

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